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IN THIS ISSUE

ISSN 1359-7345 CODEN CHCOFS 61(54) 9723-9984 (2025)



Cover

See Tsuyoshi Minami *et al.*, pp. 9872–9875.
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Inside cover

See Kenjiro Higashi *et al.*, pp. 9876–9879.
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HIGHLIGHTS

9736

Innovative and sustainable approaches to NIR-active coatings for next-generation medical devices

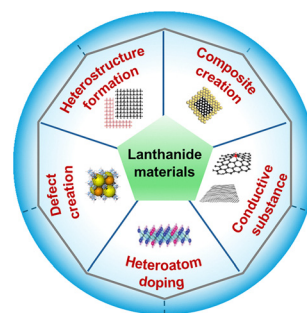
G. S. Lekshmi,* Karthika Prasad, Katia Alexander and Vignesh Kumaravel*



9753

Lanthanide-based catalysts for electrochemical water splitting: unraveling the interplay of structure, properties, and performance

Baghendra Singh



Environmental Science: Atmospheres

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Fundamental questions
Elemental answers

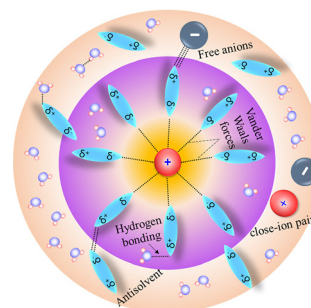


HIGHLIGHTS

9780

Strategies for electrolyte modification in aqueous zinc-ion batteries: an antisolvent approach

Asis Sethi, Chaithra Rajeev, Anil Kumar U., Jefin F., Santoshkumar D. Bhat and Vishal M. Dhavale*

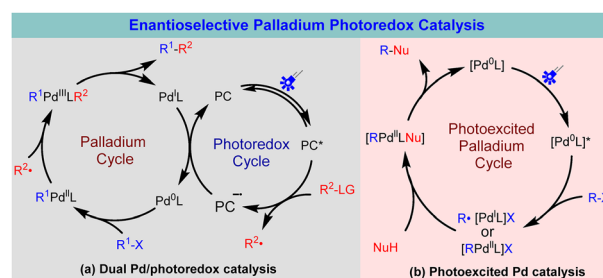


FEATURE ARTICLES

9802

Enantioselective palladium photoredox catalysis

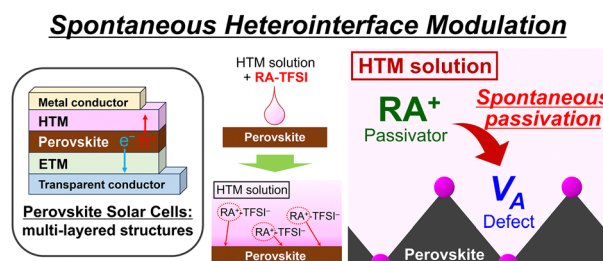
Sheng Tang, Runquan Kang, Zhenyu Zhang and Shouyun Yu*



9816

Spontaneous heterointerface modulators for perovskite solar cells

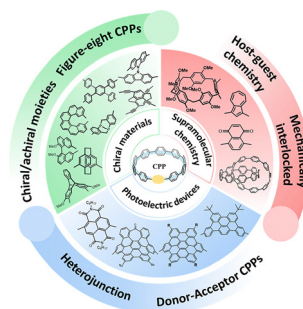
Naoyuki Nishimura



9836

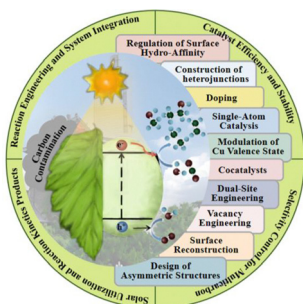
Recent advances in functionalized cycloparaphenylenes: from molecular design to applications

Xiaonan Li, Shengzhu Guo and Hua Jiang*



FEATURE ARTICLES

9853

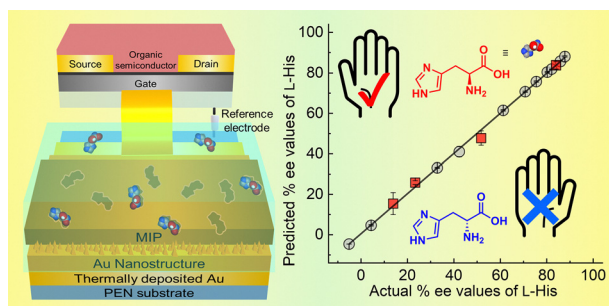


Catalyzing a cleaner future: recent advancement in photocatalytic conversion for CO₂-to-solar fuels

