Open Access Article. Published on 05 December 2024. Downloaded on 12/9/2025 11:28:12 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

ChemComm

Chemical Communications

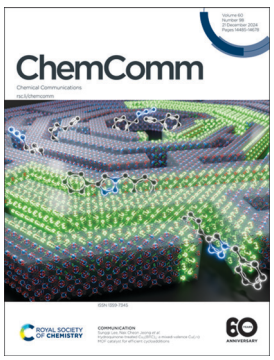
rsc.li/chemcomm

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 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.



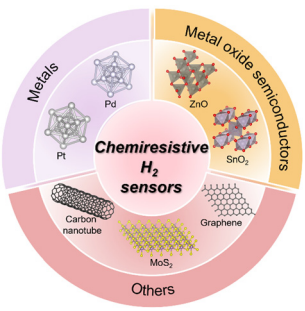
Inside cover
See Sunggi Lee, Nak Cheon Jeong *et al.*, pp. 14577–14580. Image reproduced by permission of Nak Cheon Jeong from *Chem. Commun.*, 2024, **60**, 14577.

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*

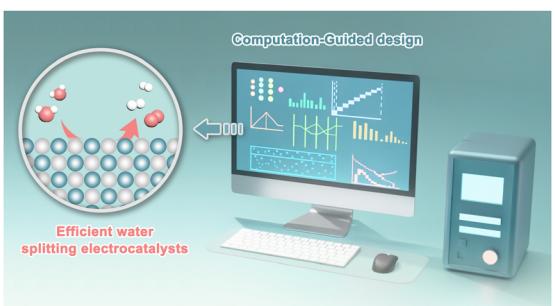


FEATURE ARTICLES

14521

Rational design of water splitting electrocatalysts through computational insights

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



View Article Online

ROYAL SOCIETY OF CHEMISTRY

60 YEARS ANNIVERSARY

Published on 01 January 2025. Downloaded on 12/9/2025 11:28:12 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

ChemComm

Uncover new possibilities with outstanding preliminary research

Original discoveries, fuelling every step of scientific progress

rsc.li/chemcomm

Fundamental questions
Elemental answers

Registered charity number: 207890

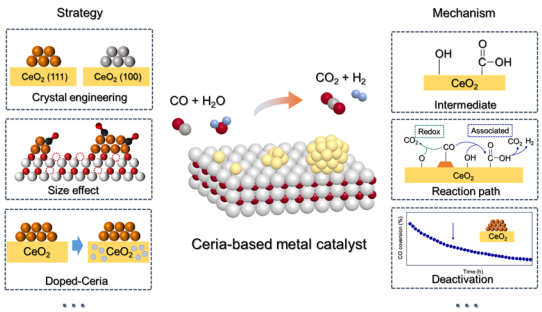
Open Access Article. Published on 05 December 2024. Downloaded on 12/9/2025 11:28:12 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

FEATURE ARTICLES

14537

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

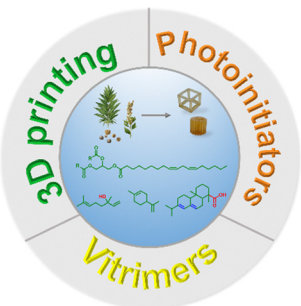
Xin-Pu Fu, Hui Zhao and Chun-Jiang Jia*



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

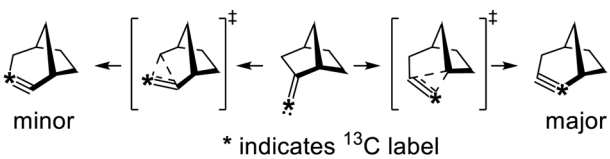


COMMUNICATIONS

14573

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

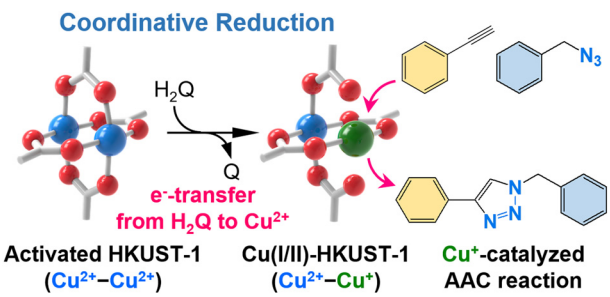
T. E. Anderson, Beauty K. Chabuka, Igor V. Alabugin,* Dasan M. Thamattoor* and David Lee Phillips*



