

# Nanoscale Advances

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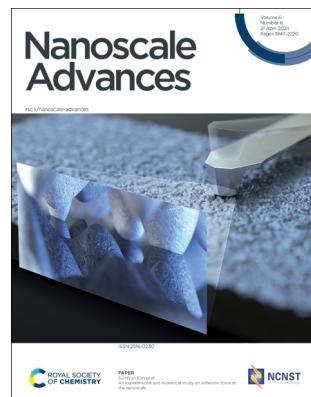
## IN THIS ISSUE

ISSN 2516-0230 CODEN NAADAI 6(8) 1947–2220 (2024)



### Cover

See Zhenyu Zhang, Dongdong Liu, Xingqiao Deng et al., pp. 2002–2012. Image reproduced by permission of Zhenyu Zhang from *Nanoscale Adv.*, 2024, 6, 2002.



### Inside cover

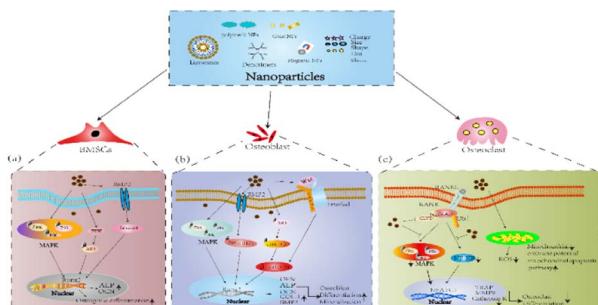
See Su-Hyun Kim et al., pp. 2013–2025. Image reproduced by permission of Jun-Bo Yoon from *Nanoscale Adv.*, 2024, 6, 2013.

## REVIEWS

1957

### Recent advances of nanoparticles on bone tissue engineering and bone cells

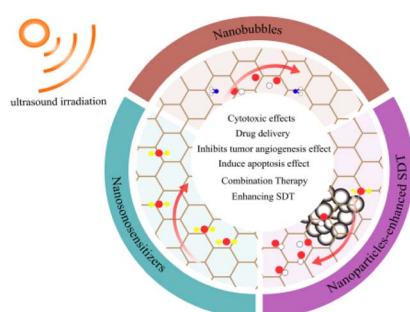
Gejing Zhang, Chenxiao Zhen, Jiancheng Yang, Jianping Wang, Shenghang Wang, Yanwen Fang and Peng Shang\*



1974

### Nanotechnology-enabled sonodynamic therapy against malignant tumors

Yunxi Huang, Wenhao Ouyang, Zijia Lai, Guanhua Qiu, Zhaotong Bu, Xiaoqi Zhu, Qin Wang, Yunfang Yu\* and Junjie Liu\*



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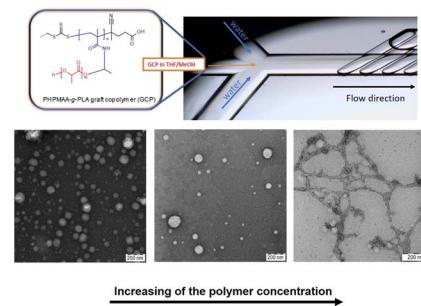
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## COMMUNICATIONS

1992

**Effect of polymer concentration on the morphology of the PHPMAA-g-PLA graft copolymer nanoparticles produced by microfluidics nanoprecipitation**

Svetlana Lukáš Petrova,\* Ewa Pavlova, Václav Pokorný and Vladimír Sincari\*



1997

**Crystallization-induced emission from F-doped carbon dots**

Tingxuan Guo, Gaixia Yang, Yan Li,\* Can Liu, Fulin Yang, Defa Hou, Hao Sun, Yunwu Zheng, Xu Lin\* and Lanxiang Liu\*

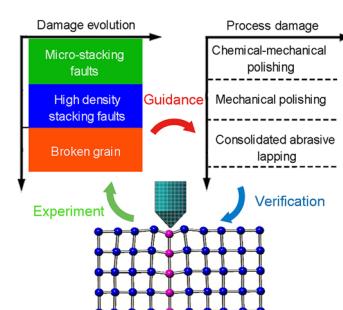


## PAPERS

2002

**The damage mechanism in copper studied using *in situ* TEM nanoindentation**

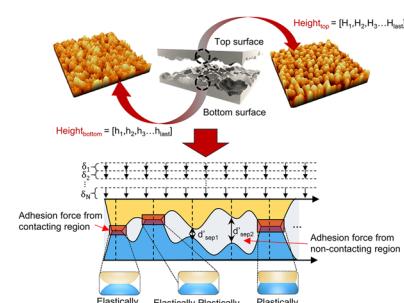
Dong Wang, Zhenyu Zhang,\* Dongdong Liu,\* Xingqiao Deng,\* Chunjing Shi, Yang Gu, Xiuqing Liu, Xiaoyu Liu and Wei Wen



