

# Journal of Materials Chemistry A

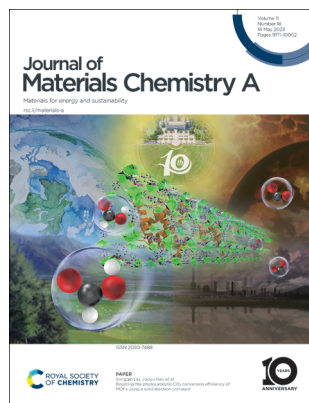
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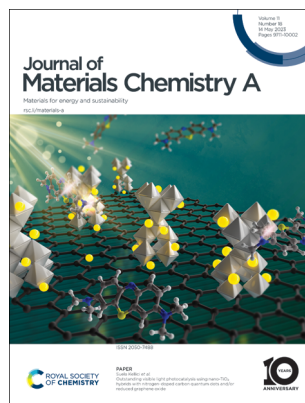
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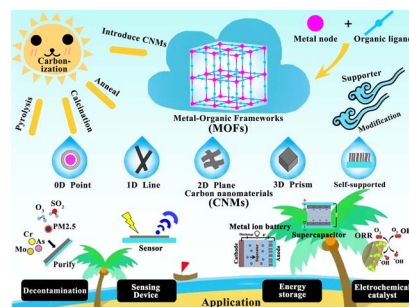
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Shaojie Xu, Anrui Dong, Yue Hu, Zhi Yang, Shaoming Huang and Jinjie Qian\*



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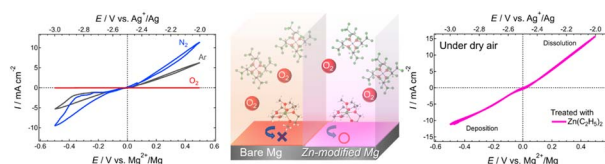


## COMMUNICATIONS

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**Oxygen – a fatal impurity for reversible magnesium deposition/dissolution**

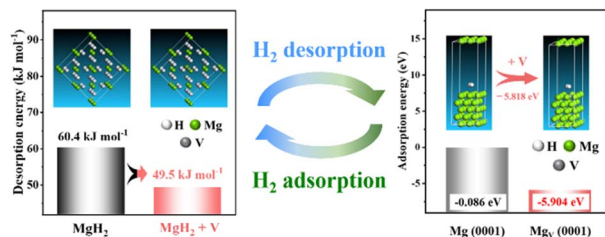
Toshihiko Mandai\* and Mariko Watanabe



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**Understanding and unlocking the role of V in boosting the reversible hydrogen storage performance of  $\text{MgH}_2$** 

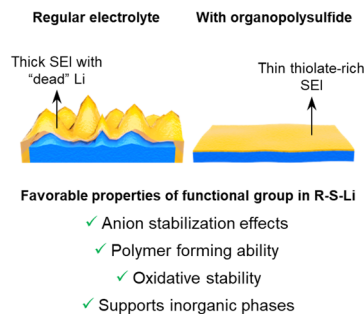
Yang Meng, Jian Zhang, Shunlong Ju, Yaxiong Yang, Zhenglong Li, Fang Fang, Dalin Sun, Guanglin Xia,\* Hongge Pan and Xuebin Yu\*



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**Mechanistic understanding of lithium-anode protection by organosulfide-based solid-electrolyte interphases and its implications**

