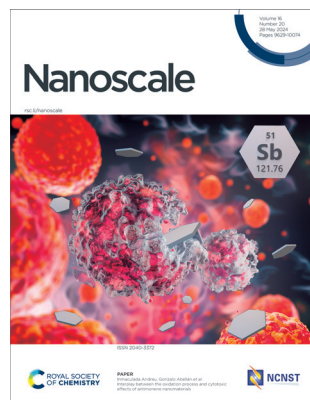


## IN THIS ISSUE

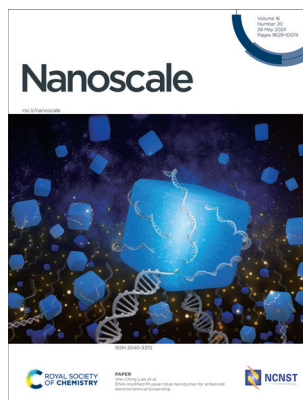
ISSN 2040-3372 CODEN NANOHL 16(20) 9629-10074 (2024)



### Cover

See Inmaculada Andreu, Gonzalo Abellán *et al.*, pp. 9754–9769.

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### Inside cover

See Wei-Ching Liao *et al.*, pp. 9770–9780.

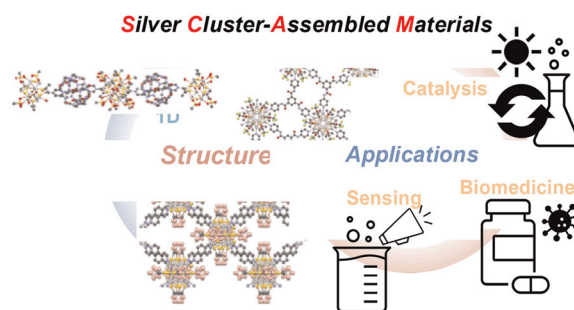
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## REVIEWS

9642

### The structure and application portfolio of intricately architected silver cluster-assembled materials

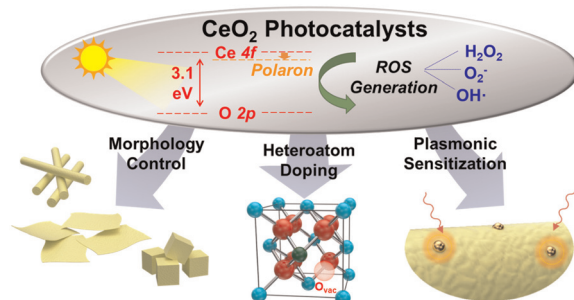
Riki Nakatani, Saikat Das\* and Yuichi Negishi\*



9659

### Nanostructured CeO<sub>2</sub> photocatalysts: optimizing surface chemistry, morphology, and visible-light absorption

Austin E. Herzog, Tara J. Michael, Adam D. Dunkelberger, Michelle D. Johannes, Debra R. Rolison, Paul A. DeSario and Travis G. Novak\*



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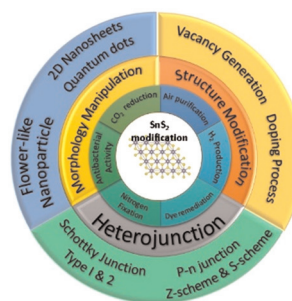


## REVIEWS

9680

### Enhanced photocatalytic performance of SnS<sub>2</sub> under visible light irradiation: strategies and future perspectives

Ardiansyah Taufik,\* Rosari Saleh and Gimyeong Seong\*

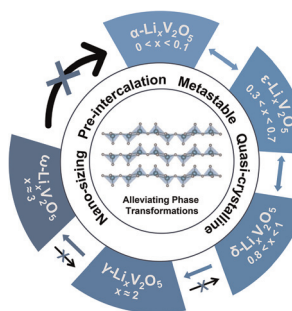


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9710

### Strategies to alleviate distortive phase transformations in Li-ion intercalation reactions: an example with vanadium pentoxide

