

# Journal of Materials Chemistry B

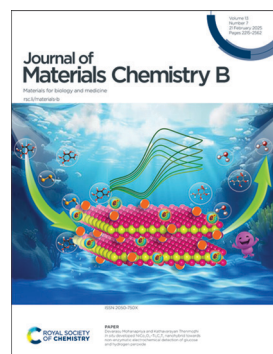
Materials for biology and medicine

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## IN THIS ISSUE

ISSN 2050-750X CODEN JMCBDV 13(7) 2215-2562 (2025)



### Cover

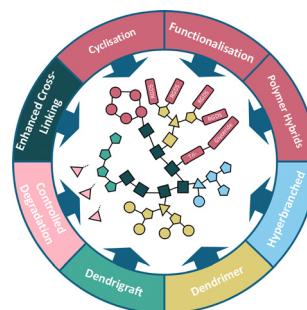
See Devarasu Mohanapriya and Kathavarayan Thenmozhi, pp. 2306–2316. Image reproduced by permission of Kathavarayan Thenmozhi from *J. Mater. Chem. B*, 2025, **13**, 2306.

## REVIEWS

2226

### Evolution of branched peptides as novel biomaterials

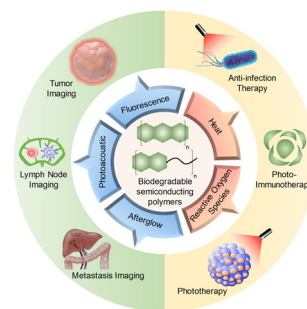
Matthew J. Little, Jody M. Mason and Nazia Mehrban\*



2242

### Biodegradable semiconducting polymer nanoparticles for phototheranostics

Wen Zhou, Qiang Li, Mingming Liu, Xuxuan Gu, Xiaowen He, Chen Xie\* and Quli Fan\*



# RSC Applied Polymers

The application of polymers,  
both natural and synthetic

Interdisciplinary and open access



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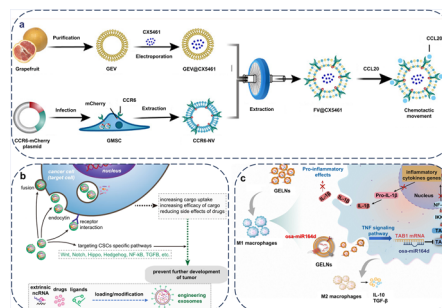
Fundamental questions  
Elemental answers

## REVIEWS

2254

## Plant-derived exosome-like nanoparticles in tissue repair and regeneration

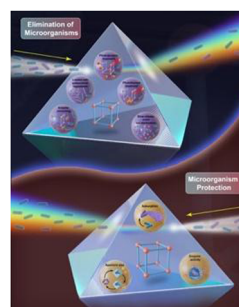
Canyu Gao, Yang Chen, Xingyue Wen, Ruiying Han, Yuxiang Qin, Sijie Li, Rong Tang, Weikai Zhou, Junyu Zhao, Jianxun Sun, Zhengyong Li, Zhen Tan,\* Deli Wang\* and Changchun Zhou\*



2272

## Exploring the multifaceted roles of metal–organic frameworks in ecosystem regulation

Wanjing Li, Jing Chen,\* Jian Guo,\* Ka Teng Chan, Yini Liang, Meixuan Chen, Jing Wang, Srinivas Gadipelli, Xuedong Zhou and Lei Cheng\*

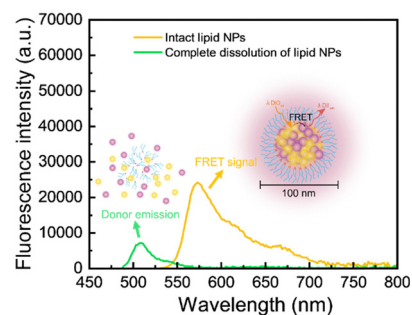


## COMMUNICATION

2295

## Capturing the dynamic integrity of carbocyanine fluorophore-based lipid nanoparticles using the FRET technique

Siyu Long, David A. Turner, Kevin J. Hamill, Louise S. Natrajan and Tom O. McDonald\*