Zhengdao Li,* Xiaotian Yang, Zimu Zhang, Yecheng Leng, Xi Zhu, Zhigang Zou and Yong Zhou*

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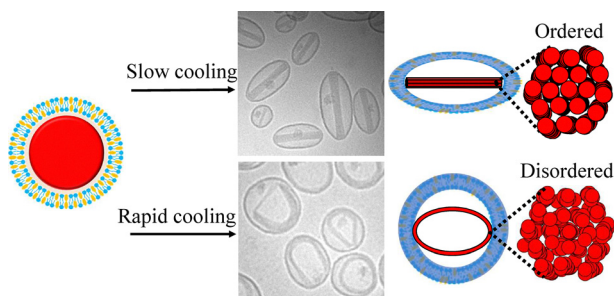
9872



Accurate determination of enantiomeric excess of an amino acid using an extended-gate-type organic transistor

Yijing Zhang, Yui Sasaki, Xiaojun Lyu, Jun-ichi Ogawa, Hidenosuke Itoh and Tsuyoshi Minami*

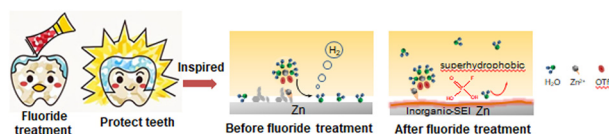
9876



Nanomorphology tuning in doxorubicin-loaded liposomes *via* cooling-induced doxorubicin-crystallization and membrane phase transition

Koki Nishimura, Taiki Fujimoto, Taisei Tokumoto, Kenjiro Higashi,* Ryo Hidaka, Keisuke Ueda, Takeshi Morita and Kunikazu Moribe

9880



Biomimetic fluoride-coated zinc anodes: pediatric dentistry inspires stable zinc batteries

Shi Wang,* Tao Chen, Yuqi Miao, Wu Hao, Huibo Wang,* Qian Wang,* Zhong Jin and Lei Zhang*

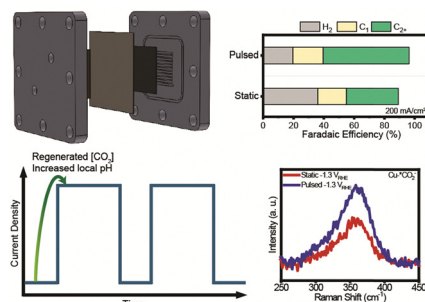


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9884

Insight into the effects of pulsed CO₂ electrolysis in a zero-gap electrolyzer

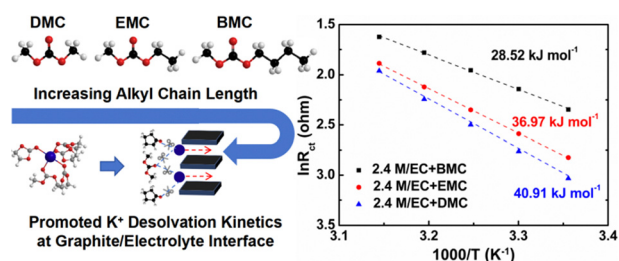
Xiao Kun Lu, Weiyan Ni, Adrien E. Deberghes and Linsey C. Seitz*



9888

Tailoring the alkyl chain length of linear esters in moderately concentrated electrolyte for a high-performance graphite anode in K-ion batteries

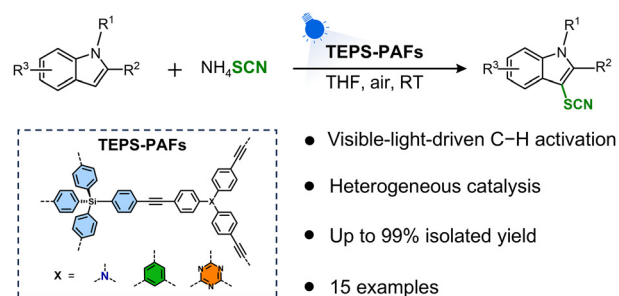
Yuqin Fan, Xueao Jiang, Wenjie Luo, Yang Gao, Hussein A. Younus, Weijian Liu, Minghan Zhou, Xiwen Wang* and Shiguo Zhang*



