

# ChemComm

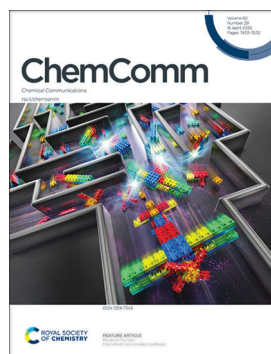
Chemical Communications

[rsc.li/chemcomm](https://rsc.li/chemcomm)

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

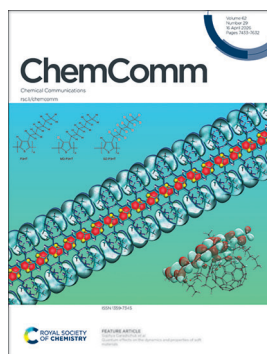
## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 62(29) 7433-7632 (2026)



### Cover

See Munenori Numata,  
pp. 7444-7453.  
Image reproduced  
by permission of  
Munenori Numata from  
*Chem. Commun.*,  
2026, **62**, 7444.



### Inside cover

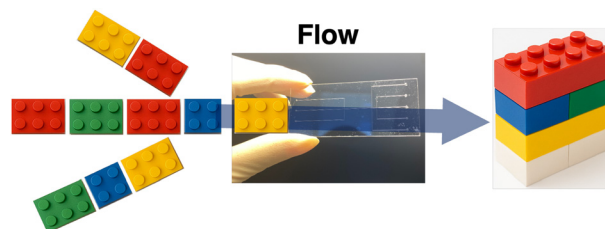
See Sophya Garashchuk  
*et al.*, pp. 7454-7472.  
Image reproduced  
by permission of  
Jacek Jakowski,  
Oak Ridge National  
Laboratory from  
*Chem. Commun.*,  
2026, **62**, 7454.

## FEATURE ARTICLES

7444

### Flow-driven non-covalent synthesis

Munenori Numata

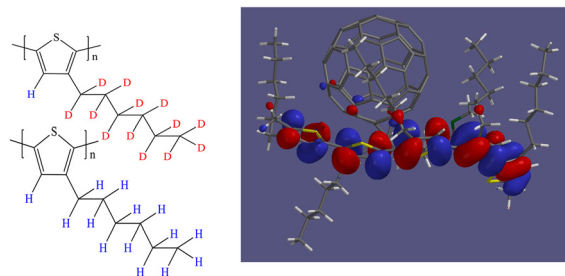


7454

### Quantum effects on the dynamics and properties of soft materials

Sophya Garashchuk,\* Jacek Jakowski and  
Vitaly A. Rassolov

#### Deuteration / Quantum Effects / Electronic Structure



# RSC Advances

At the heart of open access for  
the global chemistry community

## Editor-in-chief

Russell J Cox

Leibniz Universität Hannover, Germany

## We stand for:



**Breadth** We publish work in all areas of chemistry and reach a global readership



**Affordability** Low APCs, discounts and waivers make publishing open access achievable and sustainable



**Quality** Research to advance the chemical sciences undergoes rigorous peer review for a trusted, society-run journal



**Community** Led by active researchers, we publish quality work from scientists at every career stage, and all countries

Submit your work now

[rsc.li/rsc-advances](https://rsc.li/rsc-advances)

@RSC\_Adv

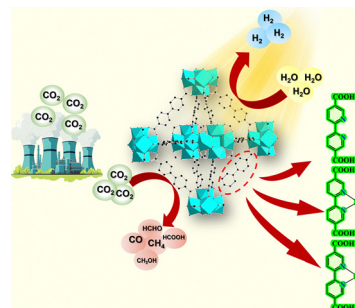


## FEATURE ARTICLES

7473

**Visible-light-promoted CO<sub>2</sub> conversion towards sustainability: advances using the UiO-67 MOF**

Sinthia Saha, Sandeep Kumar Dey and Asamanjoy Bhunia\*

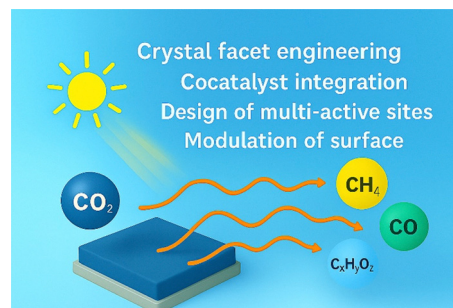


## REVIEWS

7490

**Engineering product selectivity in photocatalytic CO<sub>2</sub> reduction: fundamentals, mechanisms, and catalyst design**