14577

Hydroquinone-treated $Cu_3(BTC)_2$: a mixed-valence Cu(I/II) MOF catalyst for efficient cycloadditions

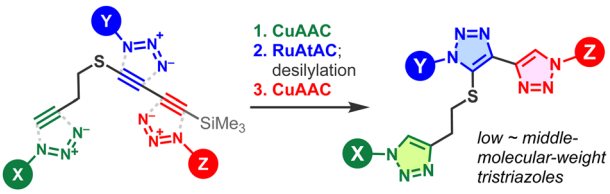
Sun Ho Park, Hye Mi Kim, Mariana L. Díaz-Ramírez, Sunggi Lee* and Nak Cheon Jeong*



Open Access Article. Published on 05 December 2024. Downloaded on 12/9/2025 11:28:12 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

COMMUNICATIONS

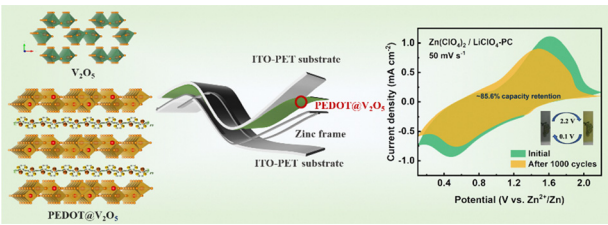
14581



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*

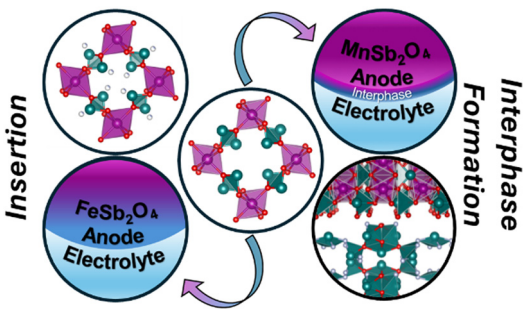
14585



Interlayer spacing expansion for V_2O_5 towards ultra-stable zinc anode-based flexible electrochromic displays in Zn^{2+}/Li^{+}-PC organic electrolyte

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

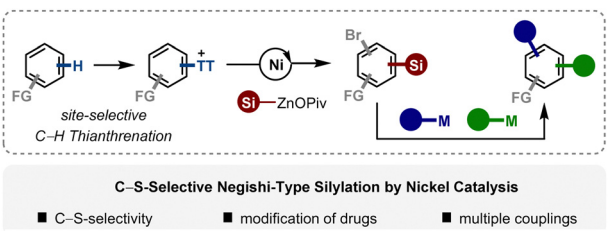
14589



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

Alice R. Giem, Jaime R. Ayala, Jingxiang Cheng, Conan Weiland, Cherno 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*

This journal is © The Royal Society of Chemistry 2024

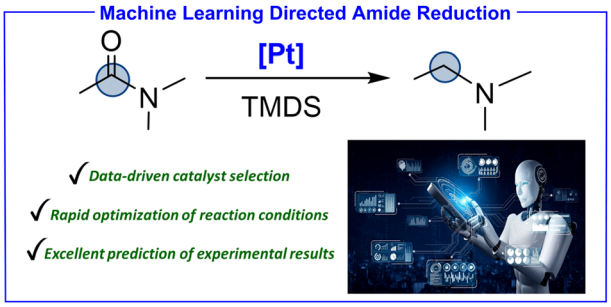
Open Access Article. Published on 05 December 2024. Downloaded on 12/9/2025 11:28:12 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

COMMUNICATIONS

14597

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

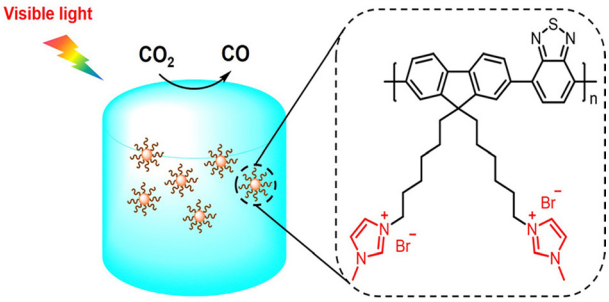
Eleonora Casillo, Benon P. Maliszewski, César A. Urbina-Blanco, Thomas Scattolin, Catherine S. J. Cazin* and Steven P. Nolan*



