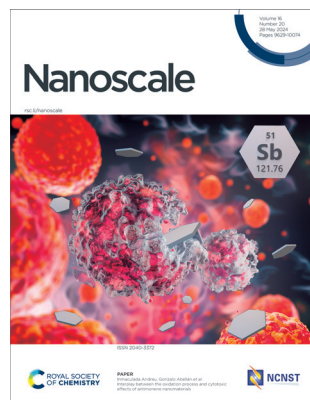


IN THIS ISSUE

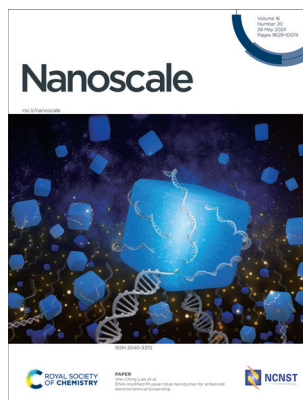
ISSN 2040-3372 CODEN NANOHL 16(20) 9629–10074 (2024)



Cover

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

Image reproduced by permission of Pau Congost-Escoin and Gonzalo Abellán from *Nanoscale*, 2024, **16**, 9754.



Inside cover

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

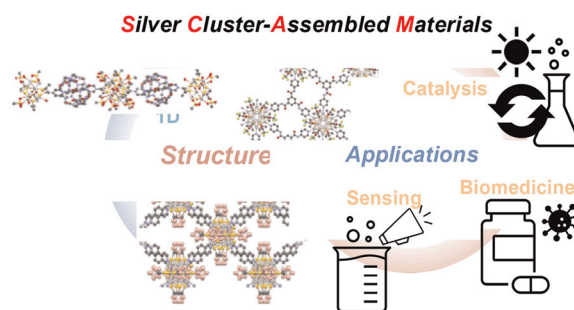
Image reproduced by permission of Wei-Ching Liao from *Nanoscale*, 2024, **16**, 9770.

REVIEWS

9642

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

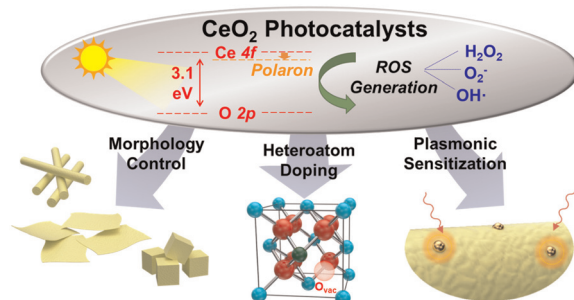
Riki Nakatani, Saikat Das* and Yuichi Negishi*



9659

Nanostructured CeO₂ 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*



Advance your career in science

with professional recognition that showcases
your **experience, expertise and dedication**

Stand out from the crowd

Prove your commitment
to attaining excellence in
your field

Gain the recognition you deserve

Achieve a professional
qualification that inspires
confidence and trust

Unlock your career potential

Apply for our professional
registers (RSci, RSciTech)
or chartered status
(CChem, CSci, CEnv)

Apply now

rsc.li/professional-development

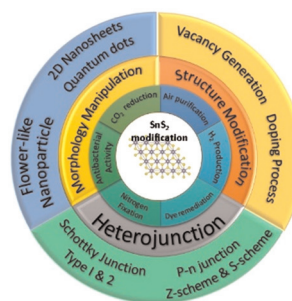


REVIEWS

9680

Enhanced photocatalytic performance of SnS₂ under visible light irradiation: strategies and future perspectives

