

# ChemComm

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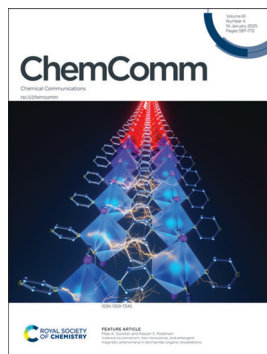
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ISSN 1359-7345 CODEN CHCOFS 61(4) 587-772 (2025)



### Cover

See Chunbo Zhang, Haijun Zhong, Fan Liao *et al.*, pp. 669–672. Image reproduced by permission of Fan Liao from *Chem. Commun.*, 2025, 61, 669.



### Inside cover

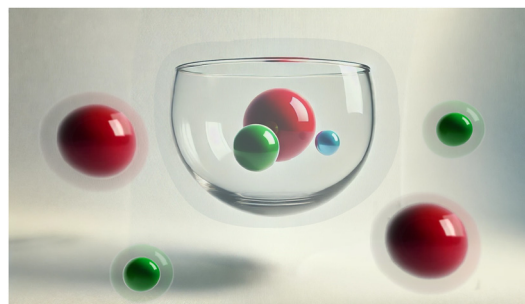
See Maja A. Dunstan and Kasper S. Pedersen, pp. 627–638. Image reproduced by permission of Kasper S. Pedersen from *Chem. Commun.*, 2025, 61, 627.

## HIGHLIGHTS

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### Macrocyclic catalysis mediated by water: opportunities and challenges

Dejun Zhang, Lingyun Wang, Wanqing Wu,\* Derong Cao\* and Hao Tang\*



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### Implications of non-native metal substitution in carbonic anhydrase – engineered enzymes and models

Dyuti Bhandary, Sam P. de Visser\* and Gourab Mukherjee\*



# Environmental Science: Atmospheres

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Fundamental questions  
Elemental answers

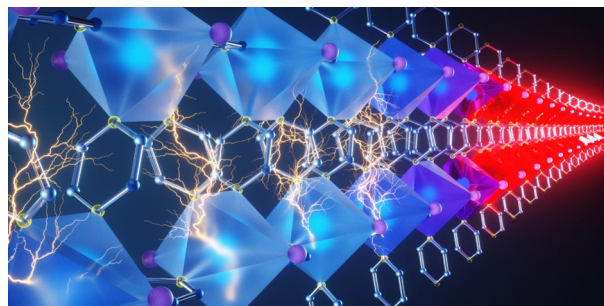


## FEATURE ARTICLES

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## Valence tautomerism, non-innocence, and emergent magnetic phenomena in lanthanide-organic tessellations

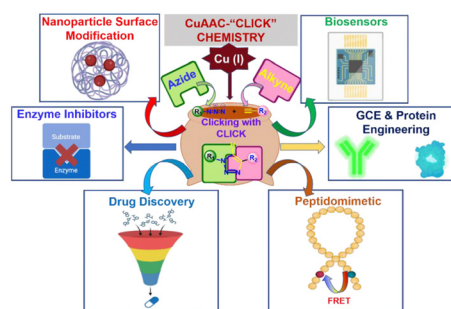
Maja A. Dunstan\* and Kasper S. Pedersen\*



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## Facets of click-mediated triazoles in decorating amino acids and peptides

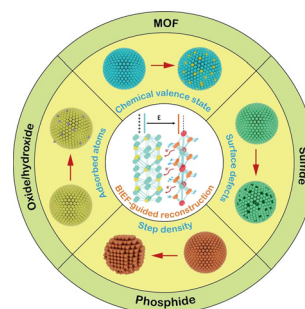
Subhendu Sekhar Bag,\* Aniket Banerjee, Sayantan Sinha and Subhashis Jana



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## Built-in electric field guides oxygen evolution electrocatalyst reconstruction

Chunmei Ni, Kun Wang, Lei Jin, Yang Liu, Jie Chen, Lida Yang, Chanyuan Ji, Hui Xu,\* Zhao Li\* and Lin Tian\*