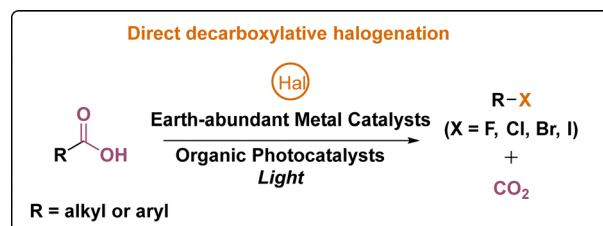
Zhengdao Li,\* Xiaotian Yang, Zimu Zhang, Yujie Xiong,\* Zhigang Zou and Yong Zhou\*



7505

**Recent advances in light-induced direct decarboxylative halogenation catalyzed by earth-abundant metals and organic photocatalysts**

Zibin Zeng, Yahao Huang, Jinglan Wen\* and Peng Hu\*

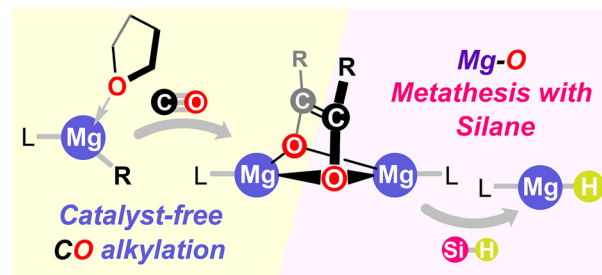


## COMMUNICATIONS

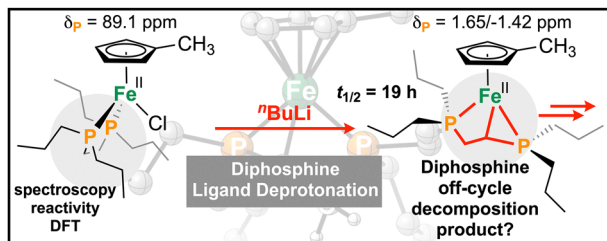
7519

**Catalyst-free insertion of carbon monoxide into terminal Mg–C(sp<sup>3</sup>) bonds**

M. Kubisz, I. Fernandez\* and T. J. Hadlington\*



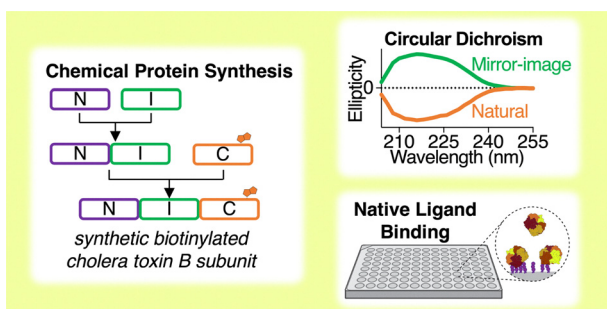
7524



### Backbone deprotonation defines a hidden decomposition pathway of diphosphine ligands

Logan J. Taylor, A. Dina Dilinaer, Paul D. Boyle and Marcus W. Drover\*

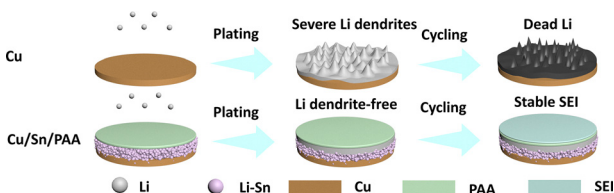
7529



### Total chemical synthesis of pentameric cholera toxin subunit B

Paul Spaltenstein, Samuel R. Scherer, Tyler E. Jones, Riley J. Giesler and Michael S. Kay\*