9892

Efficient photocatalytic C-3 thiocyanation of indoles over tetraphenylsilane-based porous aromatic frameworks

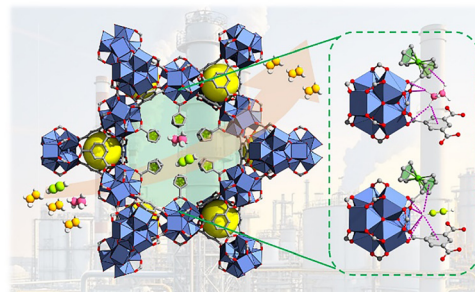
Yuxuan He, Linzhu Cao, He Wang, Fengchao Cui* and Xin Tao*



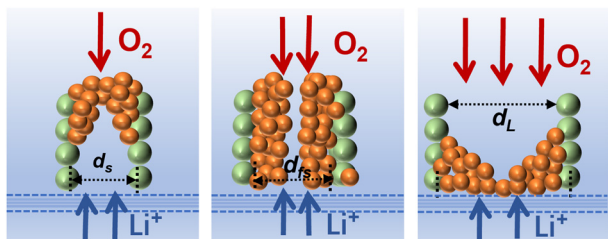
9896

Decorating nonpolar units in robust MOFs for one-step purification of C₂H₄ from C₂H₂/C₂H₄/C₂H₆

Qi Zhang, Rui Song, Lin Liu* and Zhengbo Han*



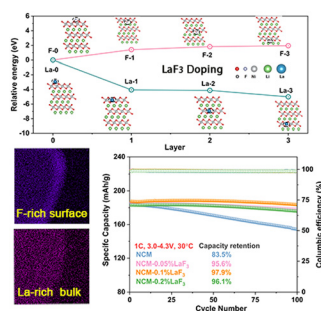
9900



Redefining the capacity limitation of Li-air batteries by uncoupling the competitive multiple-transport and nucleation

Junjie Li, Qingxu Zhang, Chongyan Yao, Xiangyu Li, Jiucong Liu, Jian Wang,* Gang Liu* and Xizheng Liu*

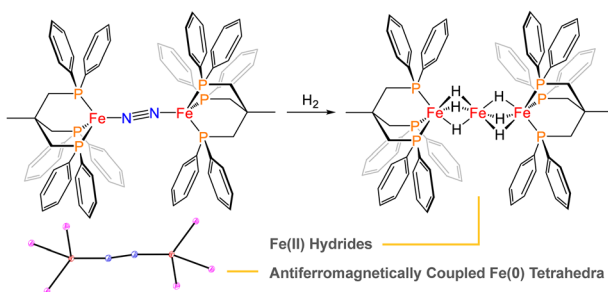
9904



A bifunctional LaF₃ doping strategy achieving coupled bulk and interfacial reconstruction for Ni-rich cathodes

Sihan Li, Yunhai Zhang, Le Zhao, Huimin Ji, Zhouhao Fu, Jie Tan, Jun Bao, Yixin Li, Qi Zhang,* Yougen Tang and Haiyan Wang

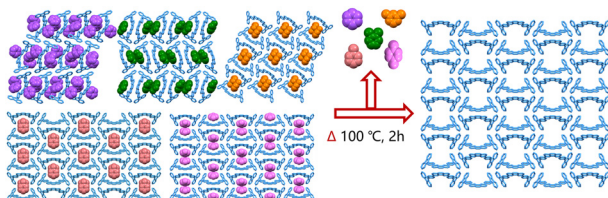
9908



Historical account of dinitrogen-bridged diiron complex synthesis using a commercial tripodal ligand

Nathan C. Smythe,* Joydeb Mondal, Juan G. Duque, Russell K. Feller, Marco Flores, John C. Gordon,* Neil J. Henson, Moshe Paz-Pasternak, Francisca N. Rein, Brian L. Scott, R. Dean Taylor and Ryan J. Trovitch*

9912



A V-shaped small molecule-based crystalline nonporous supramolecular organic framework for capturing benzene-based contaminants

