ChemComm

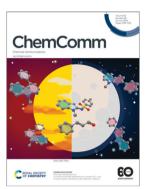
Chemical Communications

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(58) 7381-7512 (2024)



Cover

See Chinmay Chowdhury et al., pp. 7427-7430. Image reproduced by permission of Chinmay Chowdhury from Chem. Commun., 2024, 60, 7427.



Inside cover

See Jinhye Bae et al., pp. 7414-7426. Image reproduced by permission of Jinhye Bae from Chem. Commun., 2024, 60, 7414.

PROFILE

7391

Contributors to the Emerging Investigators collection 2024: Part 1

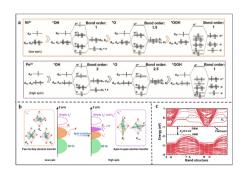


HIGHLIGHT

7397

The spin polarization strategy regulates heterogeneous catalytic activity performance: from fundamentals to applications

Yan Wang, Junkang Sun, Ning Sun, Mengyang Zhang, Xianya Liu, Anlei Zhang* and Longlu Wang*





Royal Society of Chemistry approved training courses

Explore your options.

Develop your skills.

Discover learning that suits you.

Courses in the classroom, the lab, or online

Find something for every stage of your professional development. Search our database by:

- subject area
- location
- event type
- skill level

Members get at least 10% off

Visit rsc.li/cpd-training

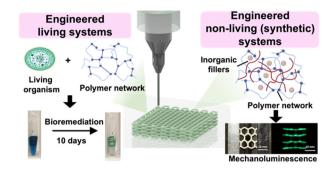


FEATURE ARTICLE

7414

Extrusion-based 3D printing of soft active materials

Jiayu Zhao, Xiao Li, Donghwan Ji and Jinhye Bae*

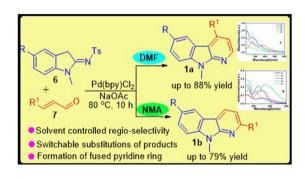


COMMUNICATIONS

7427

A solvent controlled regioselective synthesis of 2- and 4-substituted α-carbolines under palladium catalysis

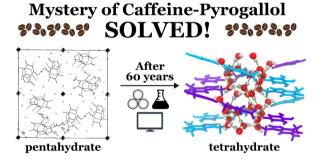
Sarat Chatterjee, Rousunara Khatun, Mahammad Ali and Chinmay Chowdhury*



7431

Structure of the caffeine-pyrogallol complex: revisiting a pioneering structural analysis of a model pharmaceutical cocrystal

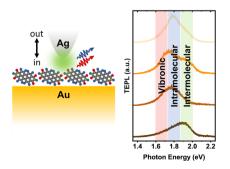
Okba Al Rahal, Michael Ferguson, Cameron B. Lennox, Louise Male and Tomislav Friščić*



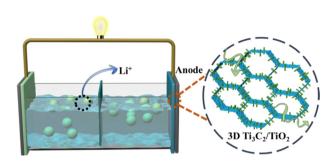
7435

Visualizing nanoscale heterogeneity in perylene thin films via tip-enhanced photoluminescence with unsupervised machine learning

Pavel Valencia-Acuna, Kushal Rijal, Chih-Feng Wang, Maxim Ziatdinov, Wai-Lun Chan* and Patrick Z. El-Khoury*



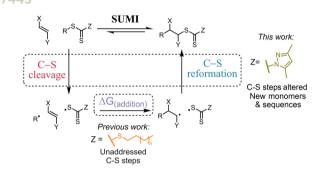
7439



3D hierarchical Ti₃C₂/TiO₂ composite via in situ oxidation for improved lithium-ion storage

Jianlin Zhang, Shan Wei, Qingyun Miao, Huihui Yue, Xiuxia Meng, Fei Wang* and Naitao Yang*

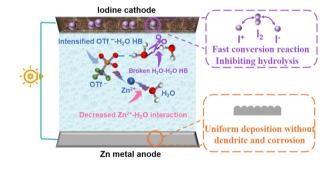
7443



Pyrazole carbodithiolate-driven iterative RAFT single-additions

Karen Hakobyan, Benjamin Noble and Jiangtao Xu*

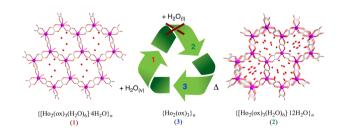
7447



Triflate anion chemistry for enhanced four-electron zinc-iodine aqueous batteries

Tingting Liu, Chengjun Lei, Huijian Wang, Wei Yang, Xin He and Xiao Liang*

7451



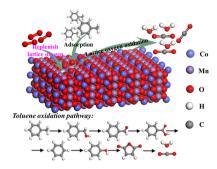
Magnetocaloric efficiency tuning through solvent-triggered 3D to 2D interconversion in holmium(III)-based dynamic MOFs

Nadia El Alouani Dahmouni, Marta Orts-Arroyo, Adrián Sanchis-Perucho, Nicolás Moliner, Júlia Mayans, Mario Pacheco, Isabel Castro,* Giovanni De Munno, Nadia Marino,* Rafael Ruiz-García and José Martínez-Lillo*

7455

A bimetallic MOF-derived MnCo spinel oxide catalyst to enhance toluene catalytic degradation

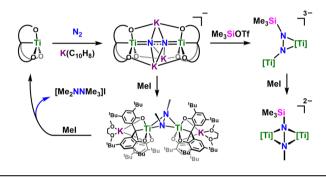
Bin Gao, Fukun Bi, Zhuoxuan Zhou, Yaofei Zhang, Jiafeng Wei, Xutian Lv, Baolin Liu, Yuandong Huang and Xiaodong Zhang*