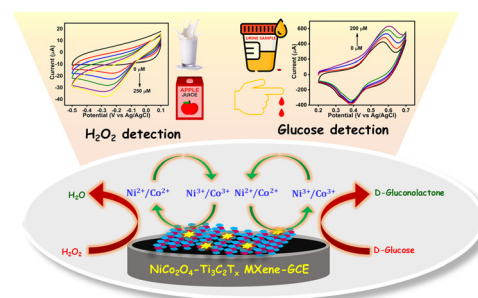


## PAPERS

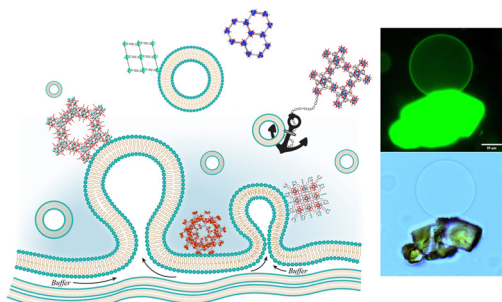
2306

*In situ* developed NiCo<sub>2</sub>O<sub>4</sub>–Ti<sub>3</sub>C<sub>2</sub>T<sub>x</sub> nanohybrid towards non-enzymatic electrochemical detection of glucose and hydrogen peroxide

Devarasu Mohanapriya and Kathavarayan Thenmozhi\*



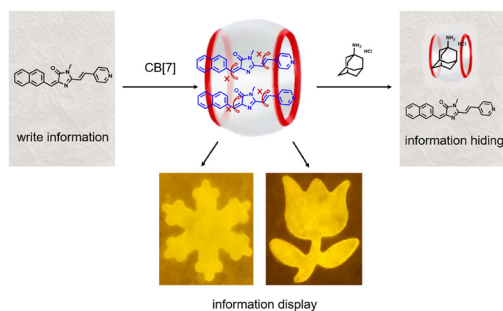
2317



### Metal–organic frameworks as anchors for giant unilamellar vesicle immobilization

Aroosha Faheem, Mason C. Lawrence, Gazi A. Bushra, M.-Vicki Meli and Barry A. Blight\*

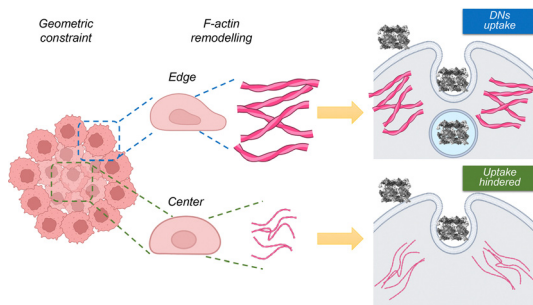
2327



### A supramolecular assembly of a novel green fluorescent protein chromophore-based analogue and its application in fluorescence anti-counterfeiting

Yifei Ren and Chusen Huang\*

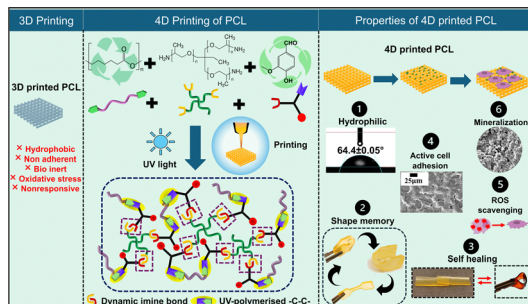
2335



### Geometrically constrained cytoskeletal reorganisation modulates DNA nanostructures uptake

Petra Elblová, Hana Andělová, Mariia Lunova, Judita Anthi, Skylar J.W. Henry, Xinyi Tu, Alexandr Dejnek, Milan Jirsa, Nicholas Stephanopoulos\* and Oleg Lunov\*

2352



### Towards cell-adhesive, 4D printable PCL networks through dynamic covalent chemistry

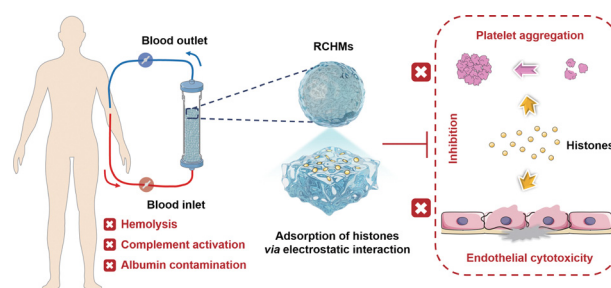
Sagnik Ghosh, Sathiyaraj Subramanian, Anadi Bisht, Bhanu Nandan, Ritu Kulshreshtha, Minna Hakkarainen and Rajiv K. Srivastava\*



