# ChemComm

### Chemical Communications

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## IN THIS ISSUE

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### Cover

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### Inside cover

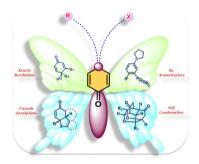
See Xiangyi Liu, Gaopeng Li, Xiaodong Wang et al., pp. 3842–3845. Image reproduced by permission of Xiaodong Wang from Chem. Commun., 2023, 59, 3842.

### **HIGHLIGHTS**

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# Site-selective and stereoselective transformations on p-quinols & p-quinamines

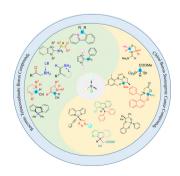
Satish B. Thopate, Mandalaparthi Phanindrudu, Sandip B. Jadhav and Rambabu Chegondi\*



### 3812

# Recent advances in the construction of tetracoordinate boron compounds

Xue Li, Guan Zhang and Qiuling Song\*



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### FEATURE ARTICLES

#### 3821

Asymmetric sulfonylation with sulfur dioxide surrogates: a new access to enantiomerically enriched sulfones

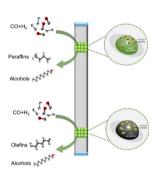
Jun Zhang, Peiqi Wang, Yanzhi Li and Jie Wu\*



### 3827

A review of Co/Co<sub>2</sub>C-based catalysts in Fischer-Tropsch synthesis: from fundamental understanding to industrial applications

Ziang Zhao, Yihui Li, Hejun Zhu,\* Yuan Lyu and Yunjie Ding\*

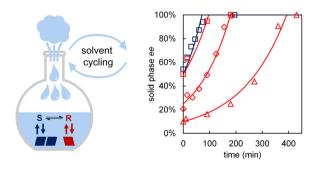


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Rapid deracemization through solvent cycling: proof-of-concept using a racemizable conglomerate clopidogrel precursor

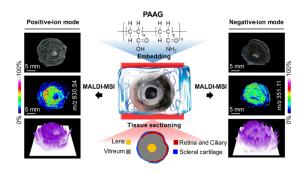
Sjoerd W. van Dongen, Iaroslav Baglai, Michel Leeman, Richard M. Kellogg, Bernard Kaptein\* and Willem L. Noorduin\*



### 3842

# Polyacrylamide gel as a new embedding medium for the enhancement of metabolite MALDI imaging

Chenyu Yang, Ran Wu, Haigiang Liu, Liang Qin, Lulu Chen, Hualei Xu, Hao Hu, Jinrong Li, Hua Guo, Yiyang Shi, Dongxu Jiang, Qichen Hao, Jinchao Feng, Yijun Zhou, Xiangyi Liu,\* Gaopeng Li\* and Xiaodong Wang\*



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## Cooperative dihydrogen activation at a Na(I)2/Mg(I)2 ensemble

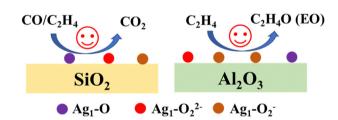
Han-Ying Liu, Samuel E. Neale, Michael S. Hill,\* Mary F. Mahon, Claire L. McMullin\* and Benjamin L. Morrison

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## Reduction of SF<sub>5</sub>CF<sub>3</sub> via iridium catalysis: radical trifluoromethylation of aromatics

Domenique Herbstritt and Thomas Braun\*

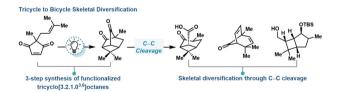
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# Metal-oxide interactions modulating the activity of active oxygen species on atomically dispersed silver catalysts

Rongtan Li, Conghui Liu, Yamei Fan, Qiang Fu\* and Xinhe Bao\*

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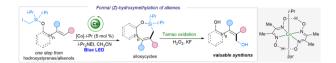
# Skeletal diversification by C-C cleavage to access bicyclic frameworks from a common tricyclooctane intermediate

lan Bakanas, Jess C. Tang and Richmond Sarpong\*

### 3862

# Photoexcited cobalt catalysed *endo*-selective alkyl Heck reaction

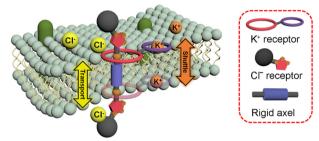
Chenyang Wang, Luis Miguel Azofra, Phong Dam, Edelman J. Espinoza-Suarez, Hieu Trung Do, Jabor Rabeah, Angelika Brückner and Osama El-Sepelgy\*



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# A rigid-axle-based molecular rotaxane channel facilitates K<sup>+</sup>/Cl<sup>-</sup> co-transport across a lipid membrane

Shihao Pang, Xiaonan Sun, Zexin Yan, Chuantao Wang, Kai Ye, Shinan Ma, Linyong Zhu and Chunyan Bao\*

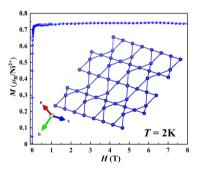


Rotaxane-based channel for K+/CI cotransport

### 3870

# Ba<sub>4</sub>Ni<sub>3</sub>F<sub>14</sub>·H<sub>2</sub>O: a ferrimagnetic compound with a staircase kagomé lattice

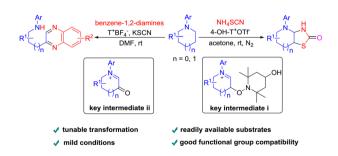
Yanqi Wang, Zhiying Zhao, Meiyan Cui and Zhangzhen He\*



