

Nanoscale Advances

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IN THIS ISSUE

ISSN 2516-0230 CODEN NAADAI 5(7) 1819–2122 (2023)



Cover

See Quan Li *et al.*, pp. 1830–1852. Image reproduced by permission of the Quan Li group from *Nanoscale Adv.*, 2023, 5, 1830.



Inside cover

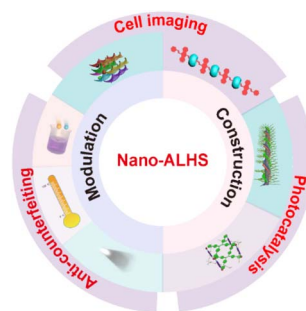
See Yusuke Sato and Masahiro Takinoue, pp. 1919–1925. Image reproduced by permission of Yusuke Sato and Masahiro Takinoue from *Nanoscale Adv.*, 2023, 5, 1919.

REVIEWS

1830

Self-assembled supramolecular artificial light-harvesting nanosystems: construction, modulation, and applications

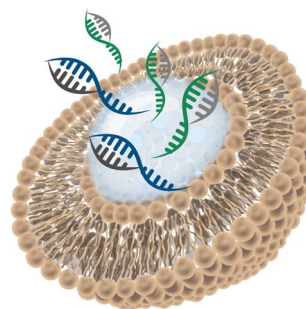
Xu-Man Chen, Xiao Chen, Xiao-Fang Hou, Shu Zhang, Dongzhong Chen and Quan Li*



1853

Lipid-based colloidal nanoparticles for applications in targeted vaccine delivery

Muhammad Saad Khan, Sila Appak Baskoy, Celina Yang, Joohye Hong, Jayoung Chae, Heejin Ha, Sungjun Lee, Masayoshi Tanaka, Yonghyun Choi* and Jonghoon Choi*



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REVIEWS

1870

Nanomedicine strategies to improve therapeutic agents for the prevention and treatment of preterm birth and future directions

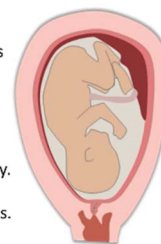
Jessica Taylor, Andrew Sharp, Steve P. Rannard, Sarah Arrowsmith* and Tom O. McDonald*

Global health issue

- 15 million babies are born preterm each year.
- One of the largest causes of lifelong disability.

Opportunities

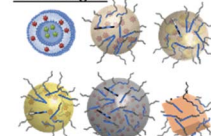
- Targeting APIs to the uterus to improve safety.
- Utilising new nanomedicine platforms.



Challenge

- Understanding the design rules for nanomedicines.
- Increasing drug loading of formulations.

Technologies

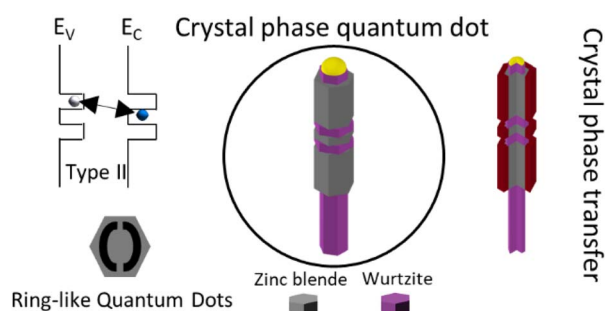


Nanomedicines for the prevention and treatment of preterm birth

1890

Epitaxial growth of crystal phase quantum dots in III–V semiconductor nanowires

Miguel Sinusia Lozano and Víctor J. Gómez*

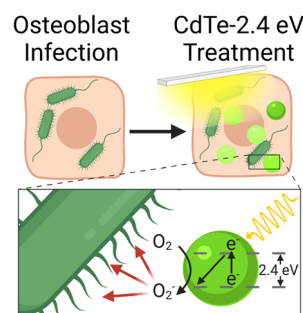


COMMUNICATION

1910

Photoactivated antibiotics to treat intracellular infection of bacteria

Kristen A. Eller, Dana F. Stamo, Colleen R. McCollum, Jocelyn K. Campos, Max Levy, Prashant Nagpal and Anushree Chatterjee*



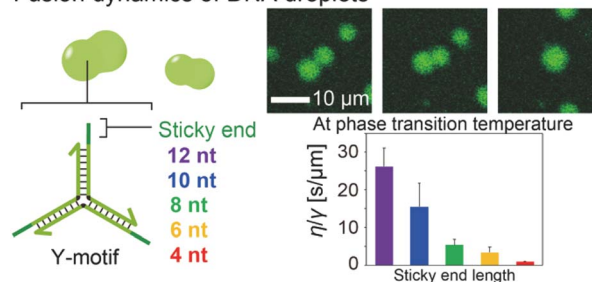
PAPERS

1919

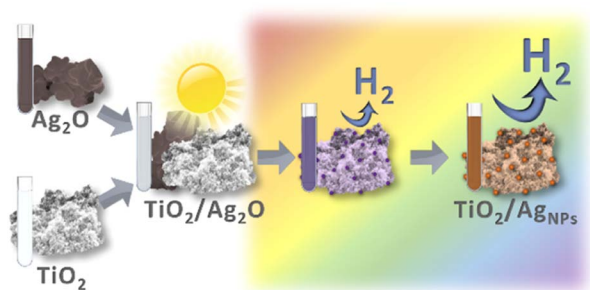
Sequence-dependent fusion dynamics and physical properties of DNA droplets