2366

### Hemocompatible nucleosome-inspired heparin-mimicking hydrogel microspheres for safe and efficient extracorporeal removal of circulating histones in critically ill patients

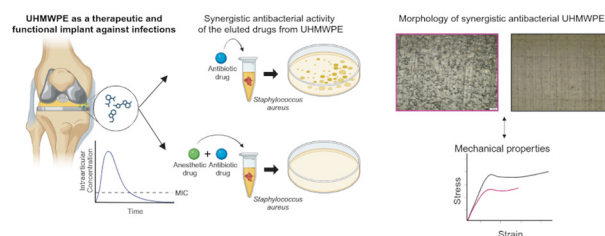
Yu Chen, Tinghang Yang, Shujing Wang, Dongmei Tong, Xianda Liu, Yupei Li,\* Weifeng Zhao\* and Changsheng Zhao



2382

### Synergistic antibacterial drug elution from UHMWPE for load-bearing implants

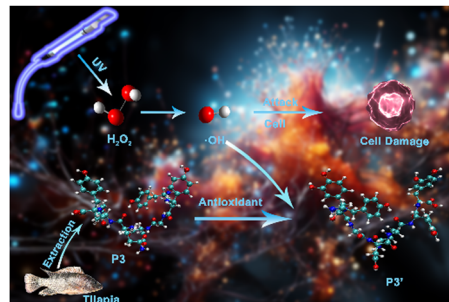
Nicoletta Inverardi, Maria F. Serafim, Anthony Marzouca, Keita Fujino, Matheus Ferreira, Mehmet D. Asik, Amita Sekar, Orhun K. Muratoglu and Ebru Oral\*



2400

### Tyrosine-modified tilapia skin antioxidant peptides and their hydroxyl radical quenching activities

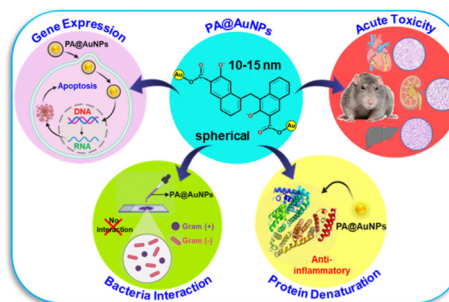
Yunyao Wang, Ruiqing Jiu, Zongda Li, Qiuying Wang, Xiangmin Lei, Jianan Chen, Haochi Liu\* and Jifeng Liu\*



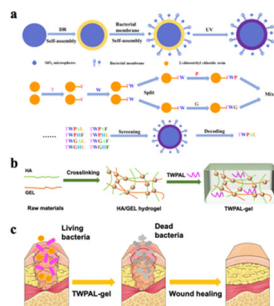
2409

### Effect of surface-engineered AuNPs on gene expression, bacterial interaction, protein denaturation, and toxicology assay: an *in vitro* and *in vivo* model

A. Sowndarya, T. Daniel Thangadurai,\* Nebu George Thomas, Renjith Sreedharan, Sukumaran Anil, N. Manjubaashini, T. G. Satheesh Babu and S. Megha Kumar



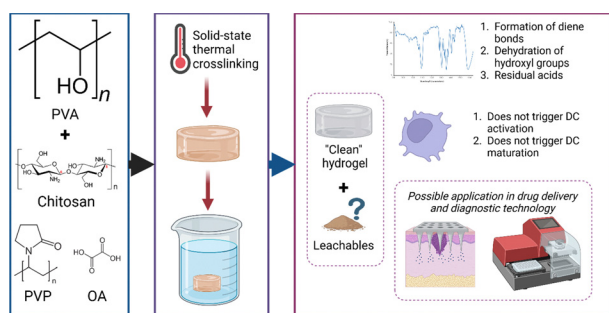
2418



### Screening of an antimicrobial peptide-TWPAL and its application in hydrogels for wound healing

Huinan Wang, Fengyuan Gao, Muhammad Rafiq, Bing Yu,\* Qinghai Niu and Hailin Cong\*