2013

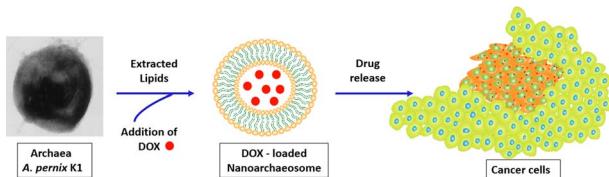
**An experimental and numerical study on adhesion force at the nanoscale**

Su-Hyun Kim, Pan-Kyu Choi, Yong-Bok Lee, Tae-Soo Kim, Min-Seung Jo, So-Young Lee, Hyun-Woo Min and Jun-Bo Yoon\*



## PAPERS

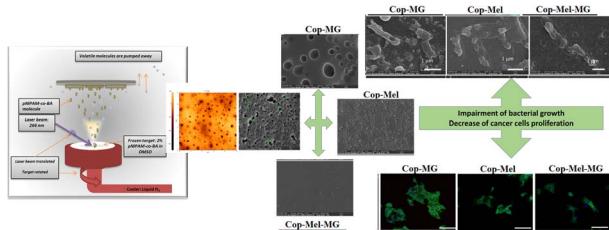
2026



## Doxorubicin loaded thermostable nanoarchaeosomes: a next-generation drug carrier for breast cancer therapeutics

Kaviya Vijayalakshmi Babunagappan, Abirami Seetharaman, Subastri Ariraman, Poornima Budime Santhosh, Julia Genova, Natasa Poklar Ulrich and Swathi Sudhakar\*

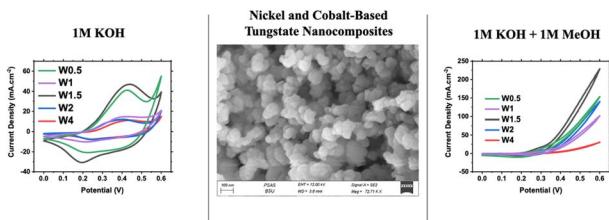
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## Hybrid bio-nanoporous peptide loaded-polymer platforms with anticancer and antibacterial activities

Madalina Icriverzi, Paula Ecaterina Florian, Anca Bonciu, Luminita Nicoleta Dumitrescu, Antoniu Moldovan, Diana Pelinescu, Robertina Ionescu, Ionela Avram, Cristian V. A. Munteanu, Livia Elena Sima, Valentina Dinca, Laurentiu Rusen\* and Anca Roseanu\*

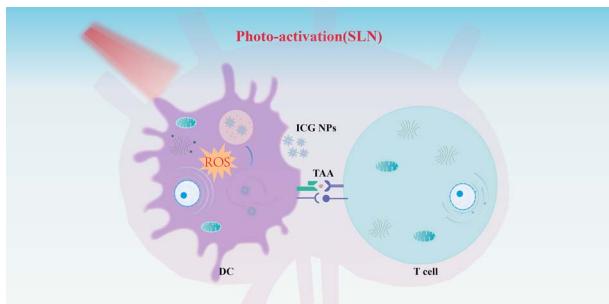
2059



## Nickel and cobalt-based tungstate nanocomposites as promising electrocatalysts in alkaline direct methanol fuel cells

Imtenan Mahmoud, Ahmed A. Farghali, Waleed M. A. El-Rouby and Abdalla Abdelwahab\*

2075



## Boosted photo-immunotherapy via near-infrared light excited phototherapy in tumor sites and photo-activation in sentinel lymph nodes

Chen Wang, Bobo Gu,\* Shuhong Qi,\* Siyi Hu\* and Yu Wang\*

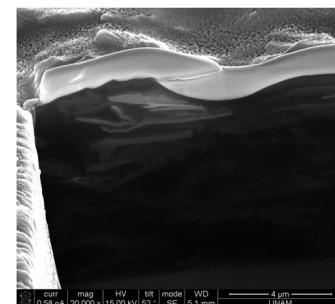


## PAPERS

2088

**Orientation of reduced graphene oxide in composite coatings**

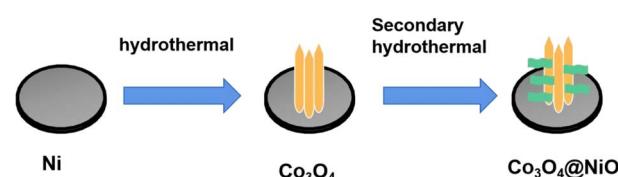
Knut Thorshaug,\* Terje Didriksen, Ingvild Thue Jensen, Patricia Almeida Carvalho, Juan Yang, Mathieu Grandcolas, Alain Ferber, Andy M. Booth, Özlem Ağaç, Hüseyin Alagöz, Nursev Erdoğan, Anil Kuban and Branson D. Belle



