

# Journal of Materials Chemistry B

Materials for biology and medicine

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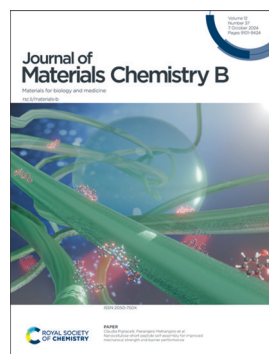
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ISSN 2050-750X CODEN JMCBDV 12(37) 9101–9424 (2024)



### Cover

See Guangji Wang, Xiaolian Sun, Jingwei Zhang *et al.*, pp. 9213–9228. Image reproduced by permission of Jingwei Zhang from *J. Mater. Chem. B*, 2024, 12, 9213.



### Inside cover

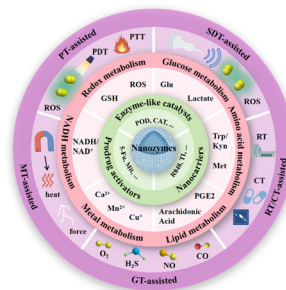
See Claudia Pigliacelli, Pierangelo Metrangolo *et al.*, pp. 9229–9237. Image reproduced by permission of Elisa Marelli from *J. Mater. Chem. B*, 2024, 12, 9229.

## REVIEWS

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### Nanozymes in cancer immunotherapy: metabolic disruption and therapeutic synergy

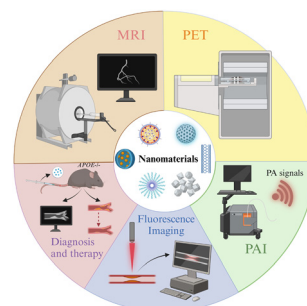
Xiangrui Xu, Yaowen Zhang, Chijun Meng, Wenzhuo Zheng, Lingfeng Wang, Chenyi Zhao and Feng Luo\*



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### A novel method for the diagnosis of atherosclerosis based on nanotechnology

Ying Yang, Jiangpeng Pan, Aifeng Wang, Yongcheng Ma, Ying Liu\* and Wei Jiang\*



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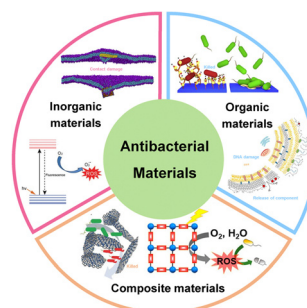
Fundamental questions  
Elemental answers

## REVIEWS

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### Designing antibacterial materials through simulation and theory

Jiaqi Li, Xueqing Jin, Zheng Jiao, Lijuan Gao, Xiaobin Dai, Linghe Cheng, Yuming Wang and Li-Tang Yan\*



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### Nanomaterial-based therapeutics for enhanced antifungal therapy

Fang Liu, Yongcheng Chen, Yue Huang, Qiao Jin\* and Jian Ji\*

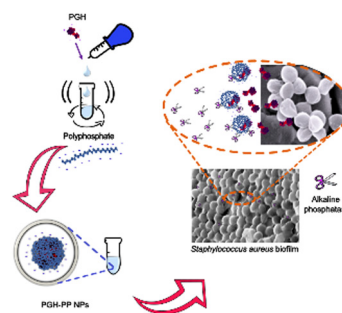


## COMMUNICATIONS

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### Enzyme-responsive nanoparticles: enhancing the ability of endolysins to eradicate *Staphylococcus aureus* biofilm

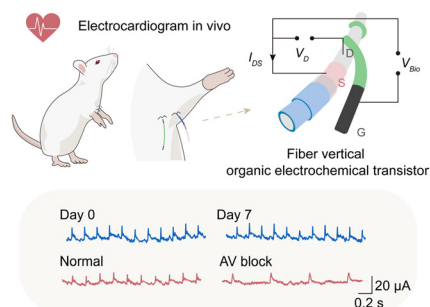
Mariana Blanco Massani, Dennis To, Susanne Meile, Mathias Schmelcher, David Gintsburg, Débora C. Coraça-Huber, Anna Seybold, Martin Loessner and Andreas Bernkop-Schnürch\*