Amruth Bhargav, Hooman Yaghoobnejad Asl and Arumugam Manthiram\*

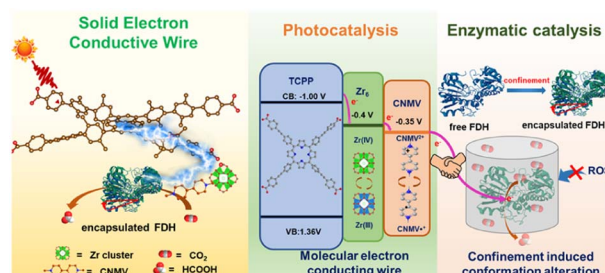


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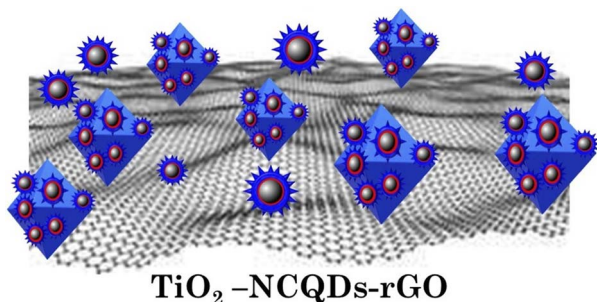
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**Boosting the photocatalytic  $\text{CO}_2$  conversion efficiency of MOFs using a solid electron conveyor**

Xiaofei Gu, Tianyi Huang, Yixin Hong, Yafeng Wu, Zhi Wang, Yuanjian Zhang, Songqin Liu\* and Jianyu Han\*



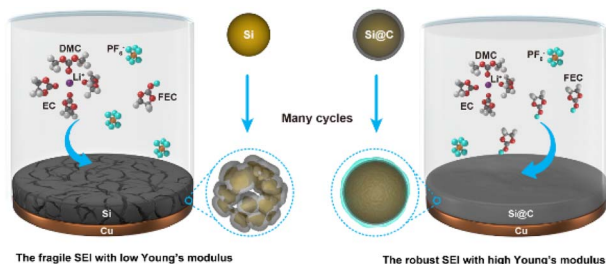
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### Outstanding visible light photocatalysis using nano-TiO<sub>2</sub> hybrids with nitrogen-doped carbon quantum dots and/or reduced graphene oxide

Ioan-Alexandru Baragau, John Buckeridge, Kiem G. Nguyen, Tobias Heil, Muhammad Tariq Sajjad, Stuart A. J. Thomson, Alistair Rennie, David J. Morgan, Nicholas P. Power, Sabina Alexandra Nicolae, Maria-Magdalena Titirici, Steve Dunn and Suela Kellici\*

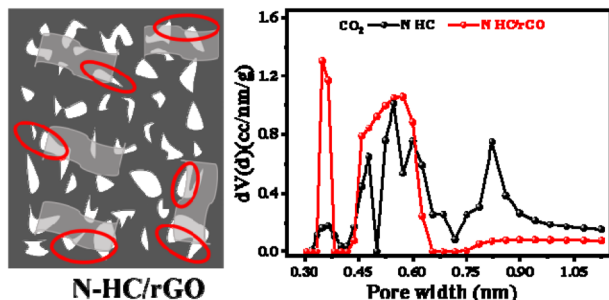
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### Carbon-coating strengthens the solid electrolyte interphase to inhibit Si pulverization

Xuyang Wang, Yingzhi Li,\* Xinyang Wang, Qingmeng Gan, Zhenyu Wang, Kemeng Liao, Sisi Wu, Hao Guo, Jiangyu Li, Boyuan Huang\* and Zhouguang Lu\*

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### Sucrose-derived hard carbon wrapped with reduced graphene oxide as a high-performance anode for sodium-ion batteries

Shengyuan Li, Hong Yuan, Chuanren Ye, Yizhe Wang, Long Wang, Kun Ni\* and Yanwu Zhu\*

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### Overall water electrolysis on a graphdiyne-iron oxyhydroxide heterostructure

Xi Chen, Danyan Zhang, Xuchen Zheng, Chao Zhang, Yang Gao, Chengyu Xing, Siao Chen, Han Wu, Yurui Xue\* and Yuliang Li\*

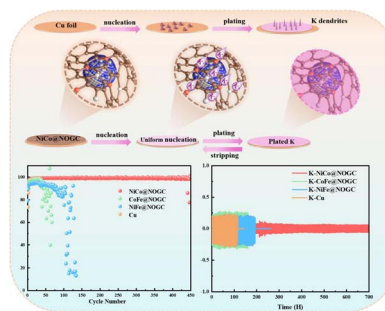




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## Biomass-derived two-dimensional N,O-doped carbon with embedded binary-metal nanoparticles enables dendrite-free potassium-metal anodes

