

# ChemComm

Chemical Communications

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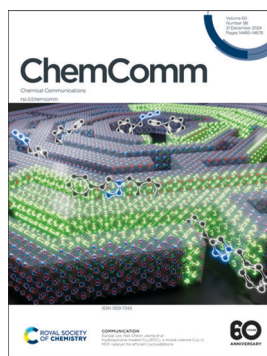
## IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 60(98) 14485-14678 (2024)



### Cover

See Igor V. Alabugin, Dasan M. Thamattoor, David Lee Phillips *et al.*, pp. 14573-14576. Image reproduced by permission of Dasan M. Thamattoor from *Chem. Commun.*, 2024, 60, 14573.



### Inside cover

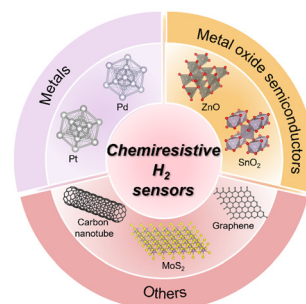
See Sunggi Lee, Nak Cheon Jeong *et al.*, pp. 14577-14580. Image reproduced by permission of Nak Cheon Jeong from *Chem. Commun.*, 2024, 60, 14577.

## HIGHLIGHT

14497

### Recent advances in nanomaterial-enabled chemiresistive hydrogen sensors

Yao Yang Liu, Zhong Li,\* Yi Liang, Tao Tang, Jing Hao Zhuang, Wen Ji Zhang, Bao Yue Zhang and Jian Zhen Ou\*

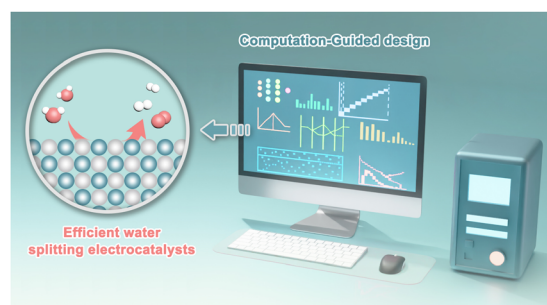


## FEATURE ARTICLES

14521

### Rational design of water splitting electrocatalysts through computational insights

Mingcheng Zhang, Yuchang Hou, Yuzhu Jiang, Xinyue Ni, Yanfei Wang\* and Xiaoxin Zou\*



# ChemComm

Uncover new possibilities  
with outstanding  
preliminary research

Original discoveries, fuelling  
every step of scientific progress



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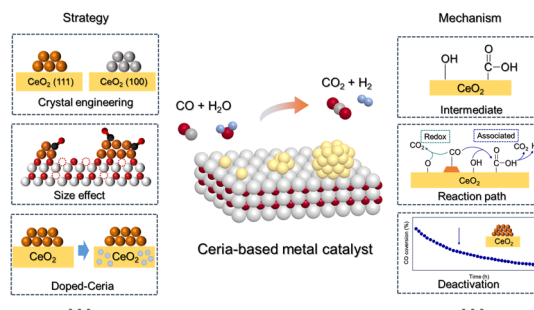
Fundamental questions  
Elemental answers

## FEATURE ARTICLES

14537

## Ceria-based supported metal catalysts for the low-temperature water-gas shift reaction

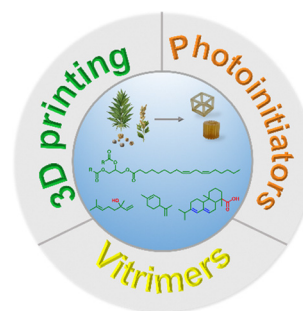
Xin-Pu Fu, Hui Zhao and Chun-Jiang Jia\*



14557

## Lipidic biomass as a renewable chemical building block for polymeric materials

Rafael Turra Alarcon,\* Gabriel Iago dos Santos, Caroline Gaglieri, Aniele de Moura, Éder Tadeu Gomes Cavalheiro and Gilbert Bannach