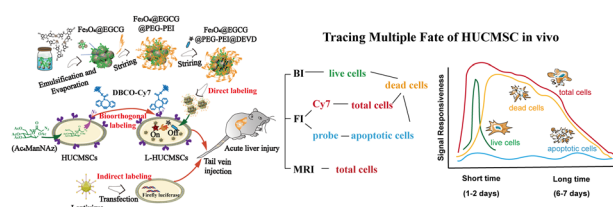
9206

### Fast-response fiber organic electrochemical transistor with vertical channel design for electrophysiological monitoring

Jiawei Chen, Yuan Fang, Jianyou Feng, Xiang Shi, Jinyan Li, Shuzhuang Wang, Songlin Zhang, Huisheng Peng and Xuemei Sun\*



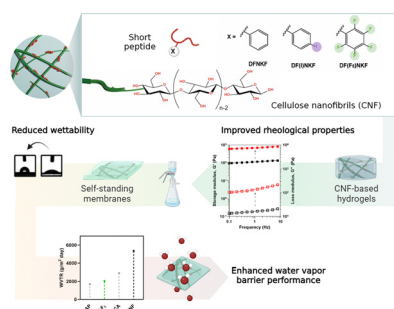
9213



### A multi-modality imaging strategy to determine the multiple *in vivo* fates of human umbilical cord mesenchymal stem cells at different periods of acute liver injury treatment

Naijie Wei, Xiaoyang Chen, Danchen Liu, Xiangchao Bu, Guangji Wang,\* Xiaolian Sun\* and Jingwei Zhang\*

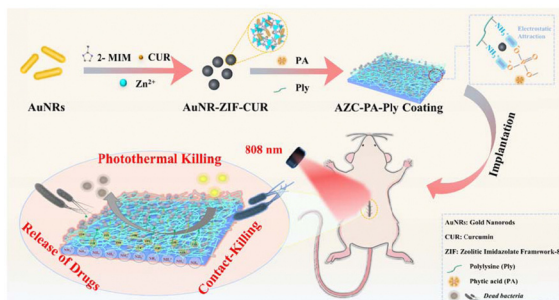
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### Nanocellulose-short peptide self-assembly for improved mechanical strength and barrier performance

Alessandro Marchetti, Elisa Marelli, Greta Bergamaschi, Panu Lahtinen, Arja Paananen, Markus Linder, Claudia Pigliacelli\* and Pierangelo Metrangola\*

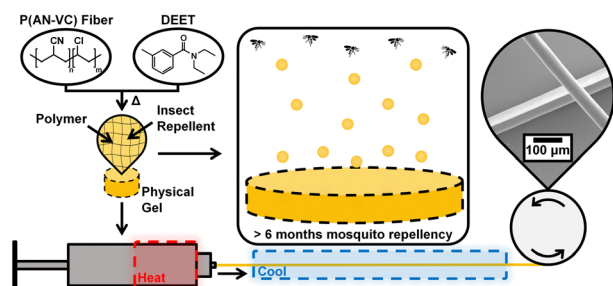
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### Chemo-photothermal therapy of bacterial infections using metal-organic framework-integrated polymeric network coatings

Lulu Yu, Huajun Wu, Gnanasekar Sathishkumar, Xiaodong He, Runlong Ran, Kai Zhang,\* Xi Rao, En-Tang Kang\* and Liqun Xu\*

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### Designing thermoreversible gels for extended release of mosquito repellent

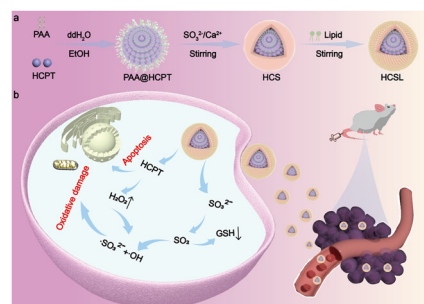
Javier Jimenez, James E. Cilek, Sierra M. Schluep and Jeffrey G. Lundin\*