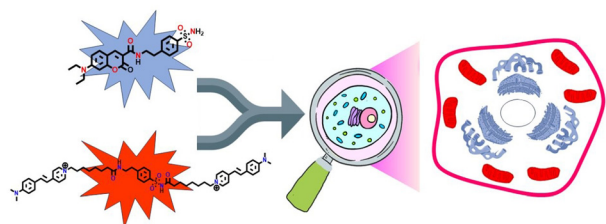
2431



### Formulation and evaluation of PVA-based composite hydrogels: physicochemical, leachables, and *in vitro* immunogenicity studies

Achmad Himawan, Anna Korelidou, Ana M. Pérez-Moreno, Juan L. Paris, Juan Dominguez-Robles, Lalitkumar K. Vora, Andi Dian Permana, Eneko Larrañeta, Robert Graham, Christopher J. Scott and Ryan F. Donnelly\*

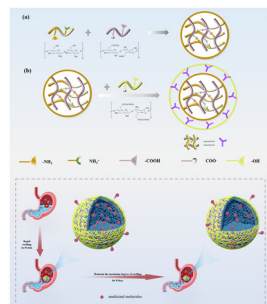
2446



### Multi-organelle imaging with dye combinations: targeting the ER, mitochondria, and plasma membrane

Yogesh Dubey and Sriram Kanvah\*

2457



### Core-shell hydrogel with synergistic super absorption and long-term acid resistance stability: a novel gastric retention drug delivery carrier

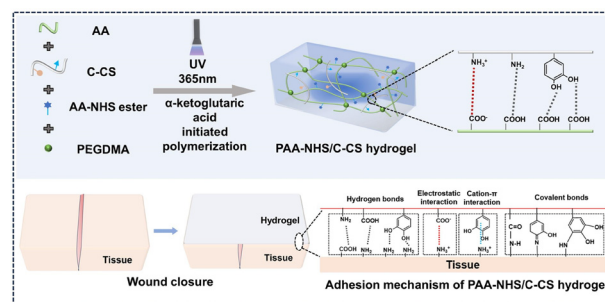
Yu Fu, Wenjing Liu, Lihang Jiang, Huili Yuan, Xiaoqian Tong, Huiwen He, Yanqin Shi, Meng Ma, Si Chen\* and Xu Wang\*



2469

## Robust-adhesion and high-mechanical strength hydrogel for efficient wet tissue adhesion

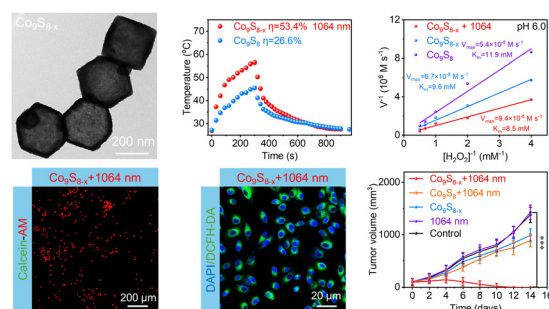
Chenyang Li, Yang Qian, Xueping Zhang\* and Rongwu Wang\*



2480

## Vacancy engineering enhanced photothermal-catalytic properties of $\text{Co}_9\text{S}_8-x$ nanozymes for mild NIR-II hyperthermia-amplified nanocatalytic cancer therapy

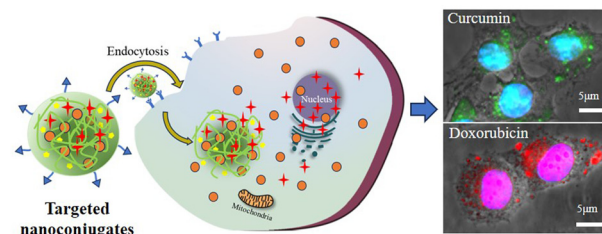
Yongyu Hao, Nan Wang, Jiayu Wang, Shuilin Shao, Bo Gao, Youping Tao, Litao Huo, Lang Yan, Jigong Wu\* and Zhiming Chen\*



2490

## Concurrent targeted delivery of doxorubicin and curcumin to the cancer cells using simple and versatile ligand-installed multifaceted chitosan-based nanoconjugates