Jin-Fa Chen,* Yuxuan Wang, Bingbing Shi, Hong Yao, Tai-Bao Wei and Qi Lin*

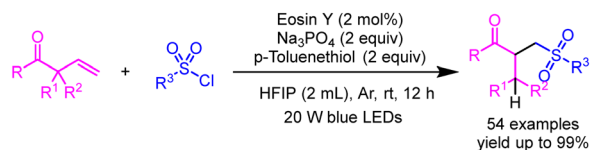


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9916

Visible-light-induced radical 1,3-hydrosulfonylation of allylketones with sulfonyl chlorides

Xin Zheng, Xiang Li,* Xinglong Han, Xinlong Zhang, Qin Zhang, Tuanli Yao* and Guodong Zhang*

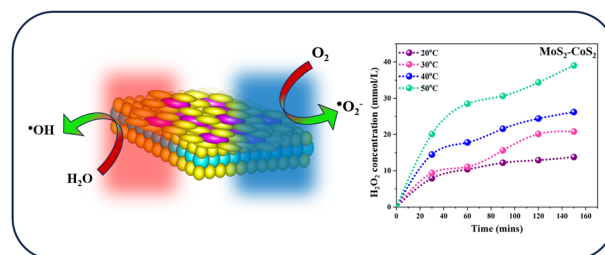


- 1,3-Hydrosulfonylation
- 1,2-Carbonyl migration
- Mild conditions
- Broad substrate scope
- Good functional group tolerance
- Scalable

9920

MoS₂/CoS₂ heterostructures as a thermoelectric-catalyst for H₂O₂ generation under a small temperature gradient

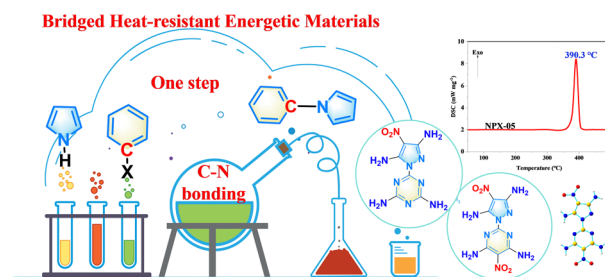
Johnson Mary Leeda Rani Abisharani, Yangyang Wan, Qian Yu,* Yuyan Xu, Yinhua Jiang, Jun Qian, Shun Li, Li Li, Siew Yee Wong, Xu Li* and Jianming Zhang*



9924

Facile synthesis of bicyclic heat-resistant energetic materials via a C–N coupling strategy

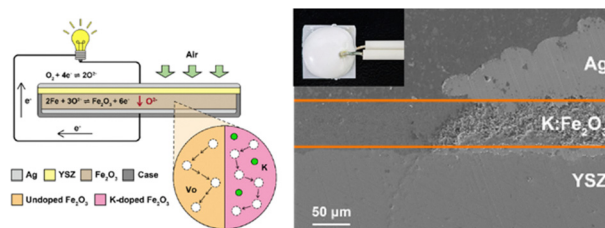
Xiu'e Jiang, Mingren Fan, Ruihui Wang, Yi Wang* and Qinghua Zhang*



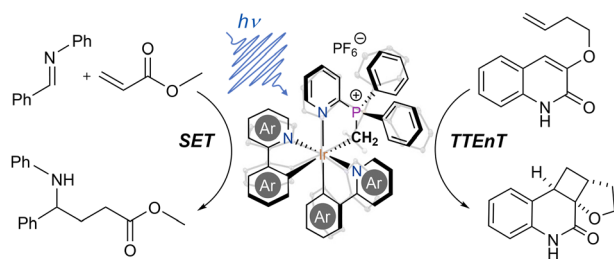
9928

Enhanced all-solid-state iron–air batteries via low-level K⁺ doping in iron oxide

Hao Wang, Bingqian Sun and Cheng Peng*



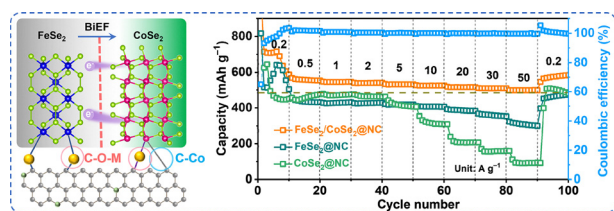
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Cyclometallated phosphonium ylide-based iridium(III) photocatalysts

Oussama Fayafrou, Juliette Zanzi, Carine Duhayon, Jean-Baptiste Sortais, Olivier Baslé* and Yves Canac*