14601

Efficient CO_2 photoreduction using a water-soluble conjugated polyelectrolyte grafted imidazolium-functionalized side chain

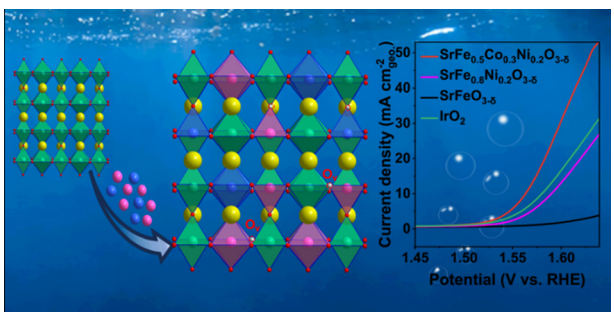
Mantao Chen, Waner Li, Tingting Zhang, Tianjing Xu, Bo Wang, Chao Zeng, Fei Li* and Chunhui Dai*



14605

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

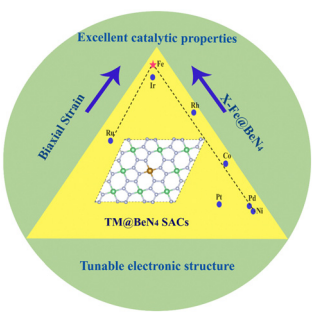
Shuangshuang Zhu, Mingyuan Wang, Yuguang Mao, Jiayuan Wang, Jiabao Ding,* Guiwu Liu and Weifeng Zhang*



14609

Tunable electronic structure and excellent catalytic properties of transition-metal-doped BeN_4 monolayer

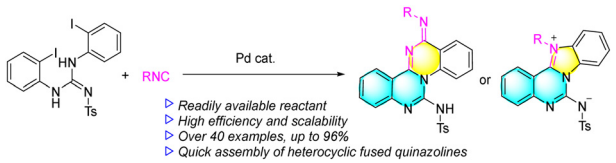
Wen-Hui Zhao, Dong-Yin Sun, Zi-Qiang Deng, Shi-Yao Liu, Lie-Mao Cao, Xiao-Hui Deng, Wen-Jin Yin and Zhen-Kun Tang*



Open Access Article. Published on 05 December 2024. Downloaded on 12/9/2025 11:28:12 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

COMMUNICATIONS

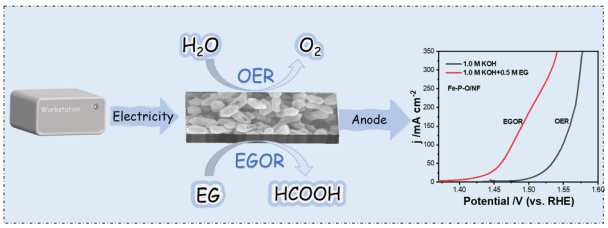
14613



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*

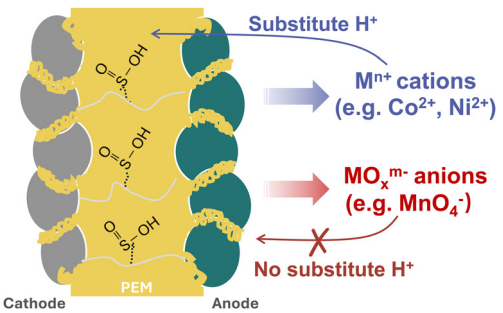
14617



Amorphous Fe–O–P electro(pre)catalysts for energy-efficient H_2 production coupled with ethylene glycol oxidation