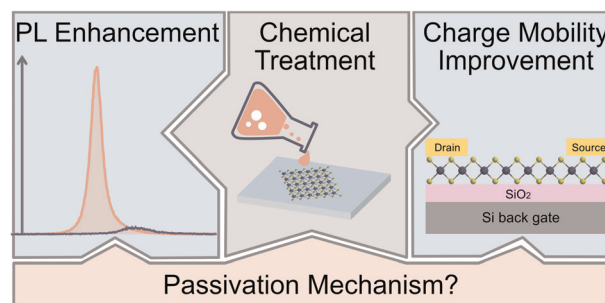
Muhammad Waseem Yaseen, Manju P. Maman, Shashank Mishra, Ibrahim Mohammad and Xuefei Li\*



9728

### Chemical passivation of 2D transition metal dichalcogenides: strategies, mechanisms, and prospects for optoelectronic applications

Zhaojun Li,\* Hope Bretscher and Akshay Rao

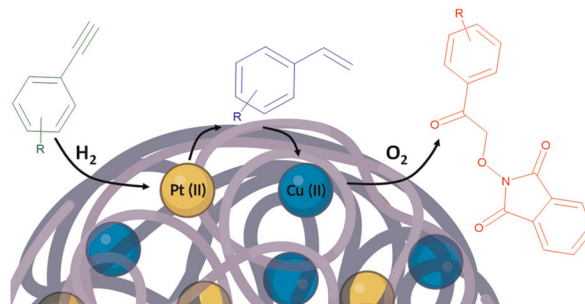


## COMMUNICATIONS

9742

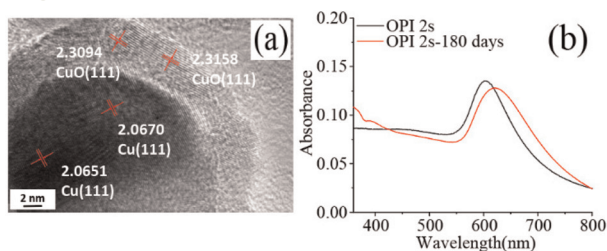
### Consecutive one-pot alkyne semihydrogenation/alkene dioxygenation reactions by Pt(II)/Cu(II) single-chain nanoparticles in green solvent

Jokin Pinacho-Olaciregui, Ester Verde-Sesto, Daniel Taton and José A. Pomposo\*



## COMMUNICATIONS

9748

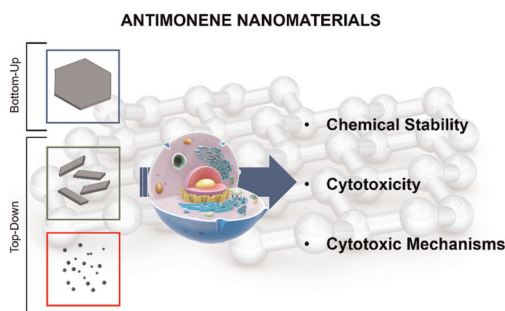


### Highly stable localized surface plasmon resonance of Cu nanoparticles obtained via oxygen plasma irradiation

Yingcui Fang,\* Bin Xu, Shuai Wang, Hongjun Liu, Jie Wang and Mengting Si\*

## PAPERS

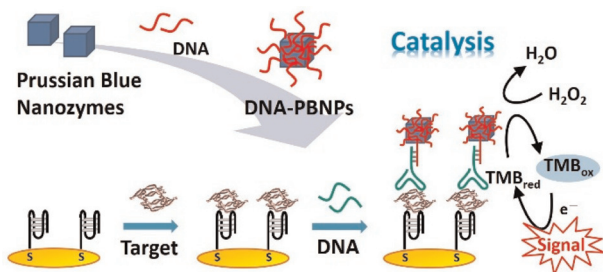
9754



### Interplay between the oxidation process and cytotoxic effects of antimonene nanomaterials

Pau Congost-Escoin, Matteo Andrea Lucherelli, Víctor Oestreicher, Guillermo García-Lainez, Marta Alcaraz, Martín Mizrahi, María Varela, Inmaculada Andreu\* and Gonzalo Abellán\*