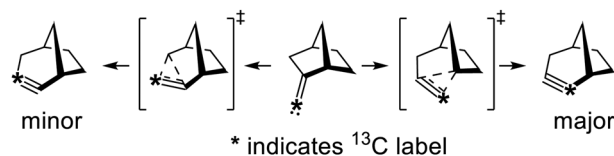


## COMMUNICATIONS

14573

## Generation and interception of bicyclo[3.2.1]oct-2-yne: an experimental and theoretical mechanistic study

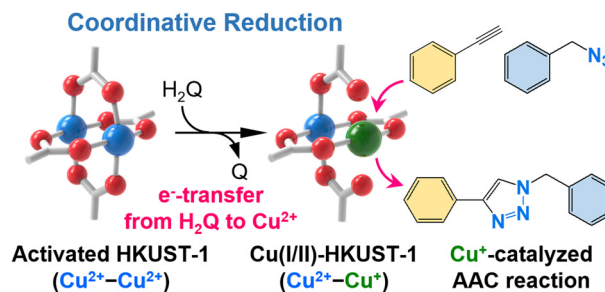
T. E. Anderson, Beauty K. Chabuka, Igor V. Alabugin,\* Dasan M. Thamattoor\* and David Lee Phillips\*



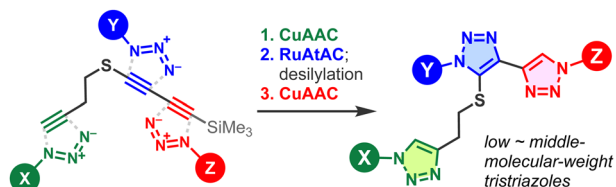
14577

Hydroquinone-treated Cu<sub>3</sub>(BTC)<sub>2</sub>: a mixed-valence Cu(I/II) MOF catalyst for efficient cycloadditions

Sun Ho Park, Hye Mi Kim, Mariana L. Díaz-Ramírez, Sunggi Lee\* and Nak Cheon Jeong\*



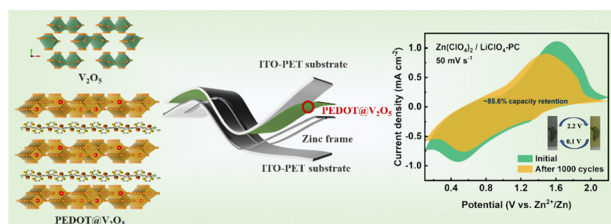
14581



### 1,3-Butadiynyl sulfide-based compact trialkyne platform molecule for sequential assembly of three azides

Jumpei Taguchi, Kento Tokunaga, Hitomi Tabuchi, Takashi Nishiyama, Isao Kii and Takamitsu Hosoya\*

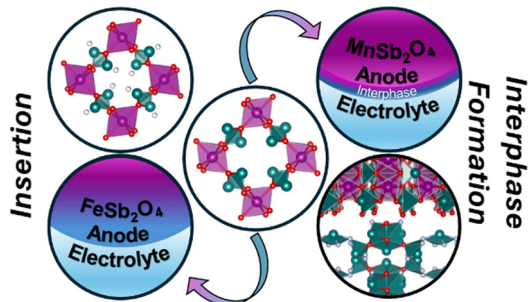
14585



### Interlayer spacing expansion for V<sub>2</sub>O<sub>5</sub> towards ultra-stable zinc anode-based flexible electrochromic displays in Zn<sup>2+</sup>/Li<sup>+</sup>-PC organic electrolyte

Zhe Li, Zhaoyang Song, Linhua Liu, William W. Yu, Jingwei Chen,\* Qianqian Zhu and Haizeng Li\*

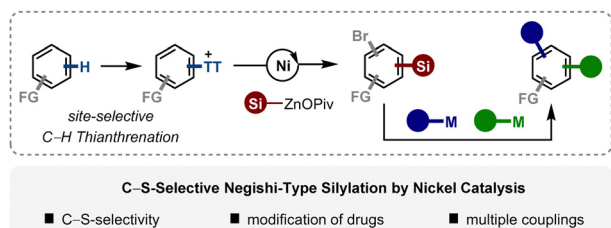
14589



### Interphase formation versus fluoride-ion insertion in tunnel-structured transition metal antimonites

Alice R. Giem, Jaime R. Ayala, Jingxiang Cheng, Conan Weiland, Chernu Jaye, Daniel A. Fischer and Sarbajit Banerjee\*