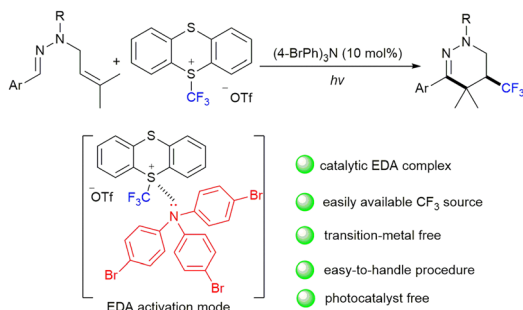
7534



### Synergistic interaction of electroless-deposited tin and polymer layers for lithium dendrite suppression and extended cycle life

Junqian Bai, Yuanjun Wang, Hao Yu, ChaoHui Wei,\* Weijia Zhong, Shuqin He, Qiang Zhao, Aijun Zhou and Jingze Li\*

7539



### Catalytic electron donor-acceptor complex triggered cascade radical trifluoromethylation/cyclization of *N*-isopentenyl aldehyde hydrazones

Yangjian Cheng, Guocheng Yin, Changduo Pan\* and Jin-Tao Yu\*

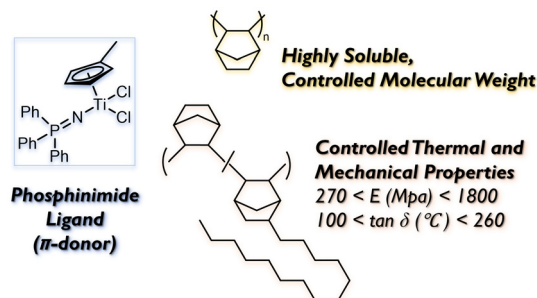


## COMMUNICATIONS

7544

### Phosphinimide-ligated half-titanocene dichloride for the synthesis of polynorbornenes with controlled molecular weights and widely tunable thermal and mechanical properties

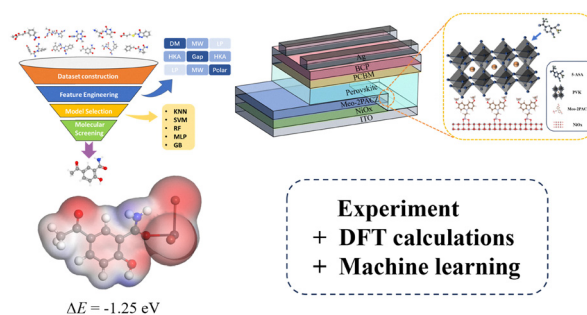
Maiko Hayashi and Shin-ichi Matsuoka\*



7549

### 5-Acetylsalicylamide for defect passivation & crystallization regulation in inverted perovskite solar cells

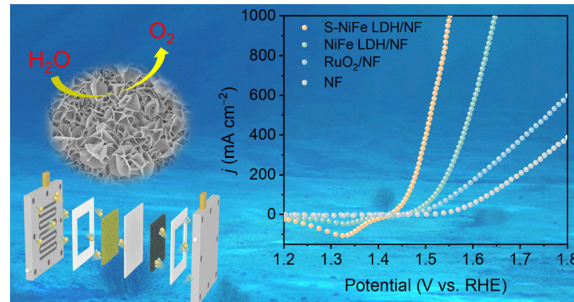
Ruibo Zhou, Haoyun Dou, Tianyi Zhao, Lei Liu, Zhou Yang, Rongjun Zhao,\* Hongqing Ma\* and Hong-En Wang\*



7554

### Scalable NiFe layered double hydroxides for efficient electrocatalytic seawater oxidation at high current density

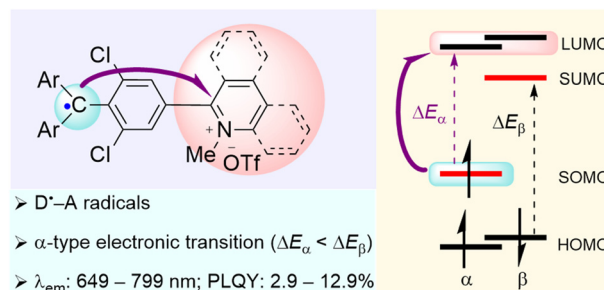
Haohong Xian, Hong Tang, Keying Zhong, Jiaqian Liu, Haoran Guo, Haibing Wei and Tingshuai Li