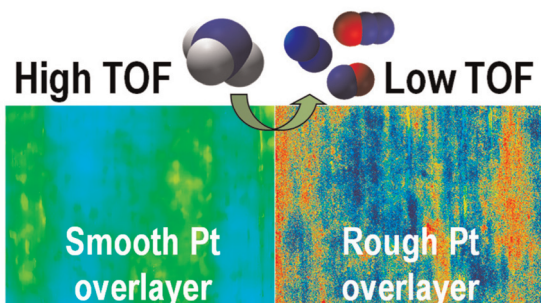
9770



### DNA-modified Prussian blue nanozymes for enhanced electrochemical biosensing

Lin-Hui Huang, Yu-Yu Hsieh, Fu-An Yang and Wei-Ching Liao\*

9781



### Catalytic NH<sub>3</sub> oxidation affected by the nanometric roughness of the platinum overlayer

Masato Machida,\* Nayu Yamasaki, Tomoya Miyoshi, Hiroki Kusaba, Tetsuya Sato, Keisuke Awaya, Hiroshi Yoshida, Junya Ohyama, Teppei Ohori, Kohei Oka, Kenji Fujii and Naoya Ishikawa

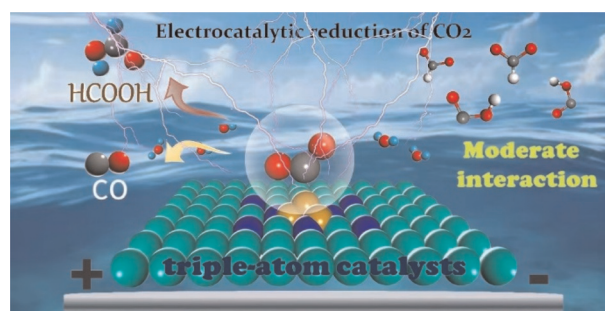


## PAPERS

9791

**Multi-atomic loaded  $C_2N_1$  catalysts for  $CO_2$  reduction to CO or formic acid**

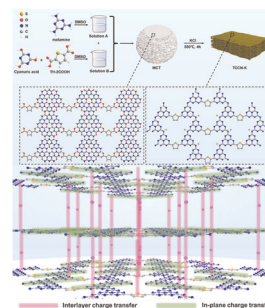
Yimeng Sun, Lin Tao,\* Mingjie Wu,\* Davoud Dastan, Javed Rehman, Lixiang Li and Baigang An\*



9802

**Bi-directional charge transfer channels in highly crystalline carbon nitride enabling superior photocatalytic hydrogen evolution**

Runlu Liu, Siyuan Liu, Jingyi Lin, Xiaoxiao Zhang, Yao Li, Hui Pan, Lingti Kong, Shenmin Zhu\* and John Wang\*



9811

**Fabrication of water-resistant fluorescent ink using the near-unity photoluminescence quantum yield of  $CsPbBr_3$  doped with  $NiBr_2$** 

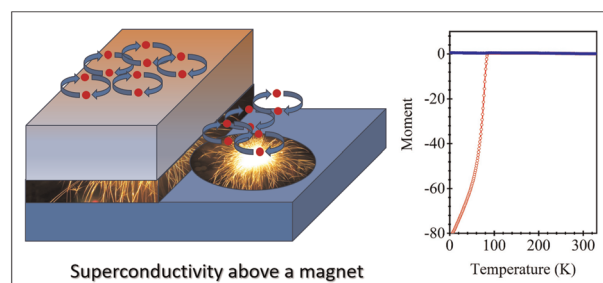
Dipanwita Roy, Shramana Guha and Somabrata Acharya\*



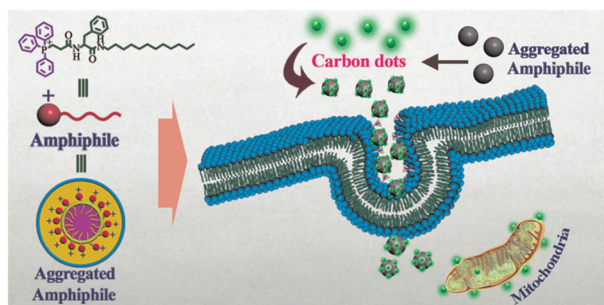
9819

**Exceptional behavior of a high-temperature superconductor in proximity to a ferromagnet in a bilayer film,  $La_{0.67}Sr_{0.33}MnO_3/YBa_2Cu_3O_7$** 

Ankita Singh, Sawani Datta, Ram Prakash Pandeya, Srinivas C. Kandukuri, Rudheer Bapat, Jayesh Parmar and Kalobaran Maiti\*