2096

**3D net-like  $\text{Co}_3\text{O}_4@\text{NiO}$  nanostructures for high performance supercapacitors**

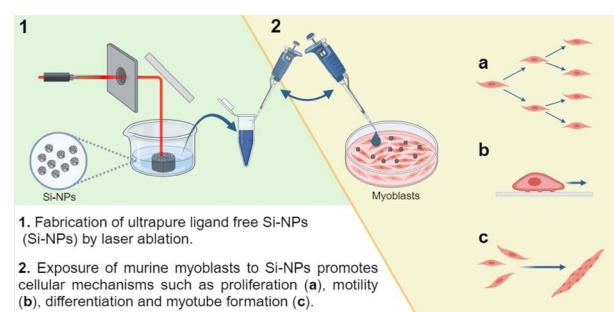
Xiaochen Sun and Zengyun Jian\*



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**Assessment of laser-synthesized Si nanoparticle effects on myoblast motility, proliferation and differentiation: towards potential tissue engineering applications**

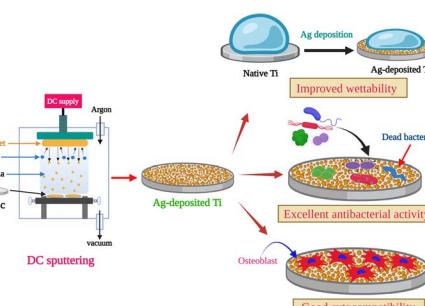
Clarissa Murru, Lucas Duvert, Frederique Magdinier, Adrien Casanova, Anne-Patricia Alloncle, Stefano Testa\* and Ahmed Al-Kattan\*



2113

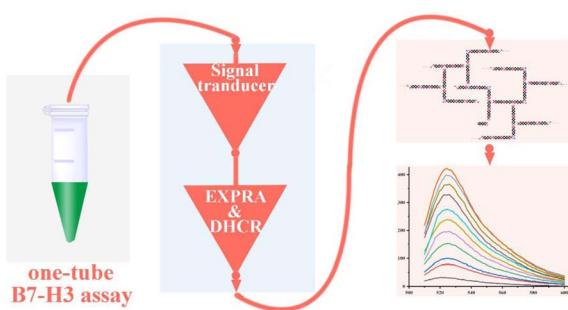
**Silver-deposited titanium as a prophylactic 'nano coat' for peri-implantitis**

Vaibhav Madiwal and Jyutika Rajwade\*



## PAPERS

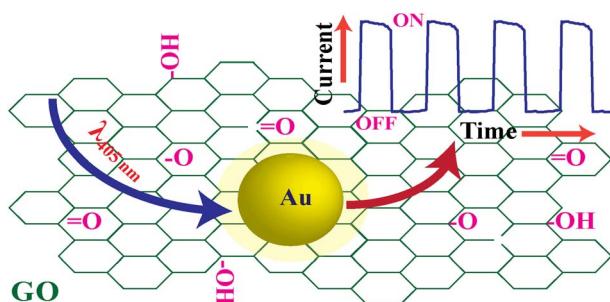
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### One-tube B7-H3 detection based on isothermal exponential amplification and dendritic hybridization chain reaction

Xiangyun Chen, Chun Xuan, Jingtao Lin, Zhongquan Pan, Xiaoliang Wu, Pin Wu, Zhenchang Liang,\* Luxin Yu\* and Cailing Qiu\*

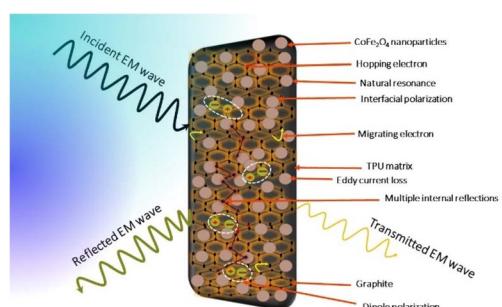
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### Role of oxygen functional groups and attachment of Au nanoparticles on graphene oxide sheets for improved photodetection performance

Ningthoujam Somorjít Singh, Abdul Kaium Mia and P. K. Giri\*

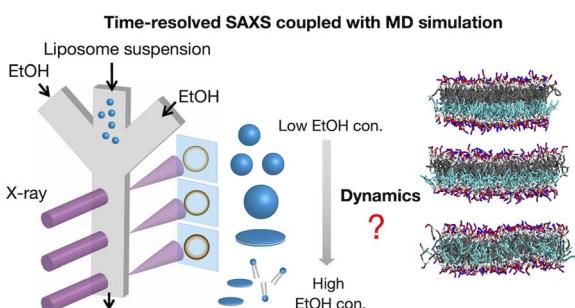
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### Optimization of $\text{CoFe}_2\text{O}_4$ nanoparticles and graphite fillers to endow thermoplastic polyurethane nanocomposites with superior electromagnetic interference shielding performance

