# **Industrial Chemistry & Materials**

An international journal of significant innovative research and major technological breakthroughs in all aspects of industrial chemistry and materials rsc.li/icm

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 2755-2500 CODEN ICMNCZ 2(2) 167-350 (2024)



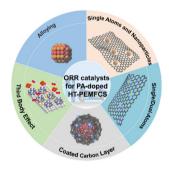
Cover See Zi-Rong Tang, Yi-Jun Xu et al., pp. 289-299. Image reproduced by permission of Yi-Jun Xu, Zi-Rong Tang and Yu Chen from Ind. Chem. Mater., 2024,

#### **REVIEWS**

173

Recent progress of antipoisoning catalytic materials for high temperature proton exchange membrane fuel cells doped with phosphoric acid

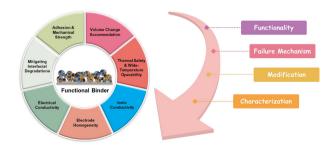
Dongping Xue and Jia-Nan Zhang\*



191

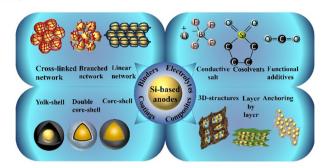
Design of functional binders for high-specificenergy lithium-ion batteries: from molecular structure to electrode properties

Tian Qin, Haoyi Yang, Quan Li,\* Xiqian Yu\* and Hong Li



## **REVIEWS**

226

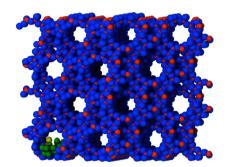


## Recent progress and challenges in silicon-based anode materials for lithium-ion batteries

Gazi Farhan Ishraque Toki, M. Khalid Hossain, Waheed Ur Rehman, Rana Zafar Abbas Manj, Li Wang\* and Jianping Yang\*

## **PERSPECTIVE**

270

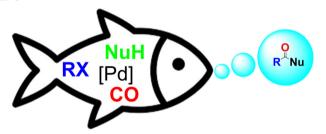


# Designing zeolites for the removal of aqueous PFAS: a perspective

Charles A. Ponge, David R. Corbin, Clarice M. Sabolay and Mark B. Shiflett\*

#### MINI REVIEW

276

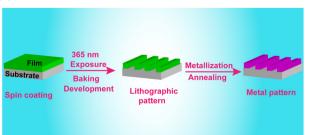


## Palladium-catalyzed carbonylation of activated alkyl halides via radical intermediates

Zhi-Peng Bao and Xiao-Feng Wu\*

## COMMUNICATION

284



# A new metallization method of modified tannic acid photoresist patterning

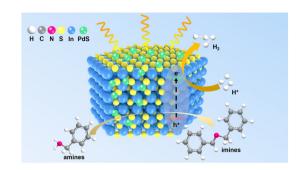
Zicheng Tang, Xubin Guo, Haihua Wang, Huan Chen and Wenbing Kang\*

## **PAPERS**

#### 289

# Cocatalyst-modified In<sub>2</sub>S<sub>3</sub> photocatalysts for C-N coupling of amines integrated with H<sub>2</sub> evolution

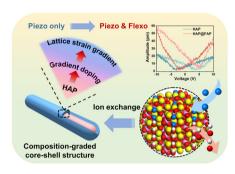
Yu Chen, Chang-Long Tan, Jing-Yu Li, Ming-Yu Qi, Zi-Rong Tang\* and Yi-Jun Xu\*



#### 300

## Flexoelectricity in hydroxyapatite for the enhanced piezocatalytic degradation of phenanthrene in soil

Jun Han, Wenrou Tian, Ye Miao, Najun Li,\* Dongyun Chen, Qingfeng Xu, Hua Li and Jianmei Lu\*



#### 309

# Ultrasonic assisted natural deep eutectic solvents as a green and efficient approach for extraction of hydroxytyrosol from olive leaves

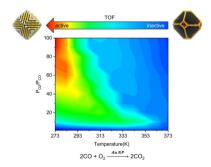
Mingming Hu, Bao Han, Lin Xie, Beibei Lu,\* De Bai, Nuo Shi, Ya Liao, Yan Wang, Ling Liu, Shaojun Wu, Runrui Lan, Xiaomei Lei, Ci Shi, Danhua Huang, Yuanbin Li, Lin Lin\* and Jiaheng Zhang\*



#### 321

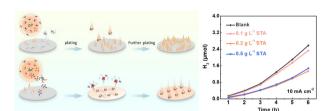
# Exploration of structure sensitivity of gold nanoparticles in low-temperature CO oxidation

Lei Ying, Yu Han, Beien Zhu\* and Yi Gao\*



## **PAPERS**

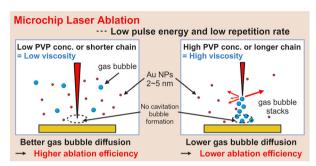
328



Stable zinc anode by regulating the solvated shell and electrode-electrolyte interface with a sodium tartrate additive

Jie Ren, Hai-Yang Wu, Wen Yan, Peng Huang\* and Chao Lai\*

340



Uncovering gold nanoparticle synthesis using a microchip laser system through pulsed laser ablation in aqueous solution

Barana Sandakelum Hettiarachchi, Yusuke Takaoka, Yuta Uetake, Yumi Yakiyama,\* Hwan Hong Lim, Takunori Taira, Mihoko Maruyama, Yusuke Mori, Hiroshi Y. Yoshikawa and Hidehiro Sakurai\*