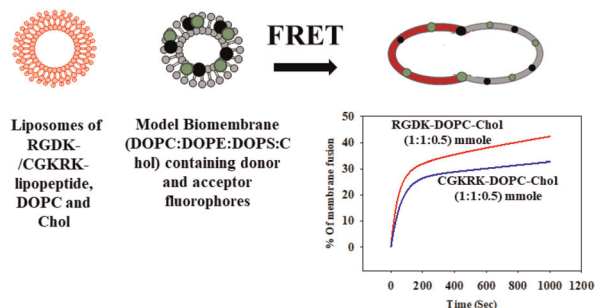
9827



### Rapid targeting and imaging of mitochondria via carbon dots using an amino acid-based amphiphile as a carrier

Niladri Hazra, Reeddi Ray and Arindam Banerjee\*

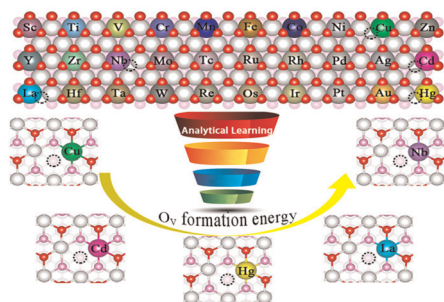
9836



### Relative biomembrane fusogenicities of the tumor-selective liposomes of RGDK- and CGKRR-lipopeptides

Wahida Rahaman and Arabinda Chaudhuri\*

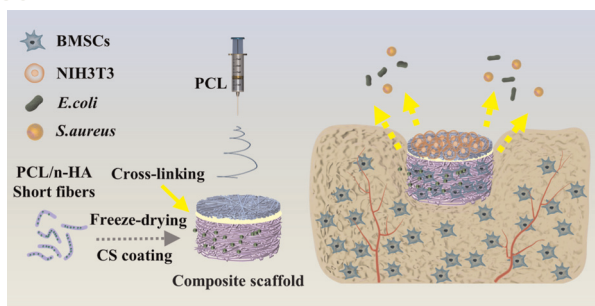
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### Unraveling the formation of oxygen vacancies on the surface of transition metal-doped ceria utilizing artificial intelligence

Ning Xu, Liangliang Xu, Yue Wang, Wen Liu, Wenwu Xu,\* Xiaojuan Hu\* and Zhong-Kang Han\*

9861



### A chitosan-coated PCL/nano-hydroxyapatite aerogel integrated with a nanofiber membrane for providing antibacterial activity and guiding bone regeneration

Xinyuan Deng, Chenghao Yu, Xiaopei Zhang, Xunmeng Tang, Qingxia Guo, Manfei Fu, Yuanfei Wang,\* Kuanjun Fang\* and Tong Wu\*

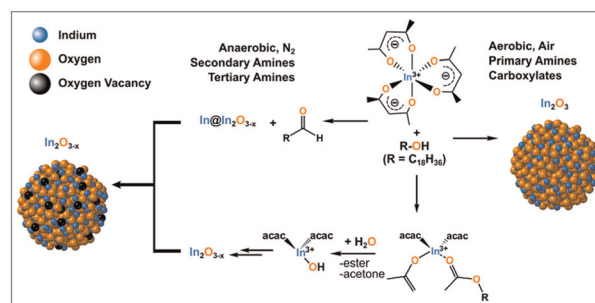


## PAPERS

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Unraveling the molecular and growth mechanism of colloidal black  $\text{In}_2\text{O}_{3-x}$ 

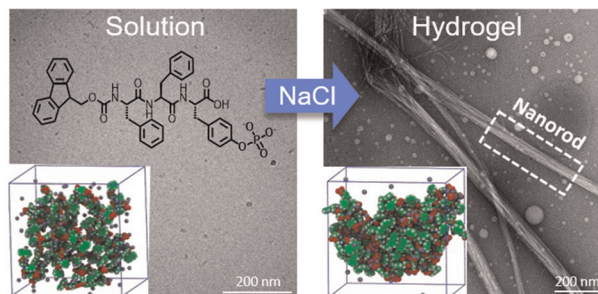
Cameron Armstrong, Kayla Otero and Emil A. Hernandez-Pagan\*



9887

## Salt-induced Fmoc-tripeptide supramolecular hydrogels: a combined experimental and computational study of the self-assembly