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

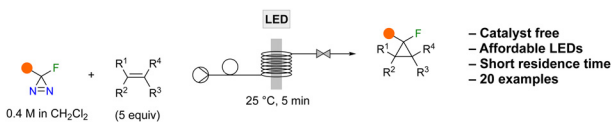
14621



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*

This journal is © The Royal Society of Chemistry 2024

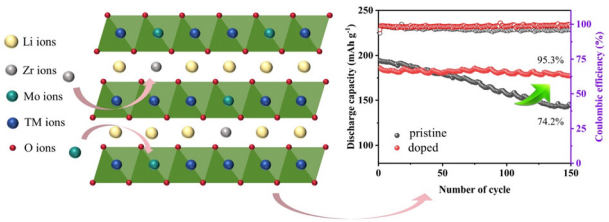
Open Access Article. Published on 05 December 2024. Downloaded on 12/9/2025 11:28:12 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

COMMUNICATIONS

14629

Boosting the electrochemical performance of the Ni-rich $LiNi_{0.96}Co_{0.02}Mn_{0.02}O_2$ cathode by high-valence Zr/Mo dual-doping

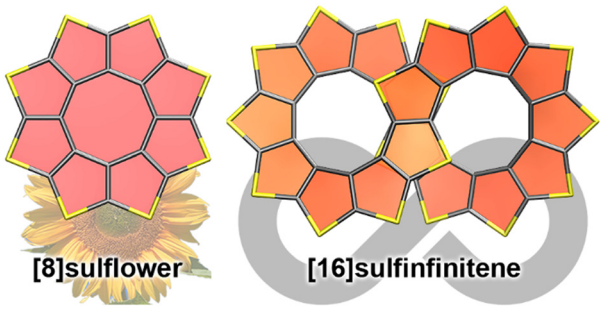
Hongmei Cao, Yudong Zhang,* Xunzhu Zhou, Jie Yu, Xiang Chen and Lin Li*



14633

Sulfinfinitenes: infinitenes of fused thiophene rings

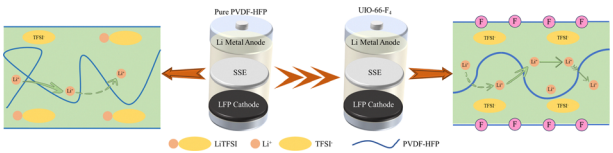
Peter B. Karadakov* and Edward Cummings



14637

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

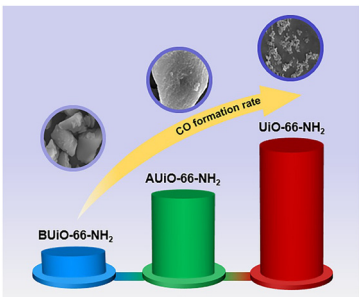
Liang He, Zexi Di, Jiaxing Li, Sijia Wang, Wei Kong, Ruiqi Li, Arkadii Proskurin, Changzhu Lv* and Tao Wei*



14641

Varied CO_2 photoreduction activities of UiO-66-NH_2 MOFs with different aggregation morphologies

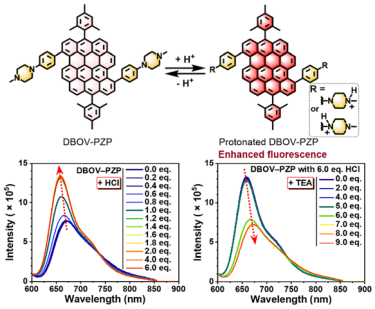
Shu-Ran Zhang, Yan-Hong Zou, Hai-Ning Wang,* Guang-Juan Xu, Wei Xie, Na Xu, Yan-Hong Xu* and Ya-Qian Lan*



Open Access Article. Published on 05 December 2024. Downloaded on 12/9/2025 11:28:12 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

COMMUNICATIONS

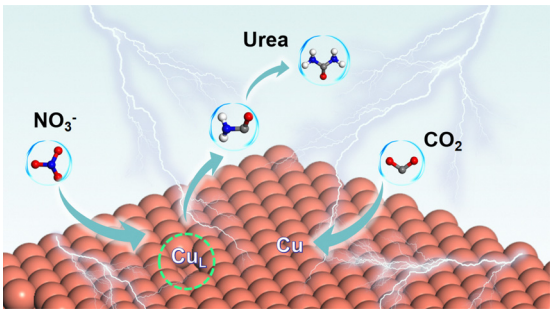
14645



Acid-induced fluorescence enhancement of piperazinylphenyl-substituted nanographene