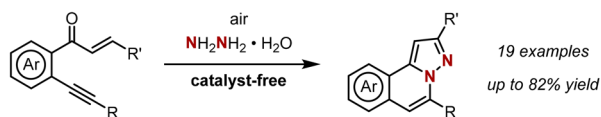
7558

### D<sup>•</sup>-A radicals fabricated from polychlorinated trityl and pyridinium featuring a SOMO-LUMO electronic transition

Jingwen Li, Ziqi Zhang, Zenghui Li, Jing Wang, Changyuan Xu, Jie Xiong, Ling Yue\* and Bin Rao\*



7563

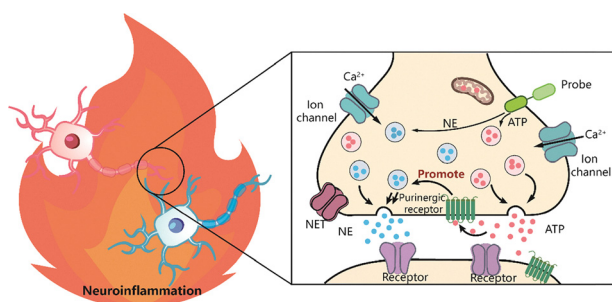


○ simple reaction conditions    ○ wide substrate scope    ○ gram scale

### Catalyst-free synthesis of pyrazolo[5,1-a]-isoquinolines from hydrazine hydrate

Yangxin Mao, Shaotong Qiu,\* Xinlei Wang, Yimin Shangguan, Jiangan Liu, Zhicheng Yang, Yun-Hui Zhao, Xiaofang Li, Baishu Zheng and Hu Zhou

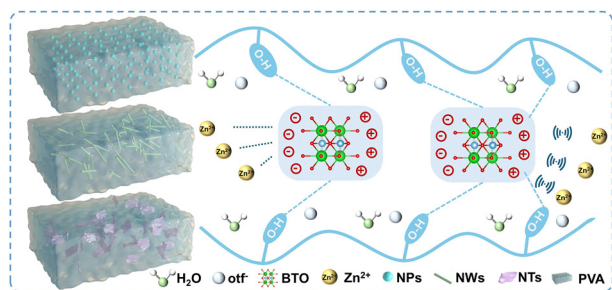
7567



### A dual-site fluorescent probe for tracing the interaction between ATP and NE in neuroinflammation

Na Zhou, Changsheng Guo, Fangjun Huo and Caixia Yin\*

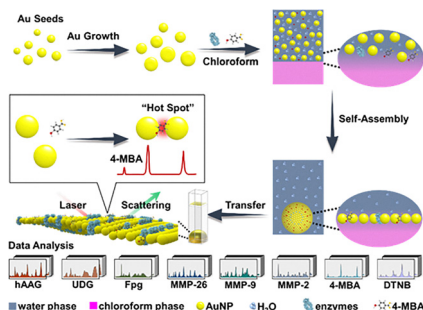
7571



### Dielectric morphology engineering: a hydrogel electrolyte with a balanced local electric field to enhance the migration number of zinc ions

Peng Xie, Zichen Song, Zewei Hu, Fuhua Yang, Chao Han and Weijie Li\*

7576



### Synthesis of a nanogap-rich three-dimensional plasmonic AuNP film for label-free detection of multiple enzymes

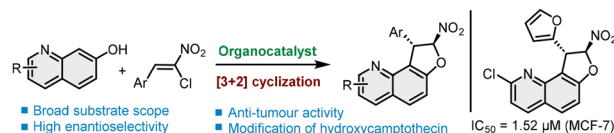
Bao-mei Zhou, Rui Song, Juan Hu,\* Jinqiu Tao\* and Chun-yang Zhang\*