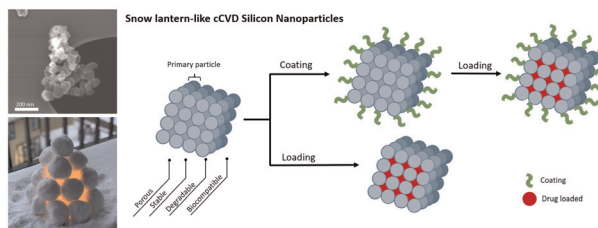
Miryam Criado-Gonzalez,\* Mario Iván Peñas, Florent Barbault, Alejandro J. Müller, Fouzia Boulmedais and Rebeca Hernández



9899

## Stable "snow lantern-like" aggregates of silicon nanoparticles suitable as a drug delivery platform

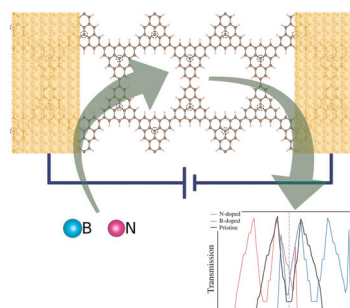
Hennie Marie Johnsen,\* Seyedmehdi Hossaini Nasr, Ricardo De Luna, Werner Filtvedt, Michael J. Sailor, Jo Klaveness and Marianne Hiorth



9911

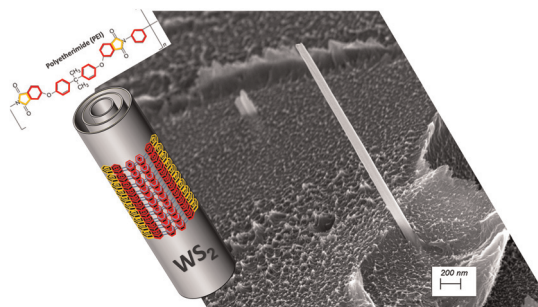
## A high density nanopore 3-triangulene kagome lattice

Pedro Elias Priori Spalenza, Fábio Arthur Leão de Souza, Rodrigo G. Amorim, Ralph H. Scheicher\* and Wanderlã Luis Scopel



## PAPERS

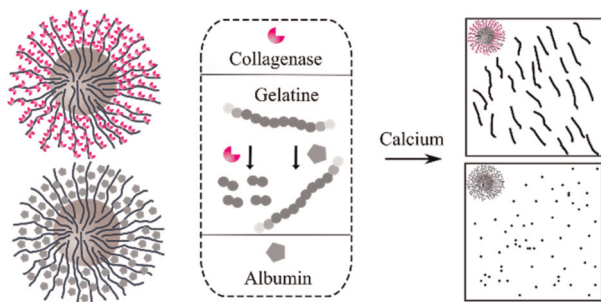
9917



### Polyetherimide (PEI) nanocomposite with WS<sub>2</sub> nanotubes

Dotan Babai, Iddo Pinkas, Doron Naveh\* and Reshef Tenne\*

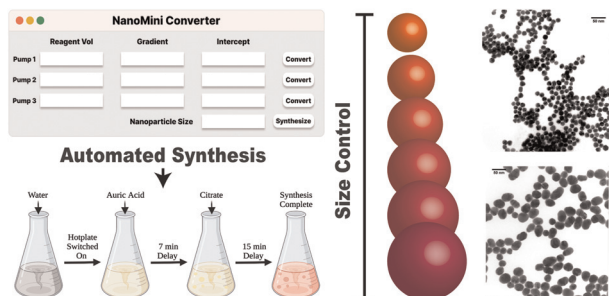
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### Collagenase motors in gelatine-based hydrogels

Nanying Wang, Thaís Floriano Marcelino, Carina Ade, Stefan Pendlmayr, Miguel A. Ramos Docampo and Brigitte Städler\*

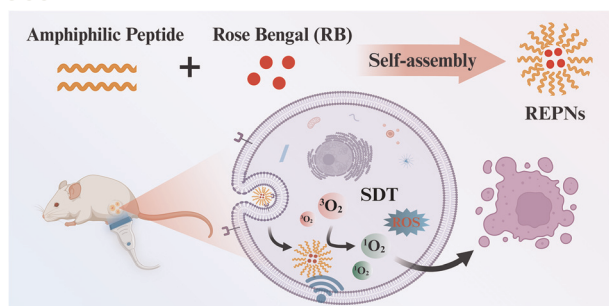
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### Efficient production of uniform gold nanoparticles via a streamlined low-cost, semi-automated, open-source platform