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## A biodegradable calcium sulfite nanoreactor for pH triggered gas therapy in combination with chemotherapy

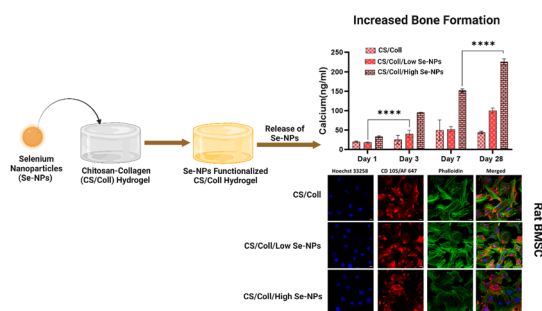
Xihong Liu, Yan Li, Xiang Gu, Chao Qi\* and Kaiyong Cai\*



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## Selenium nanoparticle-functionalized injectable chitosan/collagen hydrogels as a novel therapeutic strategy to enhance stem cell osteoblastic differentiation for bone regeneration

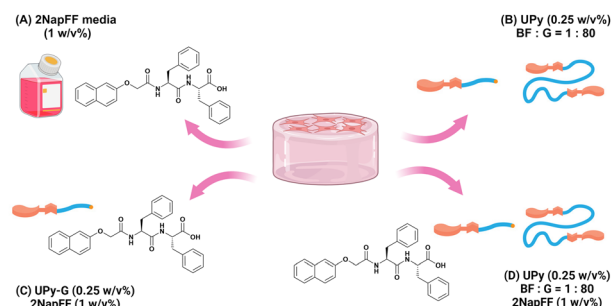
Khaled Alajmi, Matthew Hartford, Nakka Sharmila Roy, Anamitra Bhattacharya, Santanu Kaity, Brenton L. Cavanagh, Subhadeep Roy\* and Kulwinder Kaur\*



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## Investigating the self-assembly of 2NapFF and ureido-pyrimidinone multicomponent systems for cell culture

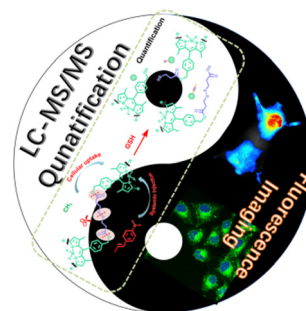
Chloe M. Wallace, Maritza M. Rovers, Riccardo Bellan, Martin G. T. A. Rutten, Annela Seddon, Matthew J. Dalby, Patricia Y. W. Dankers and Dave J. Adams\*



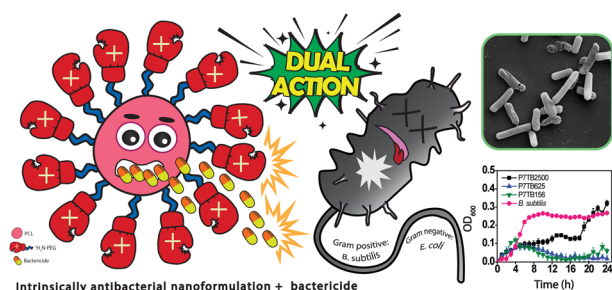
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## Quantitatively analyzing the dissociation and release of disulfide-containing organic nanoparticles

Wenhai Lin, Lei Yin, Xin Wang, Chaonan Li, Wei Zhang, Qing Pei, Huixuan Qi, Tingting Sun,\* Zhigang Xie\* and Jingkai Gu\*



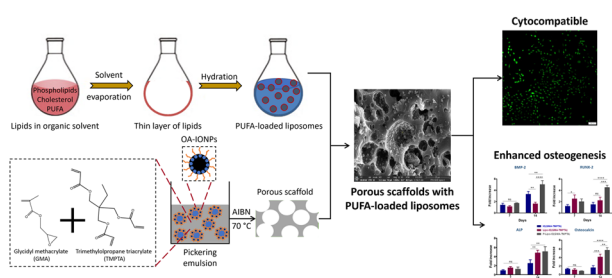
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### Soft nanoparticles as antimicrobial agents and carriers of microbicides for enhanced inhibition activity