Yusuke Sato* and Masahiro Takinoue*

Fusion dynamics of DNA droplets



1926



Phototransformations of $\text{TiO}_2/\text{Ag}_2\text{O}$ composites and their influence on photocatalytic water splitting accompanied by methanol photoreforming

Anna Jakimińska, Kaja Spilarewicz and Wojciech Macyk*

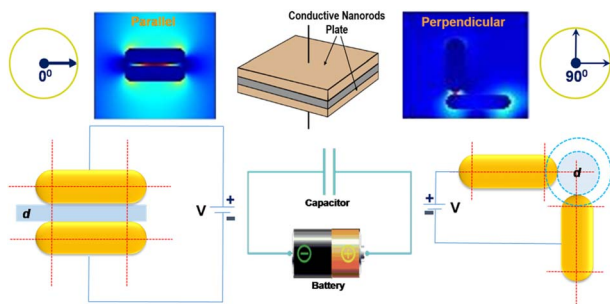
1936



A hydrangea-like nitrogen-doped ZnO/BiOI nanocomposite for photocatalytic degradation of tetracycline hydrochloride

Xiujian Chen, Shaobo Du, Lei Gao, Kejin Shao, Zhan Li* and Bin Liu*

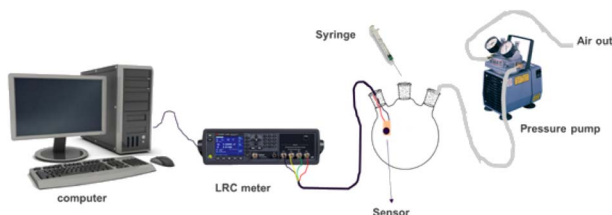
1943



Angle-resolved plasmonic photocapacitance of gold nanorod dimers

Sudip Kumar Pal, Dorothy Bardhan, Debarun Sen, Hirak Chatterjee and Sujit Kumar Ghosh*

1956



A humidity-resistant and room temperature carbon soot@ZIF-67 composite sensor for acetone vapour detection

Lesego Malepe, Tanto Derek Ndinteh, Patrick Ndungu and Messai Adenew Mamo*



PAPERS

1970

High performance multi-purpose nanostructured thin films by inkjet printing: Au micro-electrodes and SERS substrates

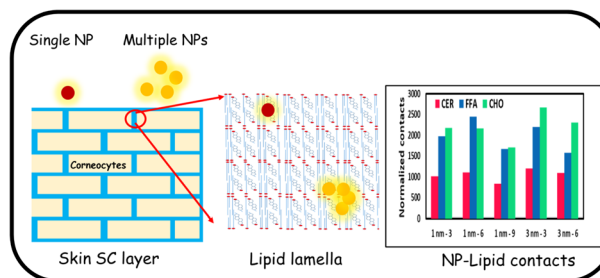
Simona Ricci, Marco Buonomo, Stefano Casalini, Sara Bonacchi, Moreno Meneghetti and Lucio Litti*



1978

Elucidating collective translocation of nanoparticles across the skin lipid matrix: a molecular dynamics study

Yogesh Badhe, Pradyumn Sharma, Rakesh Gupta* and Beena Rai



1990

Visible-light-induced superhydrophilicity of crystallized WO₃ thin films fabricated by using a newly isolated W⁶⁺ complex salt of citric acid

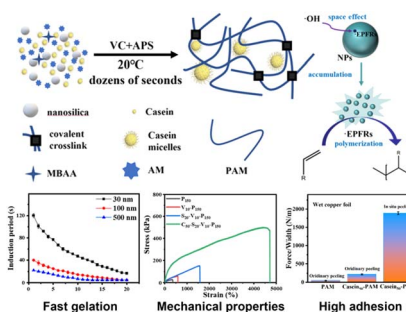
Taichi Murayama, Mitsunobu Sato, Hiroki Nagai* and Eiko Yasui



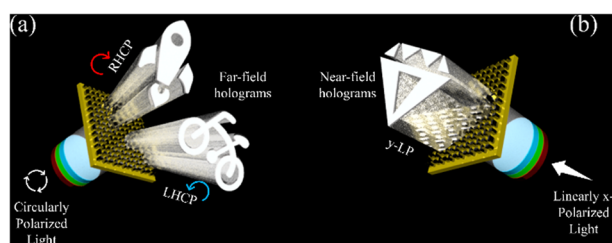
1999

In situ rapid synthesis of hydrogels based on a redox initiator and persistent free radicals