14593



### Nickel-catalyzed silylation of aryl thianthrenium salts with silylzinc pivalates

Zhenfeng Tian, Zhili Cui, Ying Hu, Jiabin Zhang, Liangjie Ruan and Jie Li\*

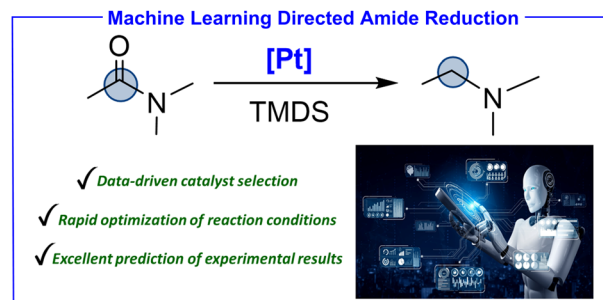


## COMMUNICATIONS

14597

**Machine learning directed discovery and optimisation of a platinum-catalysed amide reduction**

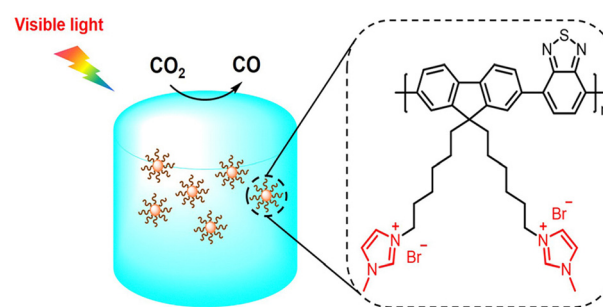
Eleonora Casillo, Benon P. Maliszewski, César A. Urbina-Blanco, Thomas Scattolin, Catherine S. J. Cazin\* and Steven P. Nolan\*



14601

**Efficient CO<sub>2</sub> photoreduction using a water-soluble conjugated polyelectrolyte grafted imidazolium-functionalized side chain**

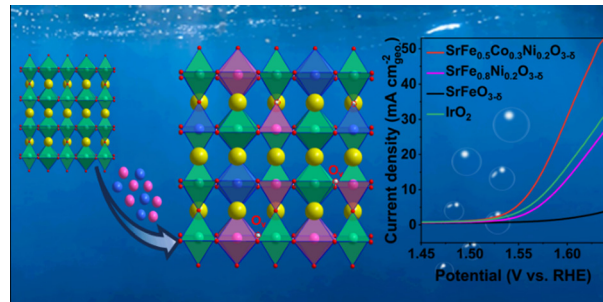
Mantao Chen, Waner Li, Tingting Zhang, Tianjing Xu, Bo Wang, Chao Zeng, Fei Li\* and Chunhui Dai\*



14605

**Unveiling the effect of codoping in strontium ferrite for oxygen evolution in alkaline media**

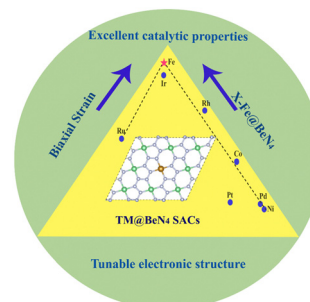
Shuangshuang Zhu, Mingyuan Wang, Yuguang Mao, Jiayuan Wang, Jiabao Ding,\* Guiwu Liu and Weifeng Zhang\*



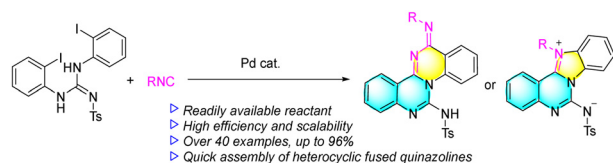
14609

**Tunable electronic structure and excellent catalytic properties of transition-metal-doped BeN<sub>4</sub> monolayer**

Wen-Hui Zhao, Dong-Yin Sun, Zi-Qiang Deng, Shi-Yao Liu, Lie-Mao Cao, Xiao-Hui Deng, Wen-Jin Yin and Zhen-Kun Tang\*