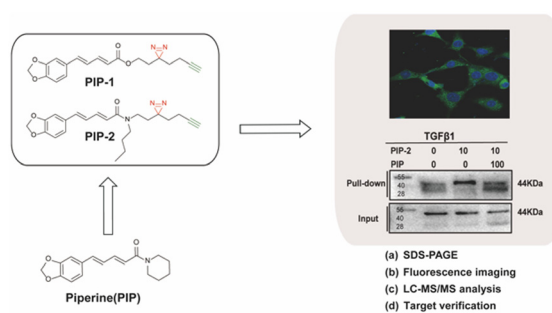


## COMMUNICATIONS

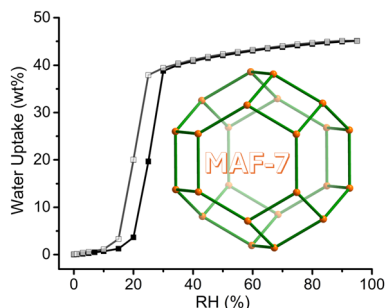
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## Design and synthesis of piperine-based photoaffinity probes for revealing potential targets of piperine in neurological disease

Li Shen, Yue Yang, Lijun Lu, Jili Huang, Wen He, Chunfang Zhao, Feng Guo, Chunbo Zhang,\* Haijun Zhong\* and Fan Liao\*



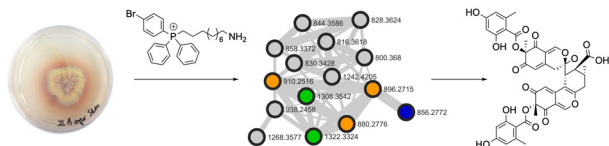
673



### Water sorption performance of the zeolitic metal azolate framework MAF-7

Shi-Qiang Wang,\* Shaza Darwish, Mei-Yan Gao, Yifei Luo, Jun Zhu, Xiaofei Zhang and Zhengtao Xu

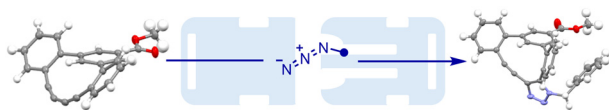
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### Mass-tagged aminated probes for rapid discovery of azaphilic natural products in fungal crude extracts

Victor Flon, Coralie Pavesi, Samuel Oger, Stéphane Leleu, Pascal Retailleau, Laurence K. Jennings, Soizic Prado\* and Xavier Franck\*

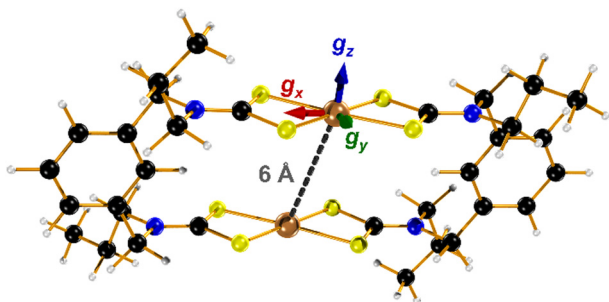
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### TPDYs: strained macrocyclic diynes for bioconjugation processes

Bernard D'Onofrio, Corentin Cruché, Kirsten N. Hurdal, Adem Hadjabdelhafid-Parisien, Joelle N. Pelletier,\* Radu Iftimie,\* Rebecca L. Davis\* and Shawn K. Collins\*

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### A self-assembled metallo-macrocycle two-qubit spin system

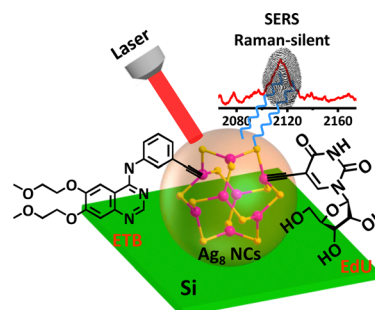
Gordon J. Douglas, Emma Richards and Stephen Sproules\*