7580

### Enantioselective construction of chiral quinoline scaffold via a Michael addition/*O*-alkylation sequence

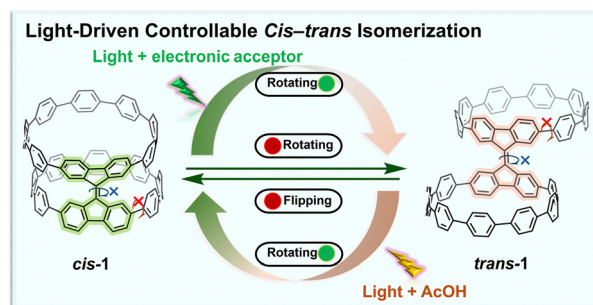
Juelian Wang, Yue Wei, Yihuan Yang, Guishun Bai, Yi Hua, Jianwei Chen, Hong Wang,\* Damien Bonne\* and Xiaoze Bao\*



7584

### Light-driven controllable *cis*–*trans* isomerization in a cycloparaphenylene dimer bridged by 9,9'-bifluorenylidene

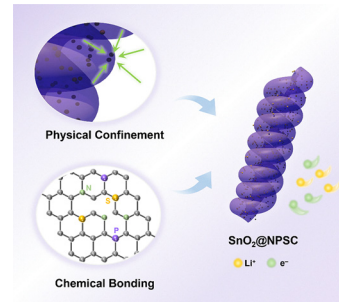
Dongmei Zhang, Kai Lan, Xiaobo Zhang, Jiyong Jiang and Chuyang Cheng\*



7589

### Heteroatom-doped helical carbonaceous nanotubes with ultrafine SnO<sub>2</sub> nanoparticles as an active anode for lithium-ion batteries

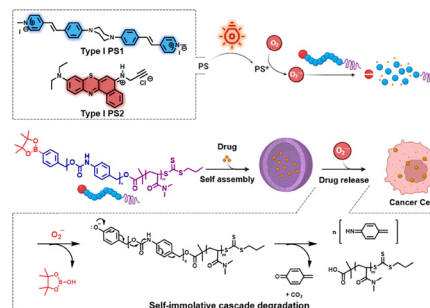
Nan Wu, Huijuan Yao, Wenchao Liu, Wei Zhang, Rui Cao, Haoquan Zheng\* and Hang Zhang\*



7594

### Type I photosensitizer-responsive self-immolative polymers: combining drug release with photodynamic therapy

Chula Sa, Lixia Liu, Lu Qiao, Heng Wu, Yuqing Qiao, Hui-Qing Peng\* and Wei Cao\*



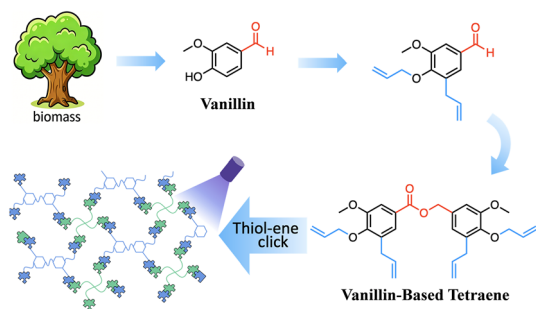
7598



### A bimetallic MOF-derivative enabled multi-sited current collector for high-performance anode-free lithium metal battery

Rui Luo, Xingtong Guo, Zi Wang, Xiaonuo Jiang, Chao Su and Tao Wei\*

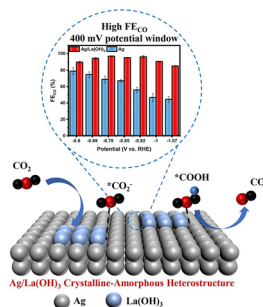
7603



### Atom-economic molecular design of vanillin-based tetraene for tunable polyesters *via* thiol-ene click polymerization