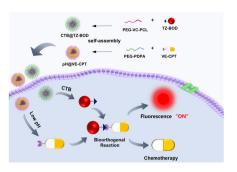
# 3874

# Oxoammonium salt-promoted diverse functionalization of saturated cyclic amines with dinucleophiles

Yan He,\* Qimeng Liu, Jintao Yang, Yunfei Liu, Xinying Zhang and Xuesen Fan\*



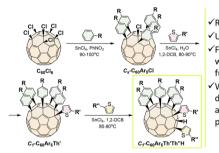
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# Dual stimulus-triggered bioorthogonal nanosystem for spatiotemporally controlled prodrug activation and near-infrared fluorescence imaging

Zhongyi Zhao, Qingyu Zong, Jun Li, Maolin Jiang, Kewei Wang and Youyong Yuan\*

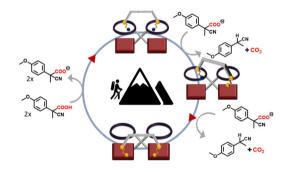
#### 3882



- ✓ Regioselective process ✓Unique addition pattern ✓ Fullerene derivatives
- with three types of functional addends
- ✓ Water-soluble fullerene derivatives with antiviral and antioxidant properties

A regioselective step-by-step C<sub>60</sub>Cl<sub>6</sub> functionalization approach affords a novel family of C<sub>60</sub>Ar<sub>5</sub>Th'Th"H fullerene derivatives with promising antiviral properties

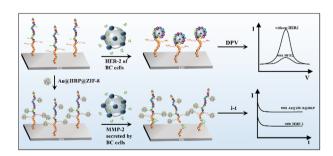
Valeriya S. Bolshakova, Olga A. Kraevaya,\* Alexander S. Peregudov, Vitaliy Yu. Markov, Svetlana V. Kostyuk, Dominique Schols, Alexander F. Shestakov and Pavel A. Troshin



# Fast and slow walking driven by chemical fuel

Vishnu Verman Rajasekaran, Emad Elramadi, Isa Valiyev, Prodip Howlader and Michael Schmittel\*

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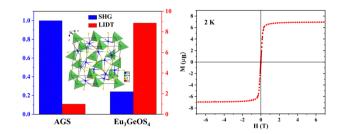
# An electrochemical biosensor to identify the phenotype of aggressive breast cancer cells

Lin Wang, Haojie Xie, Xinyi Zhou, Yuxin Lin, Yujia Qin, Jie Yang, Jing Zhao\* and Genxi Li\*

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# The first quaternary rare-earth oxythiogermanate with second-harmonic generation and ferromagnetic behavior

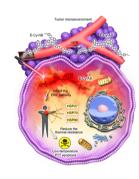
Mei Yang, Wen-Dong Yao, Wenlong Liu\* and Sheng-Ping Guo\*



### 3898

# A hypoxia-activated photothermal agent inhibits multiple heat shock proteins for low-temperature photothermal therapy

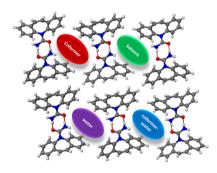
Xinhao Zhang, Shan-Shan Xue, Wei Pan,\* Kaiye Wang, Na Li\* and Bo Tang\*



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# Non-stoichiometric carbamazepine cocrystal hydrates of 3,4-/3,5-dihydroxybenzoic acids: coformer-water exchange

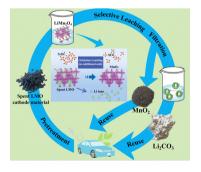
Trishna Rajbongshi, Kashyap Kumar Sarmah, Susobhan Das, Poonam Deka, Arijit Saha, Binoy K. Saha, Horst Puschmann, C. Malla Reddy\* and Ranjit Thakuria\*



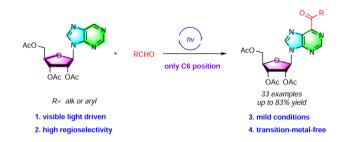
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# Facile and efficient recycling of cathode materials of spent lithium manganate batteries

Zhenhao Zhou, Yijie Liu, Zhiyong Tang, Jinghui Xia, Hao Jin, Jialiang Zhang,\* Yongqiang Chen and Chengyan Wang\*



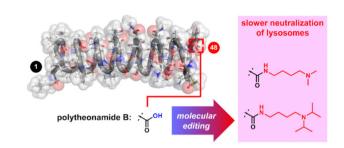
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# Photocatalyst-free visible-light-induced highly selective acylation of purine nucleosides at the C6 position

Luohao Li, Huiqin Zheng, Feixiang Guo, Zehui Fang, Qianqian Sun, Jing Li, Qinghe Gao, Tao Zhang and Lizhen Fang\*

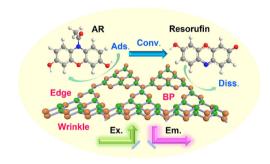
### 3914



# C-Terminal modification of polytheonamide B uncouples its dual functions in MCF-7 cancer cells

Yun-Wei Xue, Kensuke Miura, Hiroaki Itoh and Masayuki Inoue\*

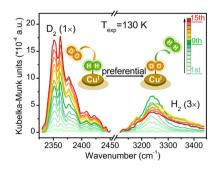
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# Quantitative single-molecule study reveals site-specific photo-oxidation activities and kinetics on 2D g-C<sub>3</sub>N<sub>4</sub>

Shuyang Wu, Jenica Marie L. Madridejos, Jinn-Kye Lee, Rong Xu, Yunpeng Lu\* and Zhengyang Zhang\*

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# Direct observation of highly effective hydrogen isotope separation at active metal sites by in situ **DRIFT** spectroscopy

Xiayan Yan, Yaqi Song, Degao Wang, Tifeng Xia, Xinxin Tan, Jingwen Ba, Tao Tang, Wenhua Luo, Ge Sang\* and Renjin Xiong\*