Wei Yuan, Fangfang Wang, Xinyu Qu, Siying Wang, Bing Lei, Jinjun Shao, Qian Wang,* Jianjian Lin,* Wenjun Wang and Xiaochen Dong*



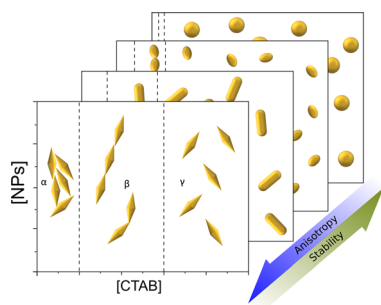
2010



A highly efficient broadband multi-functional metaplate

Azhar Javed Satti, Muhammad Ashar Naveed, Isma Javed, Nasir Mahmood, Muhammad Zubair, Muhammad Qasim Mehmood* and Yehia Massoud*

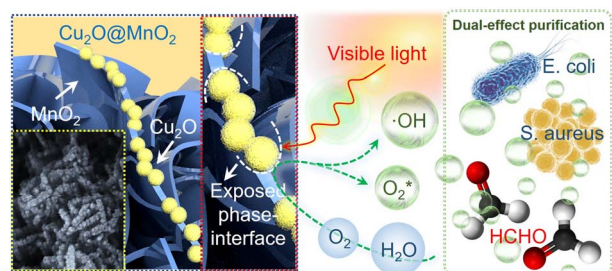
2017



Gold nanoparticle shape dependence of colloidal stability domains

Antonio Carone, Samuel Emilsson, Pablo Mariani, Anthony Désert* and Stephane Parola

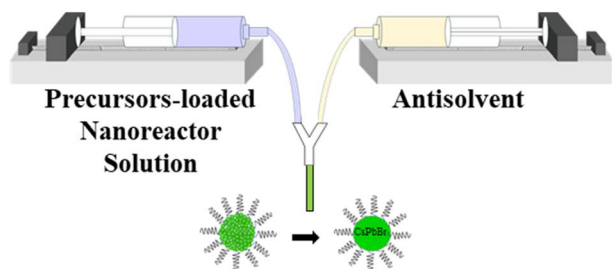
2027



Bimetallic oxide $\text{Cu}_2\text{O}@\text{MnO}_2$ with exposed phase interfaces for dual-effect purification of indoor formaldehyde and pathogenic bacteria

Jia Yu Zheng, Hao Zhang, Jun Da He, Bo Hai Tian, Chang Bao Han,* Zhixiang Cui* and Hui Yan

2038



Continuous manufacturing of highly stable lead halide perovskite nanocrystals via a dual-reactor strategy

Shuang Liang, Gill M. Biesold, Mingyue Zhuang, Zhitao Kang,* Brent Wagner and Zhiqun Lin*

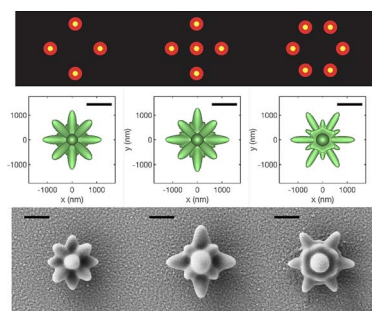


PAPERS

2045

Mapping complex profiles of light intensity with interferometric lithography

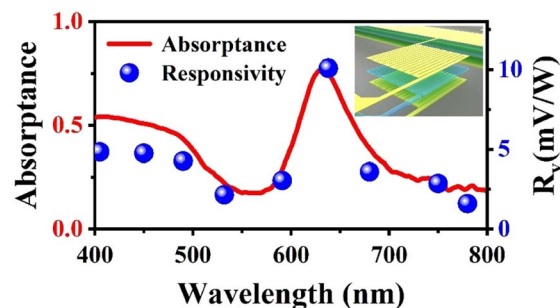
Joseph Holmes, Mi Zhang, Tine Greibe, William L. Schaich, Stephen C. Jacobson* and Bogdan Dragnea*



2054

A spectrally selective visible microbolometer based on planar subwavelength thin films

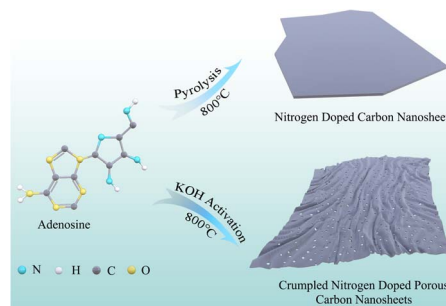
Qianqian Xu, Ziji Zhou, Chong Tan, Xiaohang Pan, Zhengji Wen, Jinguo Zhang, Dongjie Zhou, Yan Sun, Xin Chen, Lei Zhou, Ning Dai, Junhao Chu and Jiaming Hao*