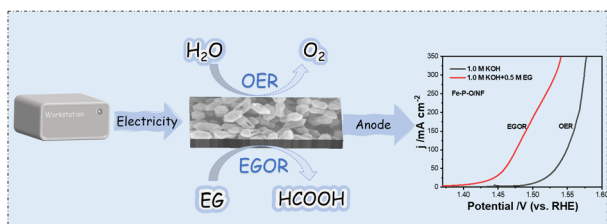
14613



### Palladium-catalyzed cascade cyclization of isocyanides with di-(*o*-iodophenyl)sulfonylguanidines: access to heterocyclic fused quinazolines

Shen Ge, Yi-Ming Zhu, Xiao-Ping Xu,\* You Zi\* and Shun-Jun Ji\*

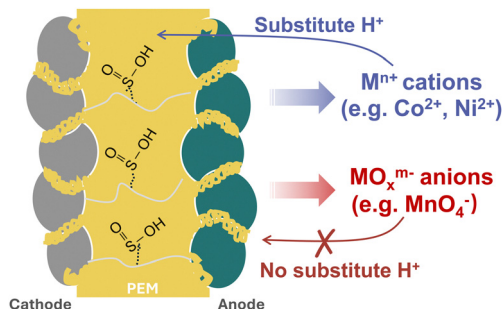
14617



### Amorphous Fe–O–P electro(pre)catalysts for energy-efficient H<sub>2</sub> production coupled with ethylene glycol oxidation

Feifei Yuan, Xiaoli Chen, Wenhui Yang, Wanting Wu, Manjie Zheng, Jun Xu,\* Nan Yu\* and Liyong Chen\*

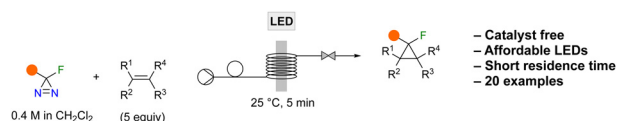
14621



### Effects of dissolved 3d-block metal ions on PEM water electrolysis performance

Shuang Kong,\* Kazuna Fushimi, Ailong Li and Ryuhei Nakamura\*

14625



### Synthesis of aryl fluorocyclopropanes from aryl fluorodiazirines and alkenes in continuous flow

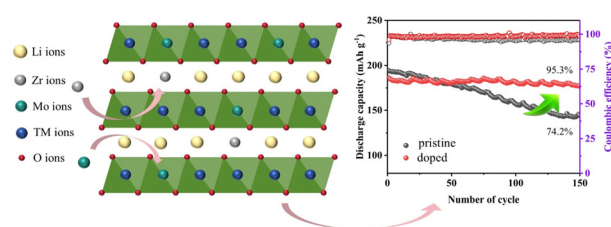
Hoang-Minh To, Shima Mirakhorli and Thierry Ollevier\*



14629

### Boosting the electrochemical performance of the Ni-rich $\text{LiNi}_{0.96}\text{Co}_{0.02}\text{Mn}_{0.02}\text{O}_2$ cathode by high-valence Zr/Mo dual-doping

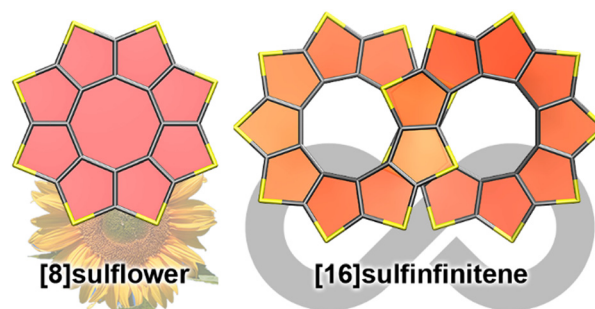
Hongmei Cao, Yudong Zhang,\* Xunzhu Zhou, Jie Yu, Xiang Chen and Lin Li\*