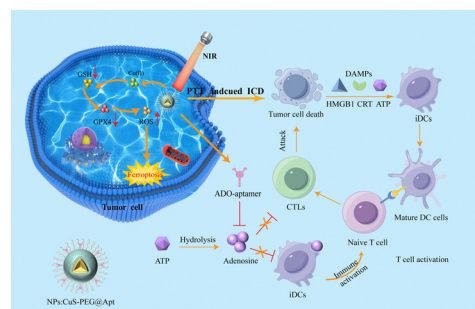
Sourav Barman, Sayoni Maitra Roy, Purvi Kishore, Malabika Ghosh, Pousali Bag, Ankan Kumar Sarkar, Tapas Ghatak, Partha Sona Maji, Arnab Basu, Rupam Mukherjee, Surya K. Ghosh, Ankan Dutta Chowdhury and Amit Ranjan Maity\*



2504

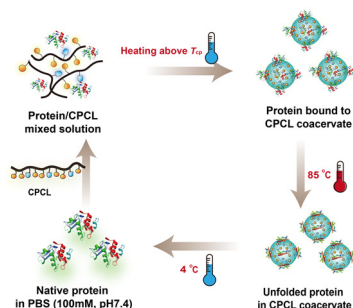
## Combination of adenosine blockade and ferroptosis for photo-immunotherapy of triple negative breast cancer with aptamer-modified copper sulfide

Xingyu Zhang, Chengyu Shi, Qiao Liu, Yuting Zhong, Lipeng Zhu and Yuetao Zhao\*



## PAPERS

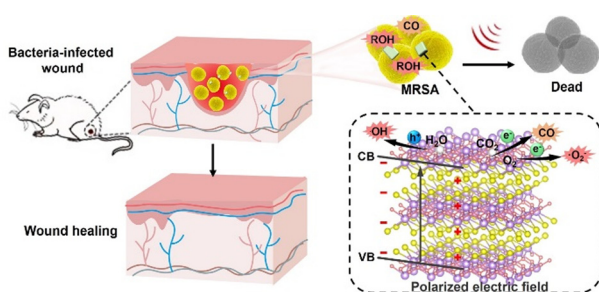
2520



### Thermo-sensitive polycaprolactone coacervates for preventing protein aggregation under thermal stress

Xinyue Zheng, Lianlei Wen, Yan Xiao\* and Meidong Lang\*

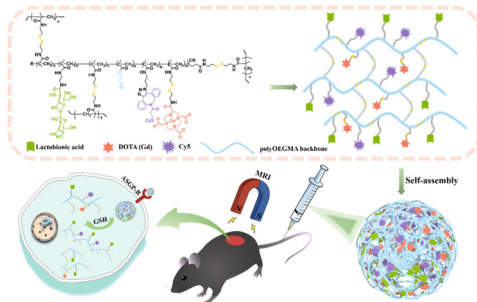
2533



### Surface Bi-vacancy and corona polarization engineered nanosheets with sonopiezocatalytic antibacterial activity for wound healing

Mingbo Wu, Dong Li, Yao Liu, Xiaomiao Ruan, Jingwen Yang, Zegang Li, Siyi Chen, Xin Yang and Wenwu Ling\*

2549



### An ASGP-R-targeting magnetic resonance imaging contrast agent for liver cancer diagnosis

Jie Chen, Xiaoming Wang, Yanan Bai, Zhiqian Li, Haonan Li, Bing Wang, Qiyong Gong and Kui Luo\*

## CORRECTIONS

2559

### Correction: Synthesis and photophysical properties of a new push–pull pyrene dye with green-to-far-red emission and its application to human cellular and skin tissue imaging

Kazuki Inoue, Ryosuke Kawakami, Masamoto Murakami, Taku Nakayama, Shinkuro Yamamoto, Keiji Inoue, Teruko Tsuda, Koji Sayama, Takeshi Imamura, Daisuke Kaneno, Shingo Hadano, Shigeru Watanabe and Yosuke Niko\*



## CORRECTIONS

2560

**Correction: Acceptor–donor–acceptor-type molecules with large electrostatic potential difference for effective NIR photothermal therapy**

Kexin Fan, Ludan Zhang, Qinqiu Zhong, Yanhe Xiang, Bowei Xu\* and Yuguang Wang\*