Hui Wen Yong, Seyed Mohammad Amin Ojagh, Gabriel Théberge-Julien, Laura Sofia Reyes Castellanos, Faiza Tebbji, Theo G. M. van de Ven, Adnane Sellam, Éric Rhéaume, Jean-Claude Tardif and Ashok Kakkar\*

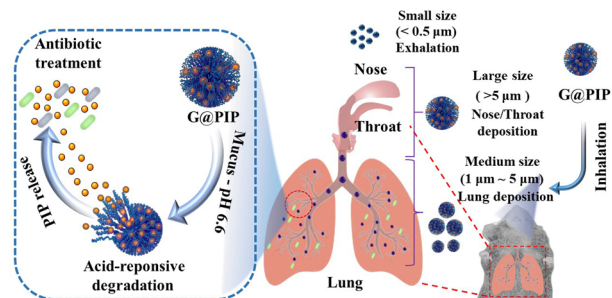
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### Iron oxide nanoparticle-stabilized Pickering emulsion-templated porous scaffolds loaded with polyunsaturated fatty acids (PUFAs) for bone tissue engineering

W. Aadinath, Teja K. S. P. S., Iniyan Saravanakumar and Vignesh Muthuvijayan\*

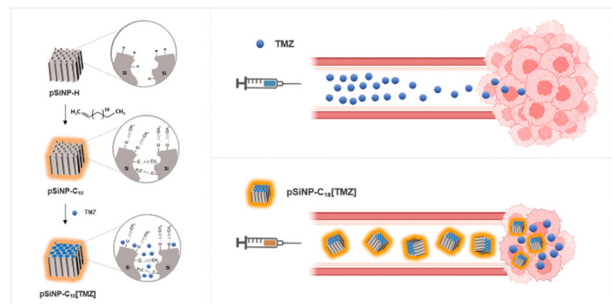
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### Size-tailored and acid-degradable polyvinyl alcohol microgels for inhalation therapy of bacterial pneumonia

Xiang Zhou, Jingjing Zhou, Lanlan Wang, Bingbing Zhao,\* Yukun Ma, Ni Zhang, Wei Chen\* and Dechun Huang\*

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### Use of surface-modified porous silicon nanoparticles to deliver temozolomide with enhanced pharmacokinetic and therapeutic efficacy for intracranial glioblastoma in mice

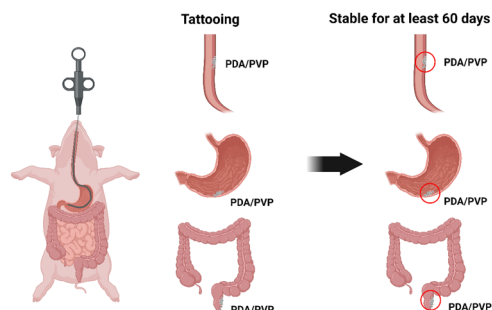
Seulgi Shin, Hyejung Jo, Tomoyo Agura, Seoyoun Jeong, Hyovin Ahn, Yejin Kim\* and Jae Seung Kang\*



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### Novel endoscopic tattooing dye based on polyvinylpyrrolidone-modified polydopamine nanoparticles for labeling gastrointestinal lesions

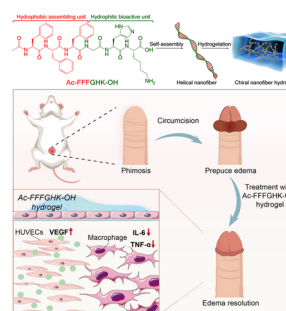
Yongkang Lai, Mengni Jiang, Xinyuan Zhang, Liang Zhang, Zheng Chen, Yiqi Du,\* Shige Wang,\* Jiulong Zhao\* and Zhaoshen Li\*



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### A self-assembling bioactive oligopeptide hydrogel for the treatment of edema following prepuce surgery