7459

Hydrazido complexes prepared by methylation of an anionic end-on bridging dinitrogen dititanium complex

Yutaka Ishida, Yusuke Nakanishi, Takuma Hiratsuka and Hiroyuki Kawaguchi*



7463

Selective electrochemical nitrogen fixation to ammonia catalyzed by a novel microporous vanadium phosphonate via the distal pathway

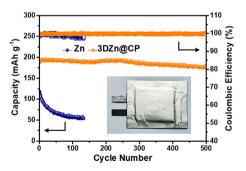
Smruti Vardhan Purohit, Rupali Ipsita Mohanty, Bibek Dash, Piyali Bhanja* and Bikash Kumar Jena*



7467

Fast-charging aqueous batteries enabled by a three-dimensional ordered Zn anode at deliberate concentration polarization

Jinze Li, Eryang Mao, Xiaozhou Ye, Tian Xu, Jie Zheng, Kaiwen Xiao, Bingbing Sun, Ming Ge, Xiaolei Yuan and Zhao Cai*



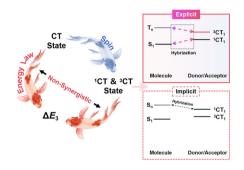
7471

diamidation 31 examples (PC) I2, H2O atom economical monoamidation · mild reaction condition 17 examples · no strong acid added · good functional group tolerance

Visible-light-induced Ritter-type amidation of α -hydroxy ketones in the selective synthesis of α,α -diamido and monoamido ketones

Enrong Tang, Quan-Quan Zhou* and Jie-Ping Wan*

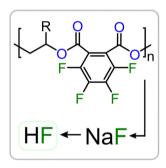
7475



A hybridization-induced charge-transfer state energy arrangement reduces nonradiative energy loss in organic solar cells

Yue Ren, Ming-Yue Sui, Li-Yuan Peng, Ming-Yang Li,* Guang-Yan Sun* and Zhong-Min Su*

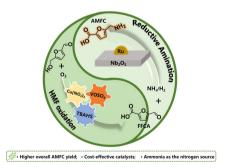
7479



Fluoride recovery in degradable fluorinated polyesters

Christoph Fornacon-Wood, Merlin R. Stühler, Alexandre Millanvois, Luca Steiner, Christiane Weimann, Dorothee Silbernagl, Heinz Sturm, Beate Paulus and Alex J. Plajer*

7483



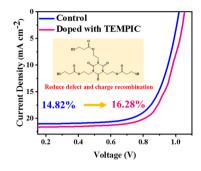
Hybrid homogeneous/heterogeneous relay catalysis for efficient synthesis of 5-aminomethyl-2-furancarboxylic acid from HMF

Conglin Zhu, Kaizhi Wang, Feifan Gao, Zehui Sun, Mugeng Chen, Jiachen Fei, Chen Chen, Heyong He, Yongmei Liu* and Yong Cao*

7487

Additive engineering via multiple-anchoring enhances 2D perovskite solar cells' performance

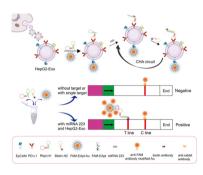
Liangding Zheng, Yuanju Zhao, Rongjun Zhao,* Lin Xie* and Yong Hua*



7491

A lateral flow assay strip for simultaneous detection of miRNA and exosomes in liver cancer

Ruyue Wei, Dawei Wang, Ping Zhou, Yingbo Pan, Xiuyan Wan, Wei Pan, Na Li* and Bo Tang*



7495

Alkyl nitrite-enabled palladium-catalyzed terminal selective oxidative cyclization of 4-penten-1-ols

Ayaka Iwanami, Saki Komori and Yasuyuki Ura*

HO
$$\begin{array}{c}
R^{2} R^{3} R^{1} \\
R^{4} R^{5}
\end{array}$$

$$\begin{array}{c}
cat. PdCl_{2}(MeCN)_{2} \\
n-BuONO \text{ or } n-BuONO/BQ} \\
R^{6}OH \\
O_{2} (1 \text{ atm})
\end{array}$$

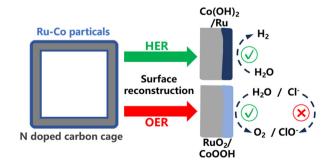
$$\begin{array}{c}
R^{2} \\
R^{3} \\
R^{4}
\end{array}$$

terminal selective cyclization

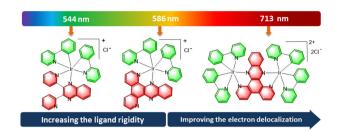
7499

A N-doped carbon substrate makes the Ru-Co alloy an efficient electrocatalyst for pH-universal seawater splitting

Kang-Yi Xiong, Le-Wei Shen, Yong Wang, Yu Liu, Ming-Xia Hu, Jie Ying, Yu-Xuan Xiao, Ling Shen,* Ge Tian* and Xiao-Yu Yang*



7503



Molecular engineering of metal-based photosensitizers with narrow band gap for efficient photodynamic therapy

Pengmin Shi, Wenqi Gong, Jian Zhao,* Yubo Jiao, Yanyan Sun, Lei Fang* and Shaohua Gou*

7507



- Good yields with excellent enantioselectivities
- Mild reaction conditions and broad substrate scope
- ullet Asymmetric dearomatization to construct α -naphthalenones with a quaternary carbon centre

Asymmetric dearomatization of benzyl 1-naphthyl ethers via [1,3] O-to-C rearrangement

Hongkun Zeng, Gang Wen, Lili Lin* and Xiaoming Feng*