Ardiansyah Taufik,* Rosari Saleh and Gimyeong Seong*

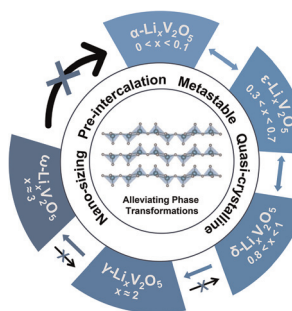


MINIREVIEWS

9710

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

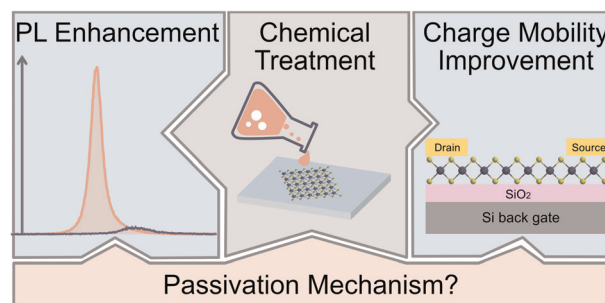
Muhammad Waseem Yaseen, Manju P. Maman, Shashank Mishra, Ibrahim Mohammad and Xuefei Li*



9728

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

Zhaojun Li,* Hope Bretscher and Akshay Rao

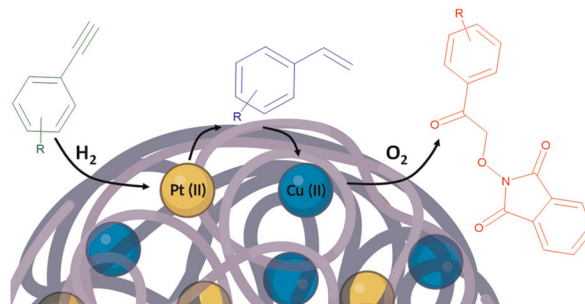


COMMUNICATIONS

9742

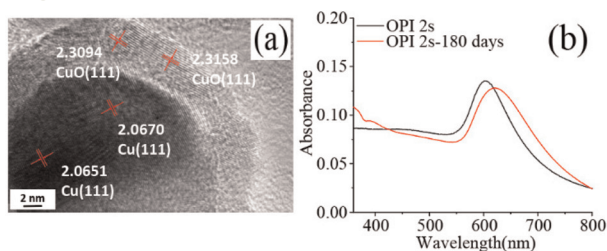
Consecutive one-pot alkyne semihydrogenation/alkene dioxygenation reactions by Pt(II)/Cu(II) single-chain nanoparticles in green solvent

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



COMMUNICATIONS

9748

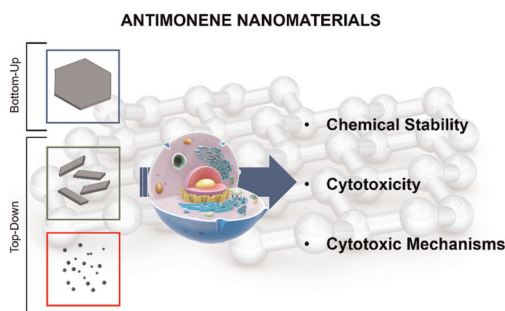


Highly stable localized surface plasmon resonance of Cu nanoparticles obtained via oxygen plasma irradiation