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### Facile *in situ* synthesis of silver nanoclusters for promoting highly sensitive surface-enhanced Raman scattering detection of alkyne-tagged biomolecules

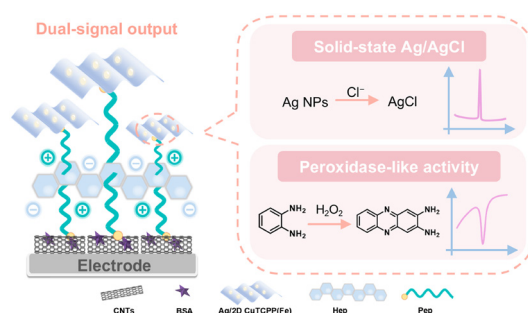
Leixin Hou,\* Mi Zhang, Daofu Liu, Mai Xu and Huilin Huang\*



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### A novel peptide electrochemical biosensor for heparin based on the dual "turn-on" signals of Ag/2D CuTCPP(Fe)

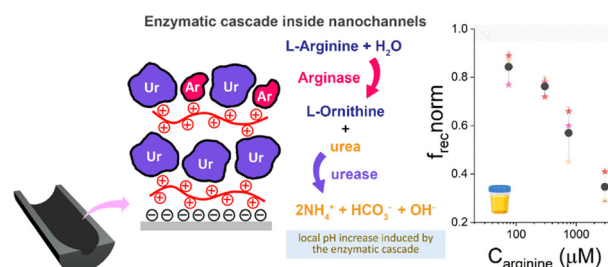
Fan Zhao,\* Jingyue Lan and Yunxi Liu



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### Harnessing concerted functions in confined environments: cascading enzymatic reactions in nanofluidic biosensors for sensitive detection of arginine

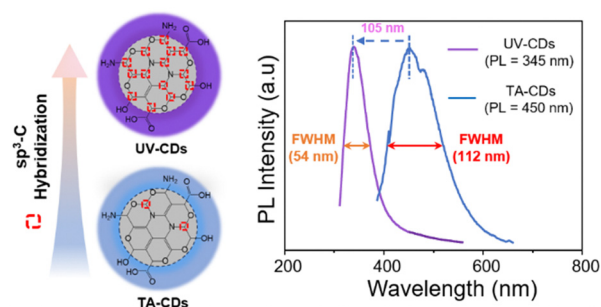
Marcos E. Gramajo, Lautaro Otero Maffoni, L. Miguel Hernández Parra, Waldemar A. Marmisollé, M. Lorena Cortez, M. Eugenia Toimil-Molares, Ana S. Peinetti\* and Omar Azzaroni\*



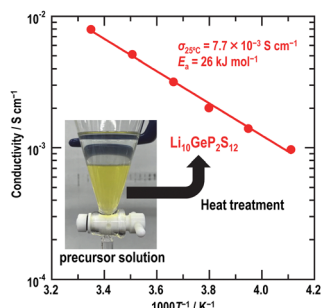
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### Narrowing and blue-shifting photoluminescence of carbon dots by enhancing sp³-C hybridization using a microreactor

Zuxu Zhou, Kai Jiang,\* Zihan Cheng, Jun Jiang, Fengshi Li, Yongjian Wu and Hengwei Lin\*



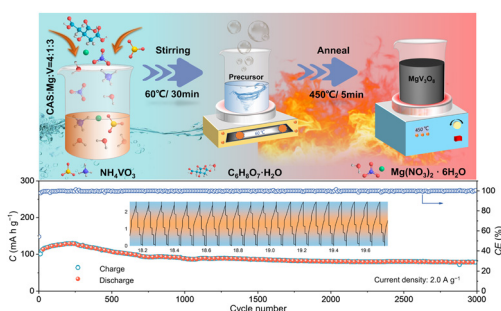
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### Liquid-phase synthesis of $\text{Li}_4\text{GeS}_4$ and $\text{Li}_{10}\text{GeP}_2\text{S}_{12}$ electrolytes using water as the main solvent