Suhash Reddy Chavva, Angela Michelle T. San Juan, Siddhant Jaitpal, Ngoc Nhu Vu and Samuel Mabbott\*

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### Integrin $\alpha_v\beta_3$ -targeted self-assembled polypeptide nanomicelles for efficacious sonodynamic therapy against breast cancer

Xueli Ren, Yanxi Yang, Xinru Kong and Zhe Liu\*

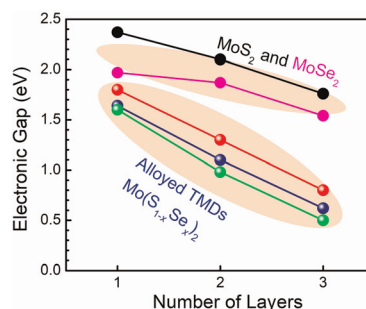


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### Does an intrinsic strain contribute to the effect of quantum confinement phenomenon? An alloyed transition metal dichalcogenide series, $\text{Mo}(\text{S}_{1-x}\text{Se}_x)_2$ as a case study

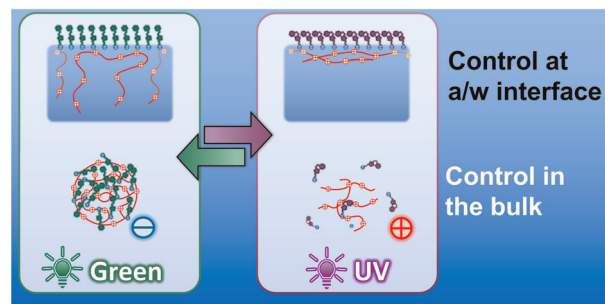
Arpan Bera, Biswajit Kundu and Amlan J. Pal\*



9975

### Photoresponsive arylazopyrazole surfactant/PDADMAC mixtures: reversible control of bulk and interfacial properties

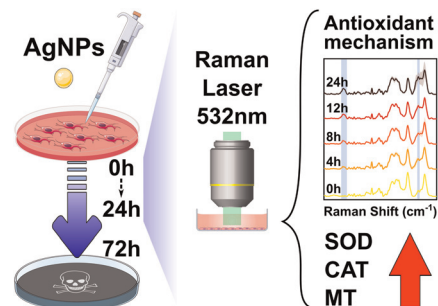
Michael Hardt, Christian Honnigfort, Javier Carrascosa-Tejedor, Marius G. Braun, Samuel Winnall, Dana Glikman, Philipp Gutfreund, Richard A. Campbell and Björn Braunschweig\*



9985

### Exploring the cellular antioxidant mechanism against cytotoxic silver nanoparticles: a Raman spectroscopic analysis

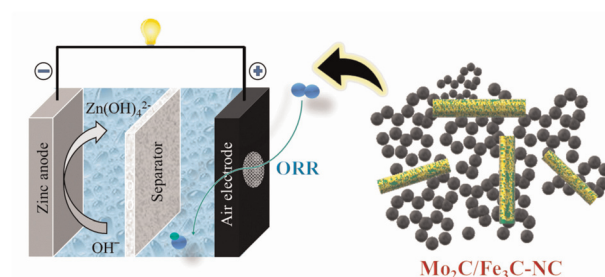
Davide Redolfi-Bristol,\* Kenta Yamamoto, Elia Marin, Wenliang Zhu, Osam Mazda, Pietro Riello and Giuseppe Pezzotti\*



9998

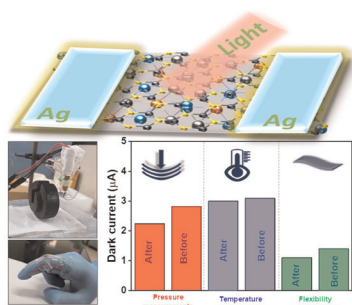
### In situ self-assembly of molybdenum carbide and iron carbide heterostructures on N-doped carbon for an efficient oxygen reduction reaction

Sagar Ingavale, Mohan Gopalakrishnan, Phiralang Marbaniang, Woranunt Lao-atiman, Ahmad Azmin Mohamad, Mai Thanh Nguyen, Tetsu Yonezawa, Anita Swami\* and Soorathep Kheawhom\*