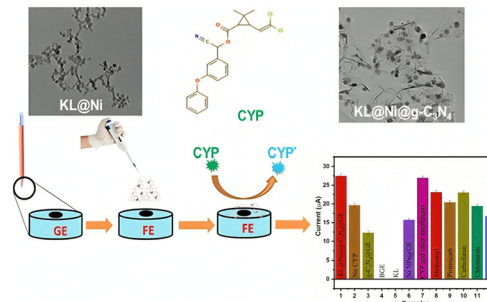
Jianyong Liu, Yu Pei, Yingying Huang, Haofei Jiang, Mike Pleass Tita Tadoh, Xixi Huang, Jintao Shen, Xiaoxi Zeng, Bin Zheng, Jingye Pan, Guoqiang Yang,\* Haihong Jiang,\* Limin Chen\* and Yunlong Zhou



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### Detection of toxic cypermethrin pesticides in drinking water by simple graphitic electrode modified with Kraft lignin@Ni@g-C<sub>3</sub>N<sub>4</sub> nano-composite

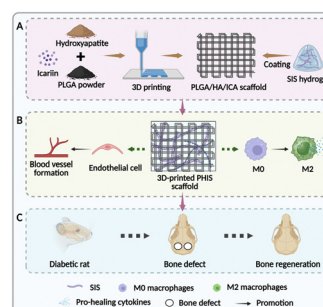
Shumaila Razzaque, Muhammad Abubakar, Muhammad Asim Farid, Rehana Zia, Shahid Nazir, Humaira Razzaque, Abid Ali, Zulfiqar Ali, Asif Mahmood, Waheed Al-Masry, Toheed Akhter\* and Sadaf Ul Hassan\*



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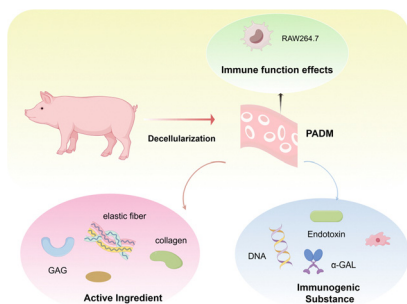
### Small intestine submucosa decorated 3D printed scaffold accelerated diabetic bone regeneration by ameliorating the microenvironment

Jie Tan, Zecai Chen, Zhen Xu, Yafang Huang, Lei Qin, Yufeng Long, Jiayi Wu, Hantao Yang, Xuandu Chen, Weihong Yi, Ruiqiang Hang, Min Guan, Huaiyu Wang,\* Ang Gao\* and Dazhi Yang\*



## PAPERS

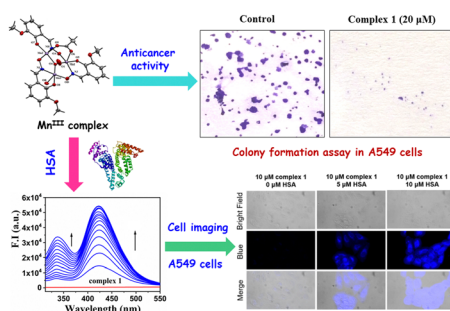
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### Bioactivity and *in vitro* immunological studies of xenogenic decellularized extracellular matrix scaffolds for implantable applications

Qing Yu, Yuantao Gao, Jiqiang Guo, Xinyue Wang, Xiang Gao, Yifan Zhao, Yang Liu, Meiling Wen, Xiangyu Zhang and Meiwen An\*

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### Small molecule interactions with biomacromolecules: selective sensing of human serum albumin by a hexanuclear manganese complex – photophysical and biological studies

Rousunara Khatun, Malay Dolai, Mihir Sasmal, Atul Katarkar, Abu Saleh Musha Islam, Nasima Yasmin,\* Sana Maryum, Jebiti Haribabu and Mahammad Ali\*

## CORRECTION

9420

### Correction: Near-infrared light triggered photothermal therapy and enhanced photodynamic therapy with a tumor-targeting hydrogen peroxide shuttle

Bing Wang,\* Weiming Lin, Zhengwei Mao\* and Changyou Gao