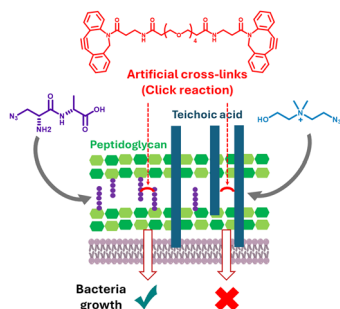
9936



Bimetallic FeSe₂/CoSe₂ heterojunction nanoparticles anchored on porous N-doped carbon nanosheets for high-rate sodium-ion storage

Xinqi Shen, Mingxing Yang, Chengkun Guo, Dandan Wang, Shuocong Duan, Zhuosen Wang, Yunfeng Chao, Jianhua Zhu* and Xinwei Cui

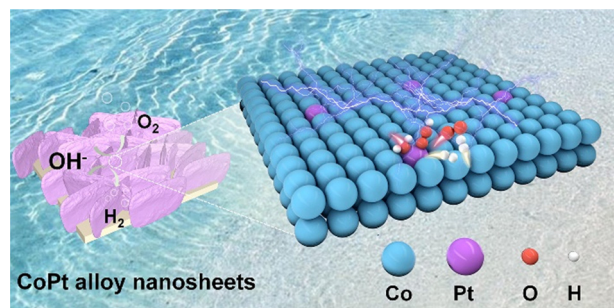
9940



Cross-linking teichoic acids by click chemistry prevents bacterial cell growth

Morgane Baudoin, Anne Chouquet, Célia Boyat, Cédric Laguri, André Zapun, Basile Pères, Cecile Morlot, Yung-Sing Wong* and Claire Durmort*

9944



Ultralow platinum-doped self-supported CoPt alloy nanosheets for efficient overall water splitting

Yatao Yan, Zhi-An Ye, Yongjian Xu, Jingjing Jiang,* Rongfang Zhao, Fang Guo,* Chunsheng Li* and Ming Chen*

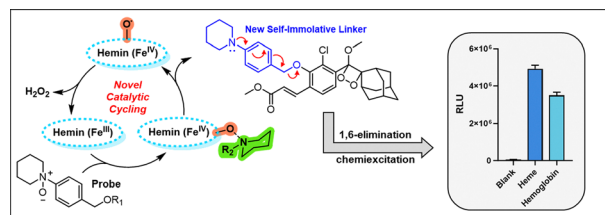


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9948

Heme-catalyzed reduction of N-oxide and its application to sensing heme and hemoglobin via a chemiluminescent probe

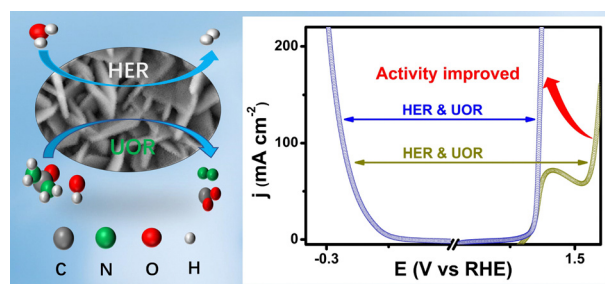
Pengfei Lei, Chen Chen, Xuehui Liu, Shuang Wang, Jing Li, Xiang Lv and Chong-Jing Zhang*



9952

NiMoO₄ decorated Co(OH)₂ nanosheets as an efficient bifunctional electrocatalyst for urea-assisted water splitting

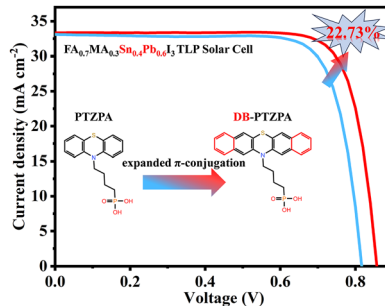
Feng Jing,* Zhen Liu, Sihan Fu, Bo Cheng, Zhiyi Wang and Kangwen Qiu*



9956

Expanding the conjugated benzene rings of phenothiazine phosphonic acid for efficient tin-lead mixed perovskite solar cells with a Sn/Pb ratio of 0.4 : 0.6