Zijun Gao, Qin Chen\* and Haibo Xie\*

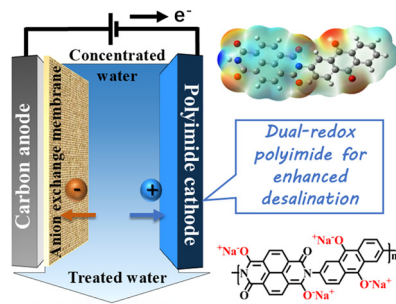
7607



### Electronic modulation at an Ag/La(OH)<sub>3</sub> crystalline-amorphous heterostructure enables high-efficiency CO<sub>2</sub>-to-CO conversion

Ziyin Xie, Na Wu, Lili Wang, Lihui Dong, Danyang Li, Bin Li and Zhengjun Chen\*

7611



### Constructing dual-redox polyimides for enhanced hybrid capacitive deionization performance

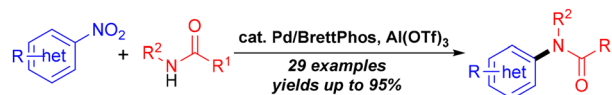
Yuquan Li, Qingyu Hong, Qianrong Wang, Zehua Bian, Weiqi Fu, Can Ding, Likun Pan\* and Xiaozhi Wang\*



7615

### Palladium-catalyzed denitrative C–N coupling of amides with nitroarenes enabled by Al(OTf)<sub>3</sub>

Linjie Yang,\* Xuejie Wang and Wanzhi Chen



- Broad functional group tolerance
- Halogen-free
- Cost-effective and readily available materials

7619

### Metal-free direct amidation of alkynes using *N*-Boc-*O*-tosyl-hydroxylamine via Cope-type hydroamination and Beckmann rearrangement

Ashirwad Divedi, Bal Krishna Mishra, Mohammad Amir, Jawahar L. Jat\* and Bhoopendra Tiwari\*

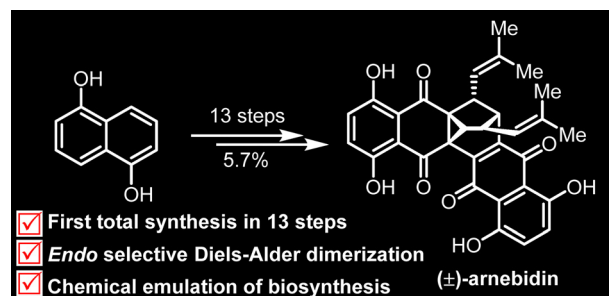


- ◆ Terminal & internal alkynes
- ◆ New C=O & C-N bond
- ◆ Metal-free
- ◆ Catalytic acid loading
- ◆ Mild reaction condition
- ◆ 32 Examples, up to 92% yield

7623

### Chemical emulation of the biosynthesis of (±)-arnebodin

Zhilong Feng, Tao Zhang, Nan Wang, Shoufeng Wang\* and Jun Deng\*

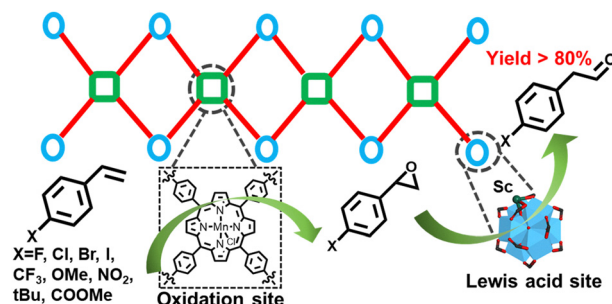


- ☑ First total synthesis in 13 steps
- ☑ Endo selective Diels-Alder dimerization
- ☑ Chemical emulation of biosynthesis

7627

### One-pot tandem epoxidation and rearrangement of styrenes to phenylacetaldehydes over a bifunctional metal–organic layer catalyst

Pengkun Su, Yuhang Song, Huihui Hu\* and Cheng Wang\*



- X = F, Cl, Br, I, CF<sub>3</sub>, OMe, NO<sub>2</sub>, tBu, COOMe

Oxidation site

Lewis acid site

Yield &gt; 80%