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

PAPERS

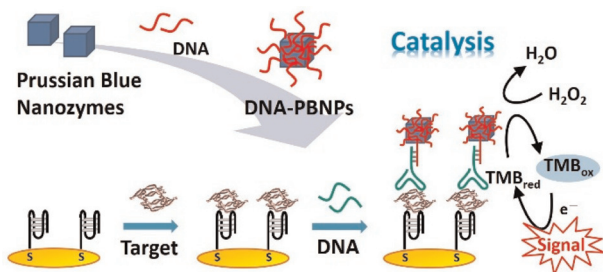
9754



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*

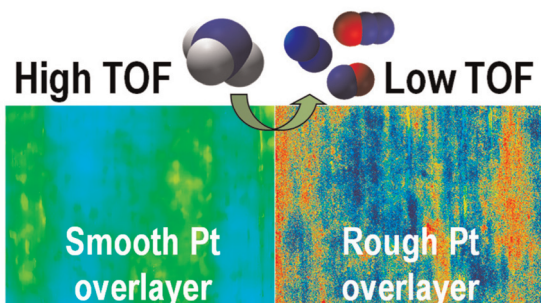
9770



DNA-modified Prussian blue nanozymes for enhanced electrochemical biosensing

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

9781



Catalytic NH₃ 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

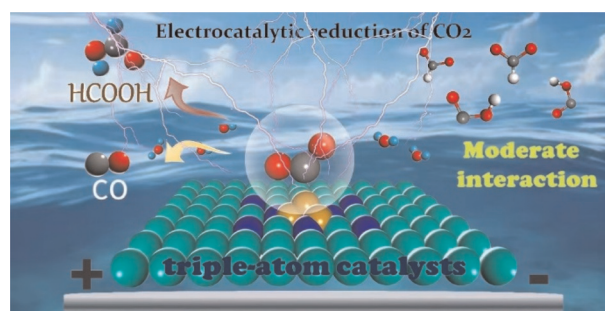


PAPERS

9791

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

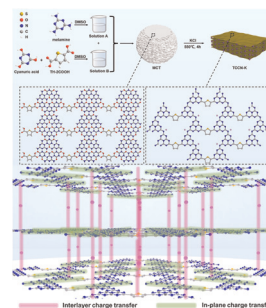
Yimeng Sun, Lin Tao,* Mingjie Wu,* Davoud Dastan, Javed Rehman, Lixiang Li and Baigang An*



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 $NiBr_2$

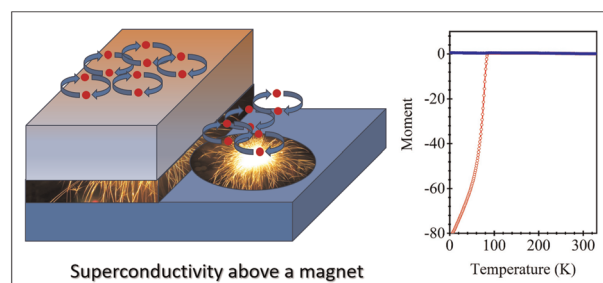
Dipanwita Roy, Shramana Guha and Somabrata Acharya*