Hayata Tanigaki, Takuya Kimura, Eiji Kurioka, Kota Motohashi, Atsushi Sakuda, Masahiro Tatsumisago and Akitoshi Hayashi\*

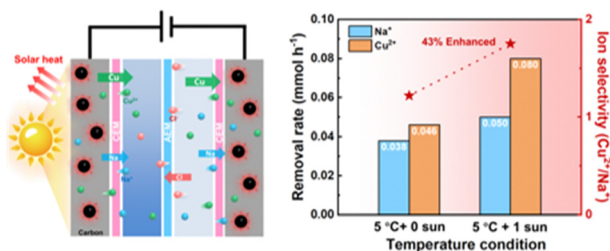
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### An $\text{MgV}_3\text{O}_8$ anode exhibiting enhanced rate capability and stability for lithium storage applications

Qi Wan, Jie Zhao, Xun Xu, Hechao Xu, Yu Liu, Wenshu Li, Qingchun Zhang, Zhiqin Cao,\* Xijun Wei\* and Yingze Song\*

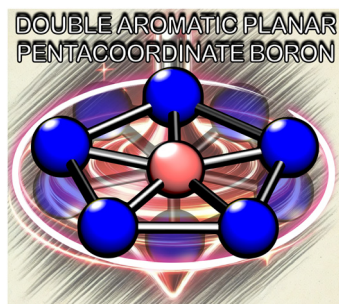
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### Efficient removal of copper ions through photothermal enhanced flow-electrode capacitive deionization

Mengyao He, Jiaqi Chen, Ziquan Wang, Zengye Chen and Libo Deng\*

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### Doubly $\sigma$ - and $\pi$ -aromatic planar pentacoordinate boron polyanions

Williams Garcia-Argote, Dumer S. Sacanamboy, Alejandro Vasquez-Espinal, Diego Inostroza, Luis Leyva-Parra,\* Osvaldo Yañez\* and William Tiznado\*

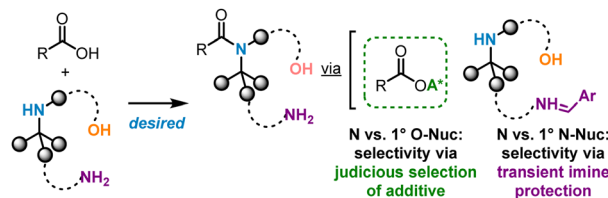


## COMMUNICATIONS

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### General chemoselective hindered amide coupling enabled by TCFH-catalytic Oxyma and transient imine protection

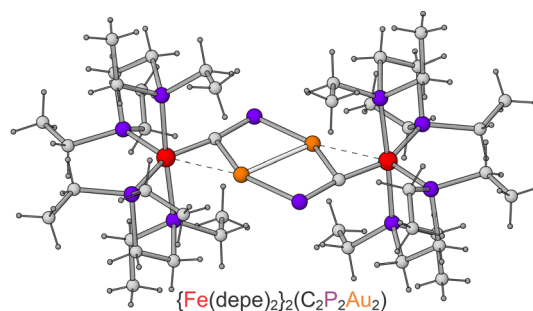
Qiuhan Li,\* Sarah Napier, Andrew N. Singh, Thomas P. Vickery, Yi Fan, Edgar Hernandez, Tao Wang and Stephen M. Dalby



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### Cyaphide group transfer from covalent metal complexes: contrasting pathways to transmetallation

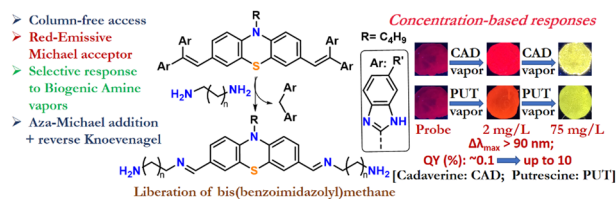
Eric S. Yang and Jose M. Goicoechea\*



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### Tetra-benzimidazoles flanking divinyl-phenothiazine: AIEgens as aza-Michael acceptors in concentration-tuned responses to biogenic amine vapors