## PAPERS

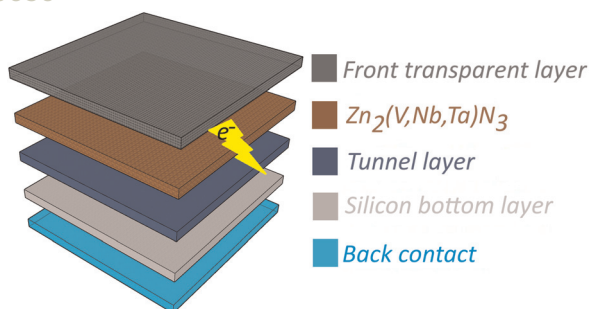
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### Fabrication of a wearable and foldable photodetector based on a $WSe_2$ -MXene 2D-2D heterostructure using a scalable handprint technique

Rahul P. Patel, Parth V. Shah, Sohel Siraj, Parikshit Sahatiya, Pratik M. Pataniya and C. K. Sumesh\*

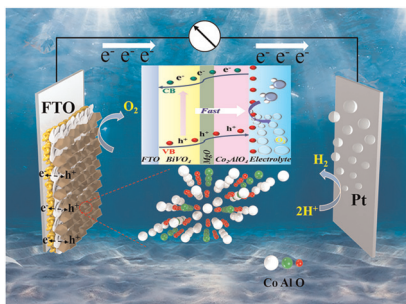
10030



### Carrier transport in bulk and two-dimensional $Zn_2(V,Nb,Ta)N_3$ ternary nitrides

Igor V. Kosarev and Andrey A. Kistanov\*

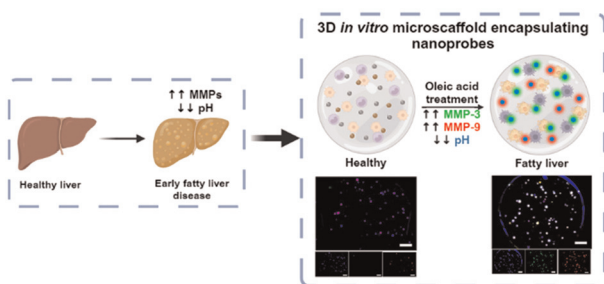
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### An $MgO$ passivation layer and hydrotalcite derived spinel $Co_2AlO_4$ synergistically promote photoelectrochemical water oxidation conducted using $BiVO_4$ -based photoanodes

Jing Zhang, Kaiyi Chen, Yan Bai, Lei Wang, Jingwei Huang, Houde She and Qizhao Wang\*

10048



### 3D microcylinders with triple-marker sensitive nanoprobe for studying fatty liver disease *in vitro*

Simran Kaur Rainu and Neetu Singh\*

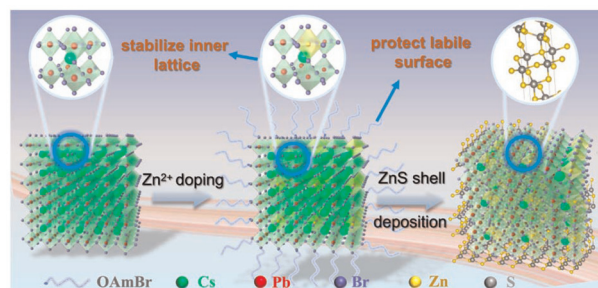


## PAPERS

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**CsZnPbBr<sub>3</sub>/ZnS core/shell perovskite nanocrystals for stable and efficient white light-emitting diodes**

Hai Zhou, Sheng Wang,\* Haihui Wang, Lin Wang, Jiayi Chen, Guohua Jia and Xuyong Yang\*



## CORRECTION

10071

**Correction:  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>/TiO<sub>2</sub> 3D hierarchical nanostructures for enhanced photoelectrochemical water splitting**

Hyungkyu Han, Francesca Riboni, Frantisek Karlicky, Stepan Kment, Anandarup Goswami, Pitchaimuthu Sudhagar, Jeongeun Yoo, Lei Wang, Ondrej Tomanec, Martin Petr, Ondrej Haderka, Chiaki Terashima, Akira Fujishima, Patrik Schmuki\* and Radek Zboril\*