14633

### Sulfinfinitenes: infinitenes of fused thiophene rings

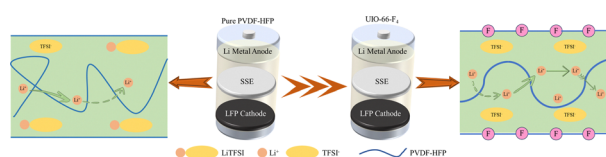
Peter B. Karadakov\* and Edward Cummings



14637

### The effects of fluorinated metal–organic frameworks as additives in polymer-based electrolytes for all-solid-state lithium batteries

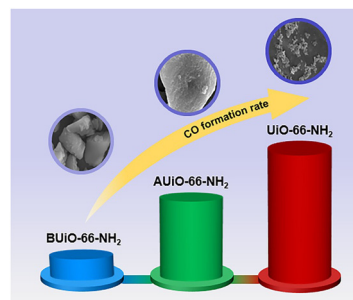
Liang He, Zexi Di, Jiaying Li, Sijia Wang, Wei Kong, Ruiqi Li, Arkadii Proskurin, Changzhu Lv\* and Tao Wei\*



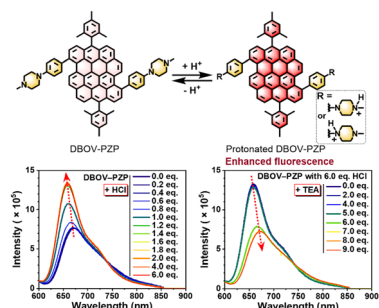
14641

### Varied $\text{CO}_2$ photoreduction activities of $\text{UiO-66-NH}_2$ MOFs with different aggregation morphologies

Shu-Ran Zhang, Yan-Hong Zou, Hai-Ning Wang,\* Guang-Juan Xu, Wei Xie, Na Xu, Yan-Hong Xu\* and Ya-Qian Lan\*



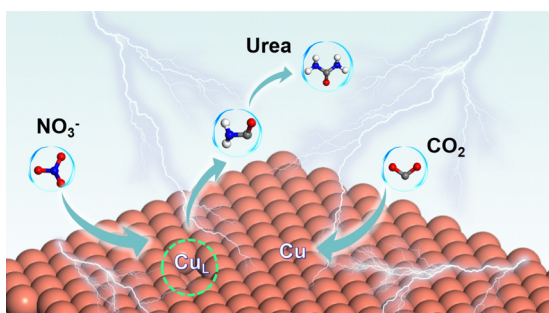
14645



### Acid-induced fluorescence enhancement of piperazinyphenyl-substituted nanographene

Hao Zhao, Rafael Muñoz-Mármol, Lilia Moshniaha, QiQi Yang, Mischa Bonn, Xiaomin Liu, Ryota Kabe, Giuseppe Maria Paternò\* and Akimitsu Narita\*