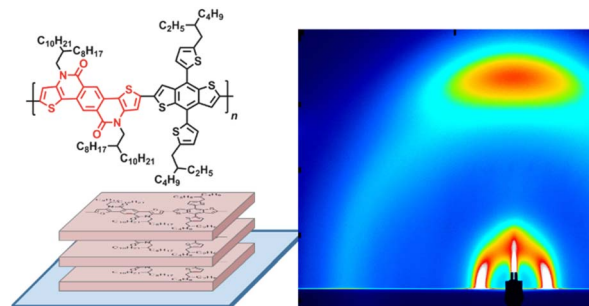
Qing Shen, Yibo He and Junjie Wang\*



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## Fused polycyclic lactam-based $\pi$ -conjugated polymers for efficient nonfullerene organic solar cells

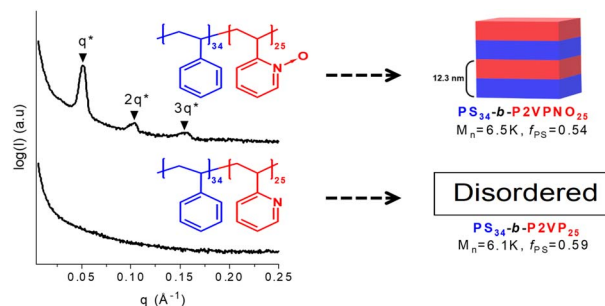
Narumi Sato, Sunbin Hwang, Yuichi Tsuchii and Takuma Yasuda\*



9846

## High- $\chi$ diblock copolymers containing poly(vinylpyridine-*N*-oxide) segments

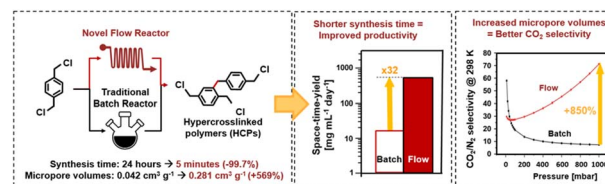
Polyxeni P. Angelopoulou, Logan T. Kearney, Jong K. Keum, Liam Collins, Rajeev Kumar, Georgios Sakellariou, Rigoberto C. Advincula, Jimmy W. Mays\* and Kunlun Hong\*

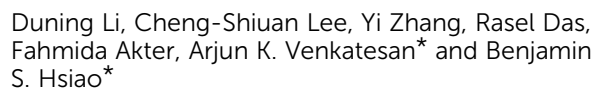


9859

## Flow synthesis of hypercrosslinked polymers with additional microporosity that enhances CO<sub>2</sub>/N<sub>2</sub> separation

Nadhita Chanchaona, Liang Ding, Shiliang Lin, Sulaiman Sarwar, Simone Dimartino, Ashleigh J. Fletcher, Daniel M. Dawson, Kristina Konstas, Matthew R. Hill and Cher Hon Lau\*

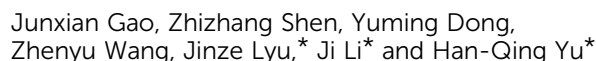




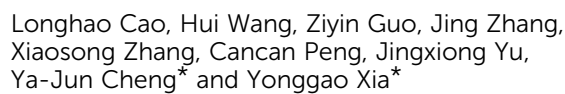
9884



9902



9913



# Optimization of thermal exfoliation of graphitic carbon nitride for methylparaben photocatalytic degradation under simulated solar radiation

## Flexible and interlocked quartz fibre reinforced dual polyimide network for high-temperature thermal protection

- ✓ Thermal stability
- ✓ Thermal insulation
- ✓ Flame retardancy
- ✓ Hydrophobicity
- ✓ Flexibility