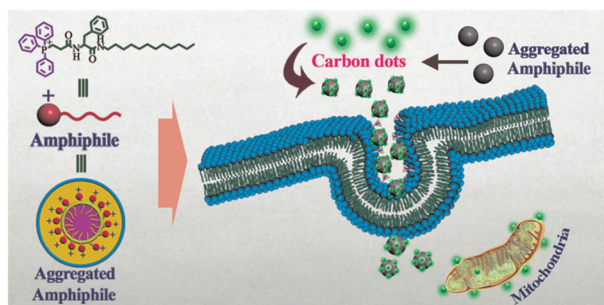
9819

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*



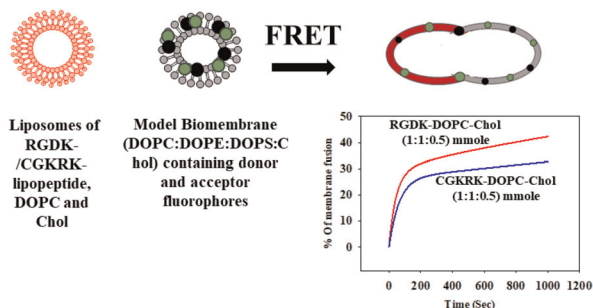
9827



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*

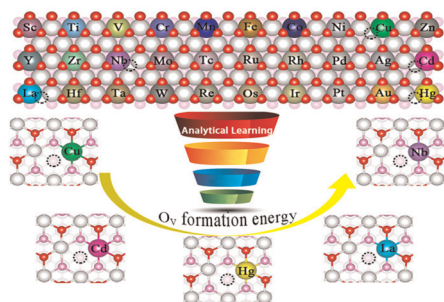
9836



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

Wahida Rahaman and Arabinda Chaudhuri*

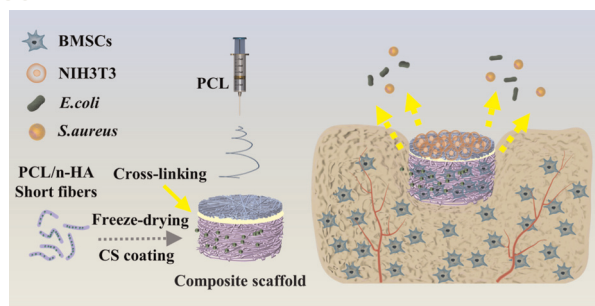
9853



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*

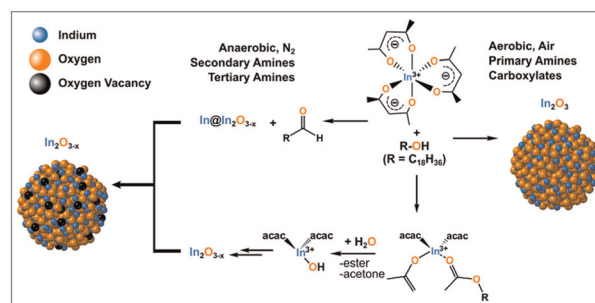


PAPERS

9875

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

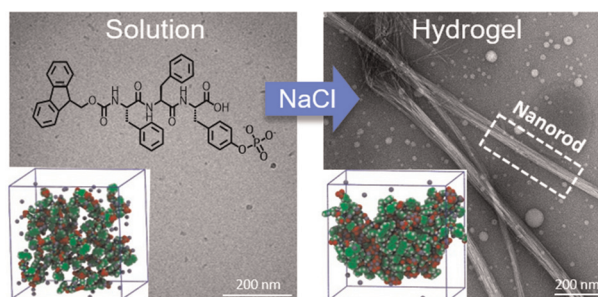
Cameron Armstrong, Kayla Otero and Emil A. Hernandez-Pagan*



9887

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

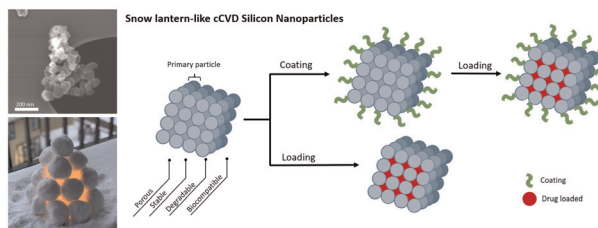
Miryam Criado-Gonzalez,* Mario Iván Peñas, Florent Barbault, Alejandro J. Müller, Fouzia Boulmedais and Rebeca Hernández



9899

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

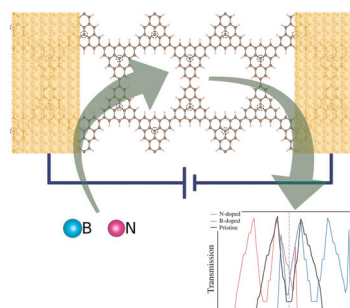
Hennie Marie Johnsen,* Seyedmehdi Hossaini Nasr, Ricardo De Luna, Werner Filtvedt, Michael J. Sailor, Jo Klaveness and Marianne Hiorth



9911

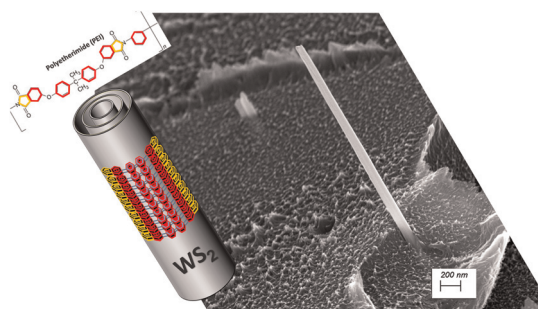
A high density nanopore 3-triangular kagome lattice