Anju, Milan Masař, Michal Machovský, Michal Urbánek, Pavol Šuly, Barbora Hanulíková, Jarmila Vilčáková, Ivo Kurítká and Raghvendra Singh Yadav\*

2166



### Understanding the effects of ethanol on the liposome bilayer structure using microfluidic-based time-resolved small-angle X-ray scattering and molecular dynamics simulations

Masatoshi Maeki,\* Niko Kimura, Yuto Okada, Kazuki Shimizu, Kana Shibata, Yusuke Miyazaki, Akihiko Ishida, Kento Yonezawa, Nobutaka Shimizu, Wataru Shinoda and Manabu Tokeshi\*

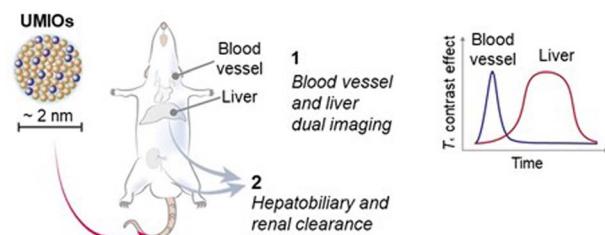


## PAPERS

2177

**Ultrasmall Mn-doped iron oxide nanoparticles with dual hepatobiliary and renal clearances for  $T_1$  MR liver imaging**

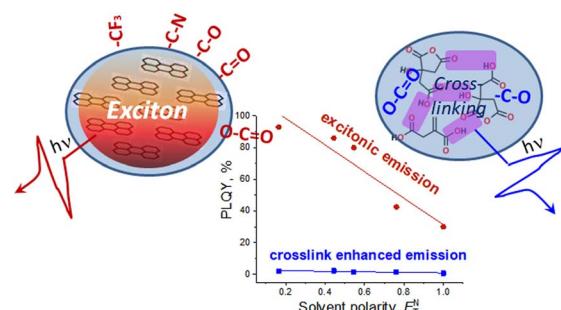
Sanghoon Lee, Arim Byun, Juhee Jo, Jong-Min Suh, Jeasang Yoo, Mi Hee Lim, Ji-wook Kim,\* Tae-Hyun Shin\* and Jin-sil Choi\*



2185

**Photoluminescence quantum yield of carbon dots: emission due to multiple centers *versus* excitonic emission**

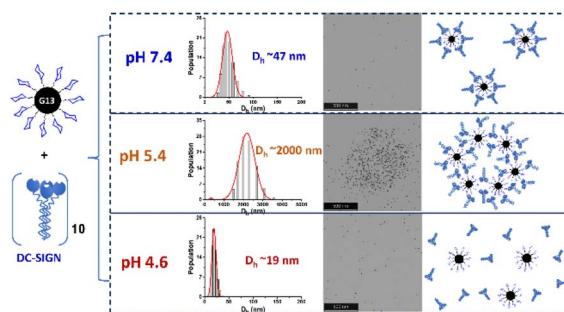
Oleg Dimitriev, Dmytro Kysil,\* Alexander Zaderko, Oksana Isaieva, Andrii Vasin, Yuri Piryatinski, Mats Fahlman and Alexei Nazarov



2198

**Probing the pH-dependency of DC-SIGN/R multivalent lectin–glycan interactions using polyvalent glycan–gold nanoparticles**

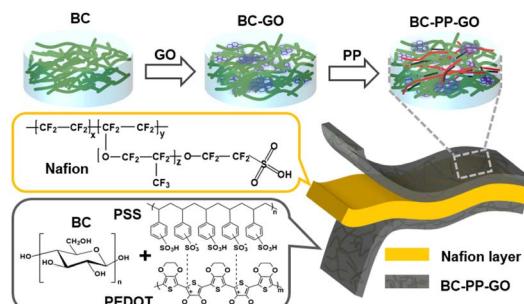
Rahman Basaran, Xinyu Ning, Darshita Budhadev, Nicole Hondow, Yuan Guo\* and Dejian Zhou\*



2209

**Self-standing bacterial cellulose-reinforced poly(3,4-ethylenedioxythiophene)/poly(4-styrenesulfonate) doped with graphene oxide composite electrodes for high-performance ionic electroactive soft actuators**

Yujiao Wu,\* Qiyuan Cui, Ruibin Qi and Fan Wang\*



## CORRECTION

2217

**Correction: Universal control of proton concentration using an electrochemically generated acid compatible with miniaturization**

Janwa El-Maiss, Divya Balakrishnan and César Pascual García\*