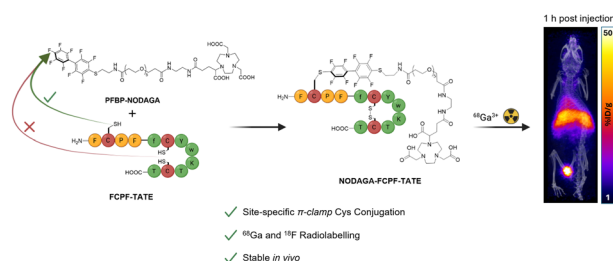
Sameer Singh, Kalyaneswar Mandal and Manab Chakravarty\*



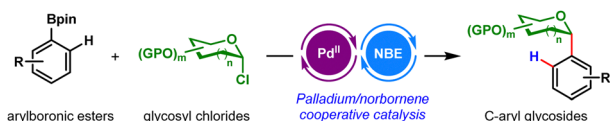
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### Site-specific $\pi$ -clamp-mediated radiosynthesis of $^{68}\text{Ga}$ and $^{18}\text{F}$ PET radiopharmaceuticals

Thomas T. C. Yue, Jin Hui Teh, Eric Aboagye, Michelle T. Ma, Truc T. Pham\* and Nicholas J. Long\*



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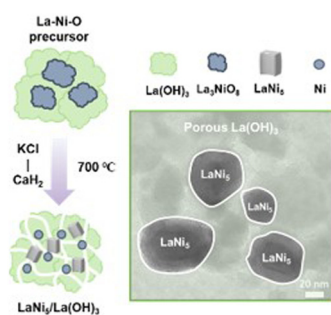


- Readily accessible substrates
- Redox-neutral process
- No directing group needed
- Suitability of oligosaccharides
- Broad substrate scope
- Excellent diastereoselectivity

### Practical synthesis of C-aryl glycosides via redox-neutral Borono-Catellani reaction

Dekang Xu, Xia Li, Ziyang Cui, Liming Cao, Hong-Gang Cheng and Qianghui Zhou\*

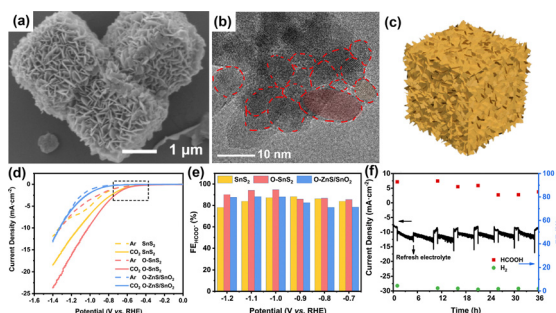
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### One-pot synthesis of supported sub-micron LaNi<sub>5</sub> for hydrogen storage in a carbazole-type liquid organic hydrogen carrier

Hongen Yu,\* Yuxuan Shi, Zewei Xie, Rumei Jin, Youyu Lin, Dongsheng Geng, Xingguo Li and Jie Zheng\*

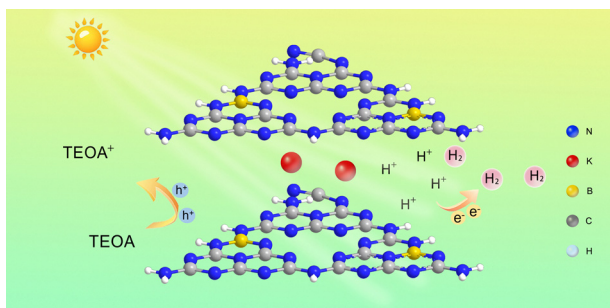
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### Quadrangular prism-like oxidized tin sulfide for high activity CO<sub>2</sub>ER to formate

Jingru Zhang, Xi Hu, Haidong Li, Yanqiu Du,\* Zidong Wei\* and Xuejie Liu\*

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### Molten salt-assisted synthesis of boron-doped carbon nitride for photocatalytic hydrogen evolution