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



PAPERS

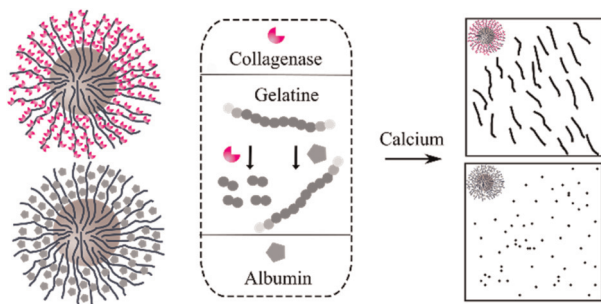
9917



Polyetherimide (PEI) nanocomposite with WS₂ nanotubes

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

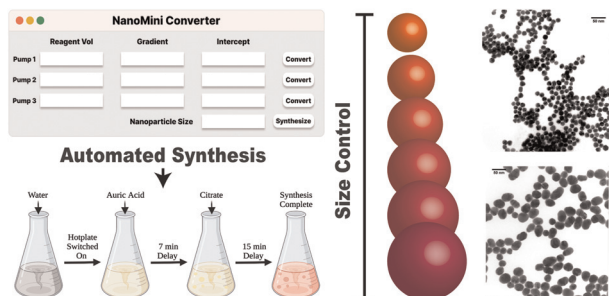
9935



Collagenase motors in gelatine-based hydrogels

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

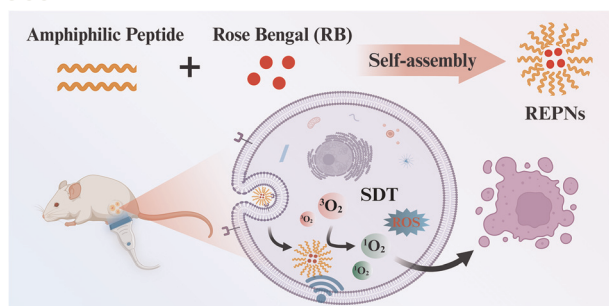
9944



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*

9953



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*

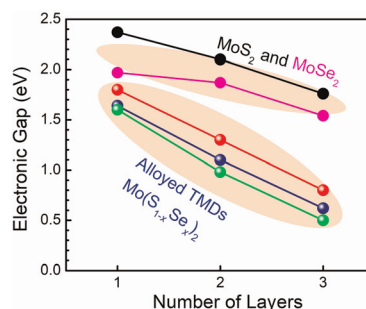


PAPERS

9966

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

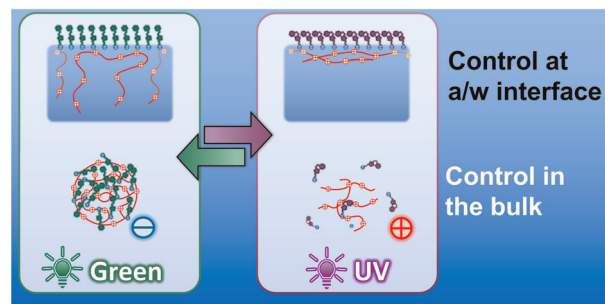
Arpan Bera, Biswajit Kundu and Amlan J. Pal*



9975

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

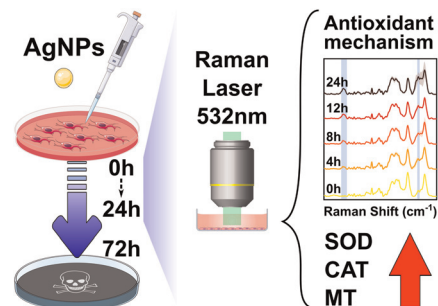
Michael Hardt, Christian Honnigfort, Javier Carrascosa-Tejedor, Marius G. Braun, Samuel Winnall, Dana Glikman, Philipp Gutfreund, Richard A. Campbell and Björn Braunschweig*