2061

Facile synthesis of crumpled nitrogen-doped porous carbon nanosheets with ultrahigh surface area for high-performance supercapacitors

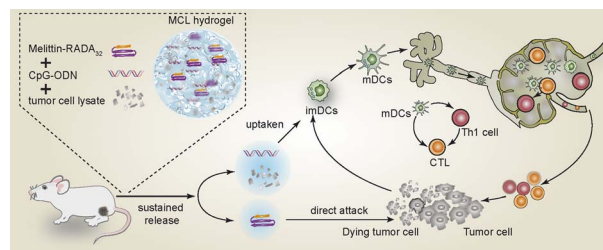
Chong Chen,* Jiacan Shao, Yaru Zhang, Li Sun, Keying Zhang, Hongyan Wang, Guang Zhu* and Xusheng Xie



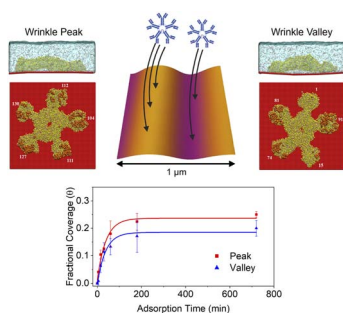
2071

Sustained release of tumor cell lysate and CpG from an injectable, cytotoxic hydrogel for melanoma immunotherapy

Kui Yang, Yuhang Zhou, Biwang Huang, Guifang Zhao, Yuan Geng, Chao Wan, Fagang Jiang, Honglin Jin, Chengzhi Ye* and Jing Chen*



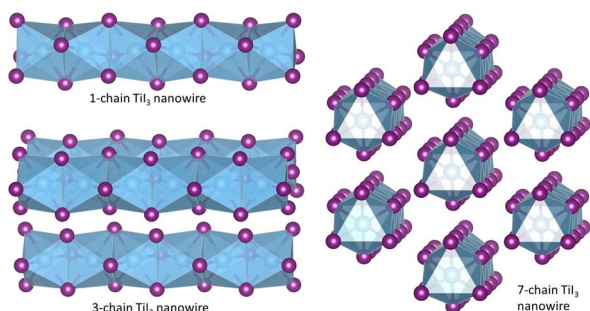
2085



Immunoglobulin adsorption and film formation on mechanically wrinkled and crumpled surfaces at submonolayer coverage

Matthew T. Gole, Mohan T. Dronadula, Narayana R. Aluru and Catherine J. Murphy*

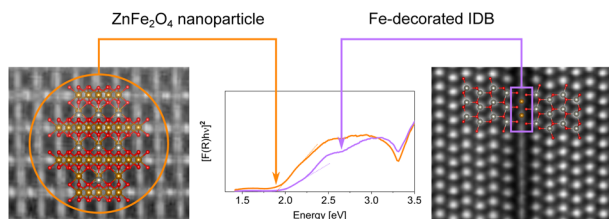
2096



Nanowires exfoliated from one-dimensional van der Waals transition metal trihalides and quadrihalides

Chuanxun Su* and Lixin He*

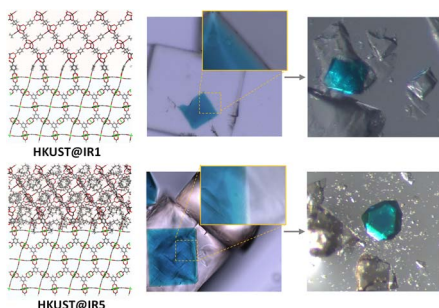
2102



Optical properties of ZnFe₂O₄ nanoparticles and Fe-decorated inversion domain boundaries in ZnO

S. B. Kjeldby,* P. D. Nguyen, J. García-Fernández, K. Haug, A. Galeckas, I. J. T. Jensen, A. Thøgersen, L. Vines and Ø. Prytz

2111



Effect of steric hindrance on the interfacial connection of MOF-on-MOF architectures

Junsu Ha, Mingyu Jeon, Jihyun Park, Jihan Kim* and Hoi Ri Moon*



CORRECTIONS

2118

Correction: Research progress in architecture and application of RRAM with computing-in-memory

Chenyu Wang, Ge Shi,* Fei Qiao, Rubin Lin, Shien Wu and Zenan Hu

2119

Correction: Selective area growth of GaN nanowires and nanofins by molecular beam epitaxy on heteroepitaxial diamond (001) substrates

Florian Pantle,* Fabian Becker, Max Kraut, Simon Wörle, Theresa Hoffmann, Sabrina Artmeier and Martin Stutzmann*