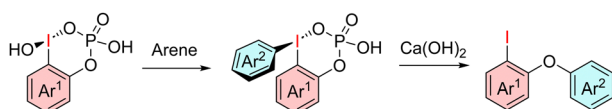
14649



### Electroreduction of CO<sub>2</sub> and nitrate for urea synthesis on a low-coordinated copper catalyst

Peng Guo, Xindong Wang, Yufei Wang, Yanwei Luo\* and Ke Chu\*

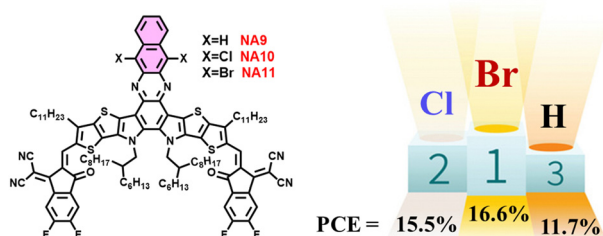
14653



### Synthesis of phosphate stabilised iodanes and their application in intramolecular aryl migrations

Jan Rick Koch, Mattis Damrath, Pim Puylaert and Boris J. Nachtsheim\*

14656



### Efficient organic solar cells with benzo[*b*]phenazine-core acceptors: insights into the effects of halogenation

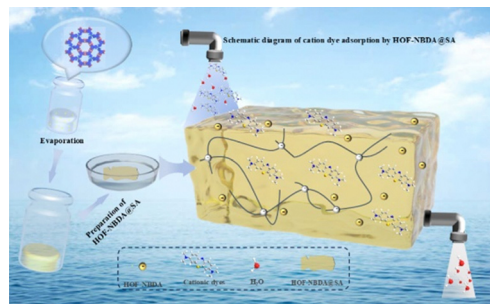
Han Tian, Kangbo Sun, Yufei Wang, Zhanxiang Chen, Guangye Zhang\* and Zhenghui Luo\*



14660

### A stable HOF-embedded alginate hydrogel membrane for selective adsorption of cationic dyes

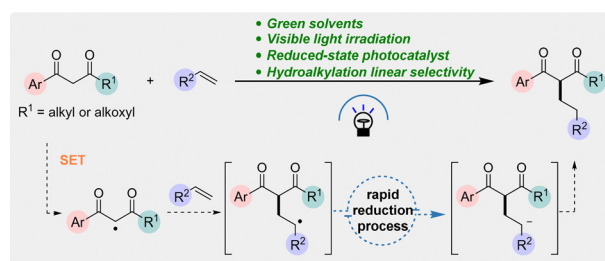
Ruiqi Zhu, Qiuxia Wu, Shengjie Lin, Limin Wang, Ye Liang, Lin Zhang,\* Dian Zhao, Yabing He\* and Banglin Chen\*



14664

### Visible-light-induced hydroalkylation of alkenes with aromatic $\beta$ -ketoesters

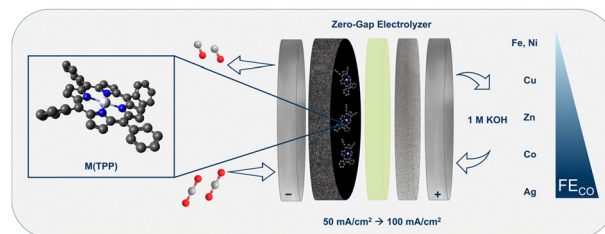
Ming Gong, Qingrui Li, Honghong Qin, Haixin Fu, Guoping Li,\* Yabo Li\* and Yangjie Wu



14668

### Scaling up electrochemical CO<sub>2</sub> reduction: enhancing the performance of metalloporphyrin complexes in zero-gap electrolyzers

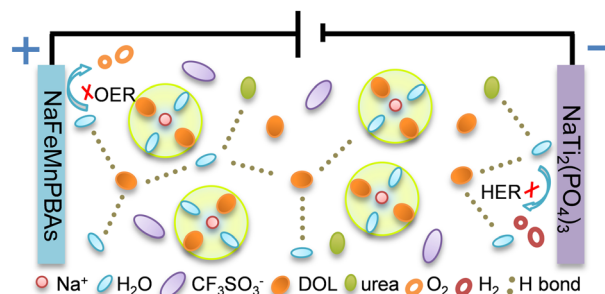
Wiebke Wiesner, Jenny Yurley Maldonado Arias, Julia Jökel, Rui Cao and Ulf-Peter Apfel\*



14672

### Synergistic effect of hydrogen-bond interaction and interface regulation for stable aqueous sodium-ion batteries

Lingyu Du,\* Miaomiao Xie, Zizhen Liu, Weiyu Cao, Jianchao Sun and Litao Kang\*



## CORRECTION

14676

**Correction: Impacts of trace level chromium on formation of superoxide within uranyl triperoxide complexes**

Sarah K. Scherrer, Harindu Rajapaksha, Dmytro V. Kravchuk, Sara E. Mason and Tori Z. Forbes\*