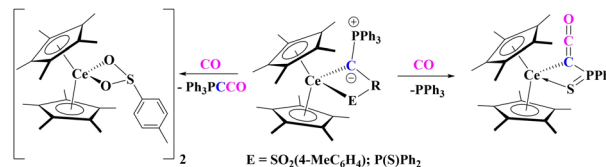
Xingzhou Li, Yongkang Quan, Rongxing Chen, Guorong Wang, Yingzhen Zhang, Jianying Huang\* and Yuekun Lai\*



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### Cerium(III) yldiide complexes with divergent CO reactivity

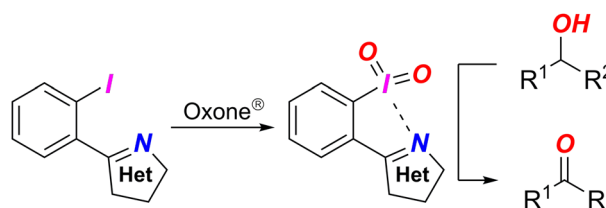
Alexander J. Gremillion, Hemant Kumar, Iker Del Rosal, Steven P. Kelley, Laurent Maron,\* Viktoria H. Gessner\* and Justin R. Walensky\*



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### N-Heterocycle-coordinated $\lambda^5$ -iodanes as IBX alternatives for alcohol oxidations

Nikita S. Antonkin, Yulia A. Vlasenko, Pim Puylaert, Boris J. Nachtsheim\* and Pavel S. Postnikov\*

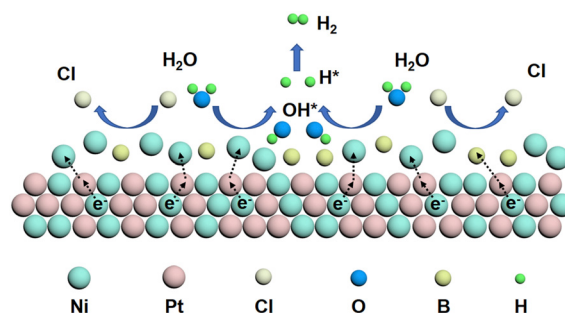


- Bench-stable N-coordinated  $\lambda^5$ -iodanes
- Safe and non-explosive reagent
- Mild oxidant for alcohols

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### Direct synthesis of PtNi coated with Ni<sub>3</sub>B for efficient electrochemical hydrogen evolution from seawater

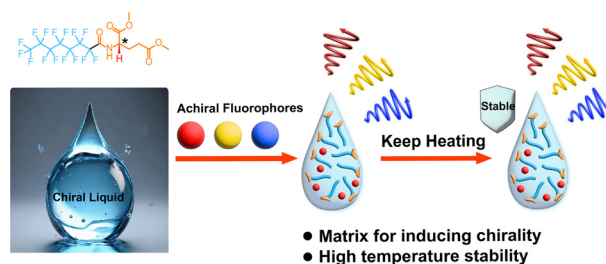
Xiong Yang, Yu-Xuan Xiao,\* Fei Yu, Wen-Ying Zhao, Ling Shen, Jie Ying, Song Zhang, Kenneth I. Ozoemena, Christoph Janiak and Xiao-Yu Yang\*



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### A fluorinated chiral liquid with thermal robustness for inducing circularly polarized luminescence

Zibing Xiao, Runjia Wang, Li Zhang\* and Minghua Liu\*



## CORRECTIONS

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**Correction: Fast detection of penicillium rot and the conservation status of packaged citrus fruit using an optical array sensor**

Alessia Cavallaro, Rossella Santonocito, Roberta Puglisi, Andrea Pappalardo, Federico La Spada, Rossana Parlascino, Mario Riolo, Santa Olga Cacciola, Nunzio Tuccitto\* and Giuseppe Trusso Sfrazzetto\*

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**Correction: Elucidating the influence of side chains on the self-assembly of semi-flexible mesogens**

Raluca I. Gearba, Denis V. Anokhin and Dimitri A. Ivanov\*