9985

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

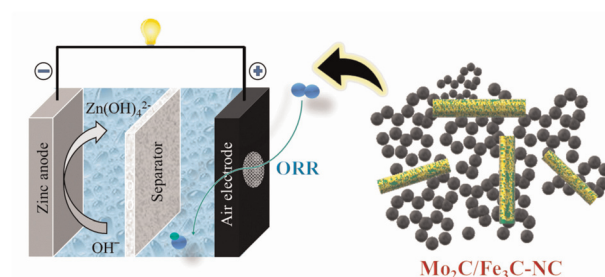
Davide Redolfi-Bristol,* Kenta Yamamoto, Elia Marin, Wenliang Zhu, Osam Mazda, Pietro Riello and Giuseppe Pezzotti*



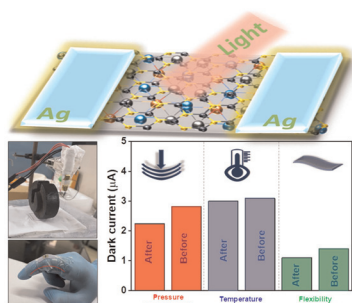
9998

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*



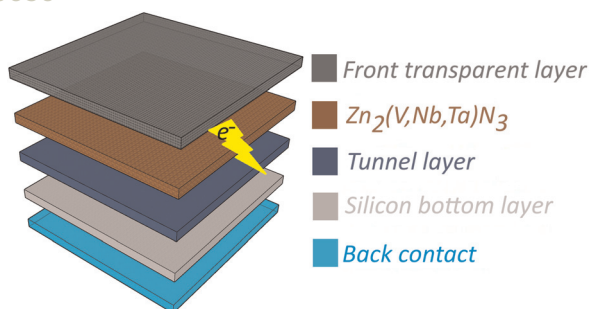
10011



Fabrication of a wearable and foldable photodetector based on a WSe₂-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*

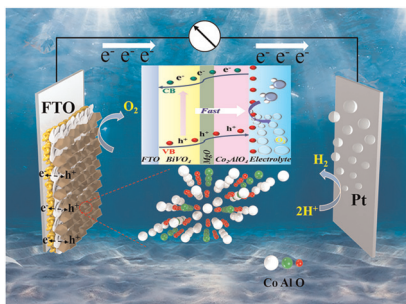
10030



Carrier transport in bulk and two-dimensional Zn₂(V,Nb,Ta)N₃ ternary nitrides

Igor V. Kosarev and Andrey A. Kistanov*

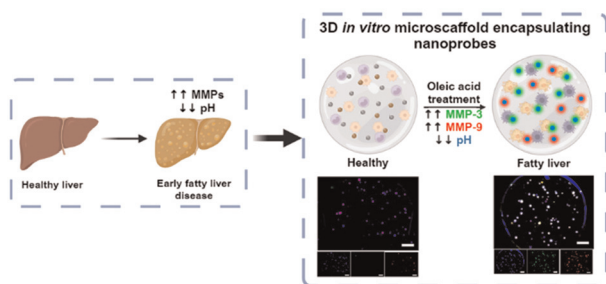
10038



An MgO passivation layer and hydrotalcite derived spinel Co₂AlO₄ synergistically promote photoelectrochemical water oxidation conducted using BiVO₄-based photoanodes

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

10048



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

Simran Kaur Rainu and Neetu Singh*

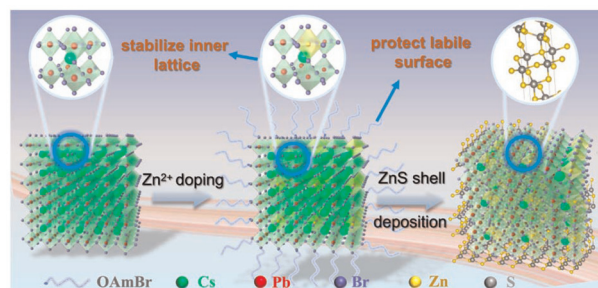


PAPERS

10064

CsZnPbBr₃/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: α -Fe₂O₃/TiO₂ 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*