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

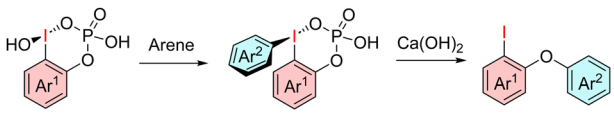
14649



Electroreduction of CO_2 and nitrate for urea synthesis on a low-coordinated copper catalyst

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

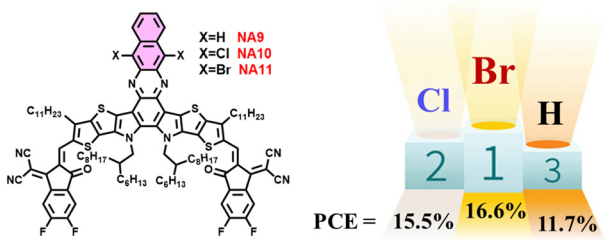
14653



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*

This journal is © The Royal Society of Chemistry 2024

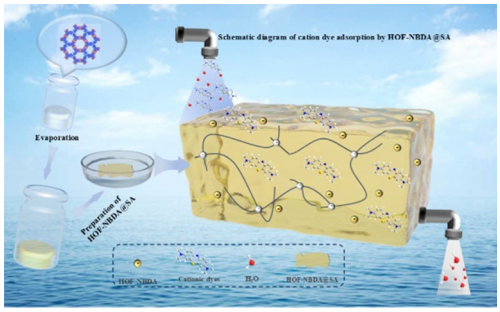
Open Access Article. Published on 05 December 2024. Downloaded on 12/9/2025 11:28:12 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

COMMUNICATIONS

14660

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

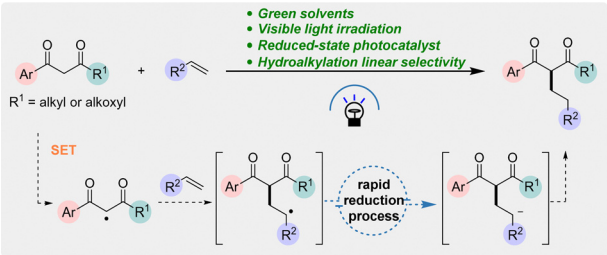
Ruiqi Zhu, Qiuxia Wu, Shengjie Lin, Limin Wang, Ye Liang, Lin Zhang,* Dian Zhao, Yabing He* and Banglin Chen*



14664

Visible-light-induced hydroalkylation of alkenes with aromatic β-ketoesters

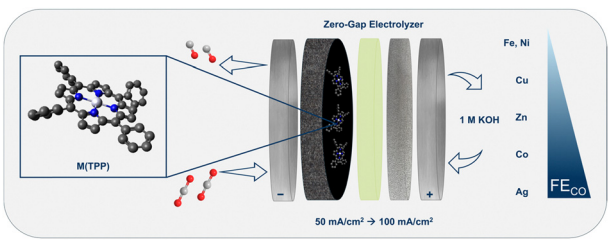
Ming Gong, Qingrui Li, Honghong Qin, Haixin Fu, Guoping Li,* Yabo Li* and Yangjie Wu



14668

Scaling up electrochemical CO_2 reduction: enhancing the performance of metalloporphyrin complexes in zero-gap electrolyzers

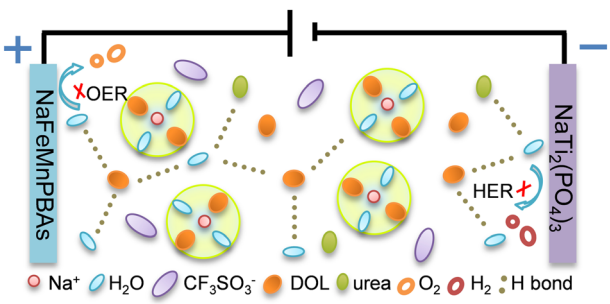
Wiebke Wiesner, Jenny Yurley Maldonado Arias, Julia Jökel, Rui Cao and Ulf-Peter Apfel*



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*

Open Access Article. Published on 05 December 2024. Downloaded on 12/9/2025 11:28:12 AM.
This article is licensed under a Creative Commons Attribution 3.0 Unported Licence.

This journal is © The Royal Society of Chemistry 2024