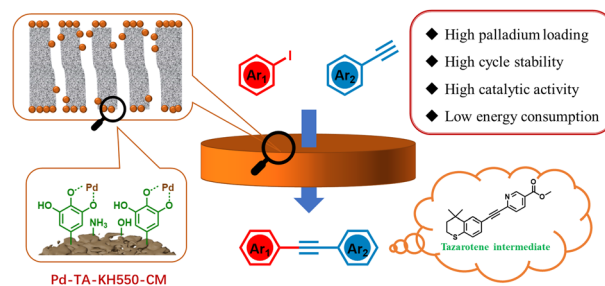
Gangsen Su, Qiang Sun, Dong He, Tianle Cheng, Haojie Chen, Yuchen Pan, Jinfeng Huang, Siyuan Tang and Zhubing He*



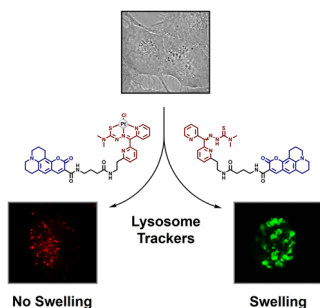
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A Pd-tannic acid-loaded ceramic catalytic membrane for the flow-through Sonogashira reaction

Haoran Li, Xiaochun Bao, Jiacheng Rui, Yong Zhou, Liang Shen, Lianzeng Zhang, Chenjie Zhu, Rizhi Chen* and Xiaojin Wu*



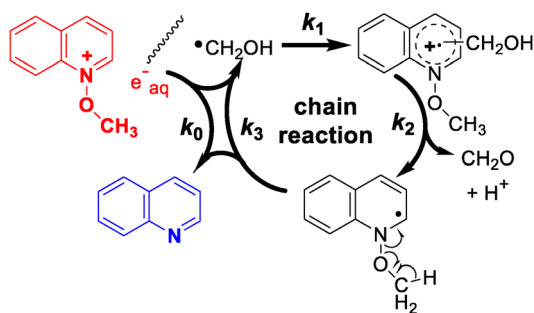
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Design and application of a non-toxic platinum derivative of the metal chelator Dp44mT for use as a long-term stable lysosome tracker

Nandan Sheernaly, Axel Steinbrueck, Jasmine Ochs, Frank Peeters, Ronja Fiedler, Franz Narberhaus, Jacqueline Heinen-Weiler and Nils Metzler-Nolte*

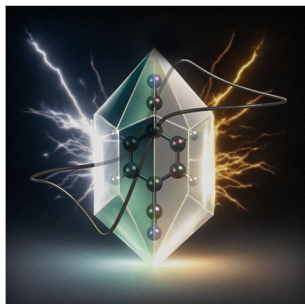
9968



Chain-release of quinoline-based drugs from *N*-alkoxyquinoline prodrugs upon radiolytic one-electron reduction

Robert F. Anderson,* Hamish S. Sutherland and Andrew J. Marshall

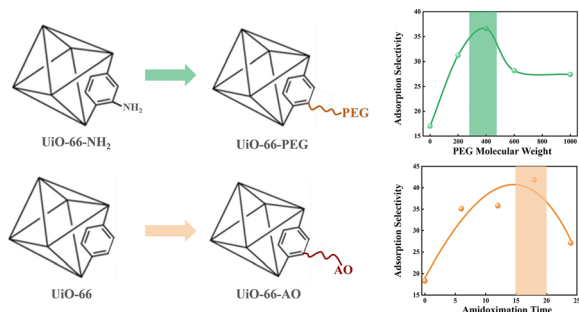
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Syntheses and characterisation of terephthalonitrile radical salts

Meng-Ting Suo, Jouke A. Fleege, Nathan J. Yutronkie, Vincent L. Nadurata, Dmitry Chernyshov, Mathieu Rouzières, Aaron Mailman, Rodolphe Clérac* and Pierre Dechambenoit*

9976



CO₂-selective molecular recognition in UiO-66 via post-synthetic polyethylene glycol/amidoxime functionalization

Tao Hong, Mengdan Ma, Yu Li, Shujuan Wang, Anning Zhou and Xinli Jing*



CORRECTION

9980

Correction: Ratiometric fluorescent probes for selective and sensitive visualization of bacterial microenvironment protease activity

Qinghua Wang, Xiang Wang, Ying Sun, Xiaoxiao Yang, Leilei Zhang, Qingyang Zhang, Zhi-Qiang Hu and Hai-Yu Hu*