**FROM**

**Porous slice**

**Fireproof**

**Waterproof**

**Fibre-slice interlocked porous structure**

**Flexibility**

**Knotting**

**Bending**

### Construction of LaF<sub>3</sub> QD-modified SnS<sub>2</sub> nanorod composites for ultrasensitive detection of H<sub>2</sub>S

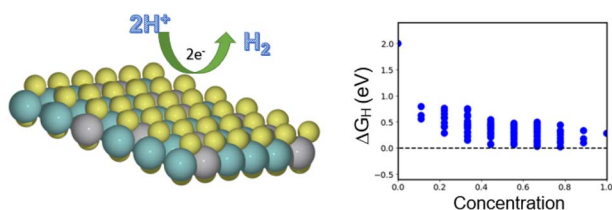
Figure 1 consists of three parts. Part (a) is a line graph showing Resonance (MD) on the y-axis (0 to 100) versus Time (s) on the x-axis (0 to 1500). It displays a series of sawtooth-like curves for 10%  $\text{La}_2\text{O}_3\text{-SiO}_2$  in  $\text{SF}_6$ , with each cycle labeled with a number from 1 to 10. Part (b) is a line graph showing Resonance (%) on the y-axis (0 to 100) versus Time (s) on the x-axis (0 to 200). It shows four curves for different gas concentrations in  $\text{H}_2\text{S}$ : 10% (black), 5% (red), 2% (green), and 1% (blue). Part (c) is a schematic diagram of the sensor structure, showing a blue cross-shaped substrate with a central square area. Above the substrate, various gas molecules are shown:  $\text{O}_2$  (red dots),  $\text{H}_2\text{S}$  (green dots),  $\text{SO}_2$  (yellow dots), and  $\text{H}_2\text{O}$  (blue dots). The diagram illustrates the adsorption of these gases onto the sensor surface.

## Poly(2,6-anthraquinonyl disulfide) as a high-capacity and high-power cathode for rechargeable magnesium batteries: extra capacity provided by the disulfide group

[illegible]

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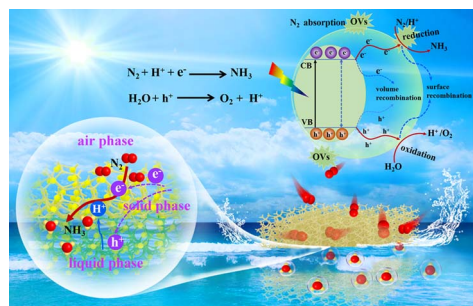
9964



**Basal plane activation of two-dimensional transition metal dichalcogenides via alloying for the hydrogen evolution reaction: first-principles calculations and machine learning prediction**

Yiqing Chen, Ying Zhao, Pengfei Ou\* and Jun Song\*

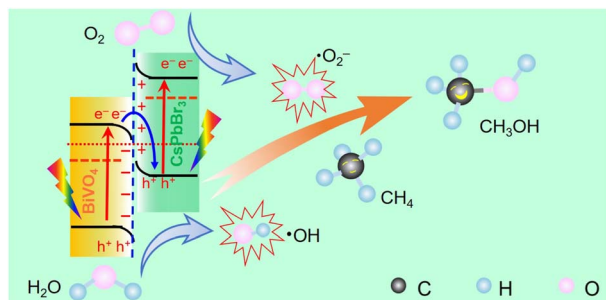
9976



**A bioinspired floatable system with a 3D sandwich-type triphase interface for highly efficient nitrogen fixation**

Xiuyan Wang, Xinjian Shi, Shengyan Yin, Ping She, Jiaqi Zheng, Yudong Song and Hang Sun\*

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**Visible-light-driven and selective methane conversion to oxygenates with air on a halide-perovskite-based photocatalyst under mild conditions**

Guang-Xing Dong, Meng-Ran Zhang, Ke Su, Zhao-Lei Liu, Min Zhang\* and Tong-Bu Lu\*

