

# Journal of Materials Chemistry B

Materials for biology and medicine

[rsc.li/materials-b](https://rsc.li/materials-b)

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

## IN THIS ISSUE

ISSN 2050-750X CODEN JMCBDV 12(27) 6511-6726 (2024)



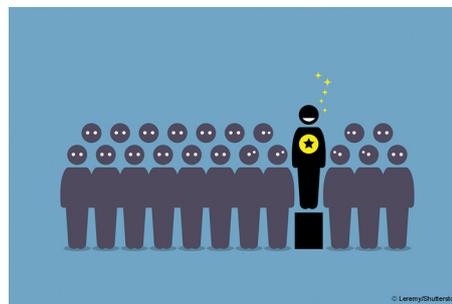
### Cover

See D. Huw Davies, Young Jik Kwon *et al.*, pp. 6577-6586. Image reproduced by permission of Young Jik Kwon and Yeon Su Choi from *J. Mater. Chem. B*, 2024, 12, 6577.

## EDITORIAL

6519

### Outstanding Reviewers for *Journal of Materials Chemistry B* in 2023

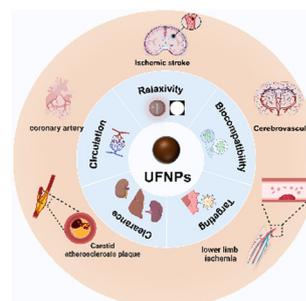


## REVIEWS

6521

### Progress in ultrasmall ferrite nanoparticles enhanced $T_1$ magnetic resonance angiography

Minrui Liu, Quanqing Feng, Huan Zhang,\* Yingkun Guo and Haiming Fan\*



# Environmental Science journals

One impactful portfolio for  
every exceptional mind

Harnessing the power of interdisciplinary  
science to preserve our environment

[rsc.li/envsci](https://rsc.li/envsci)

Fundamental questions  
Elemental answers

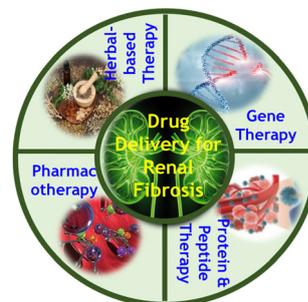


## REVIEWS

6532

### Advances in drug delivery-based therapeutic strategies for renal fibrosis treatment

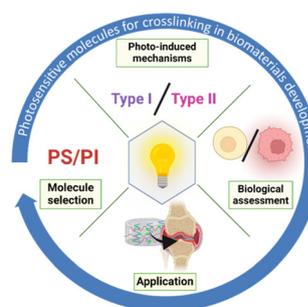
Sida Huang, Hanqi Lu, Jin Chen, Chengyi Jiang, Guanmin Jiang,\* Govindhan Maduraiveeran,\* Ying Pan, Jianqiang Liu\* and Li-Er Deng\*



6550

### Use of photosensitive molecules in the crosslinking of biopolymers: applications and considerations in biomaterials development

Nicolas Santos, Eduardo Fuentes-Lemus\* and Manuel Ahumada\*

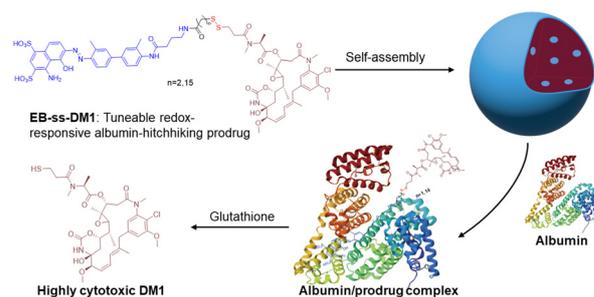


## COMMUNICATIONS

6563

### Tunable redox-responsive albumin-hitchhiking drug delivery to tumours for cancer treatment

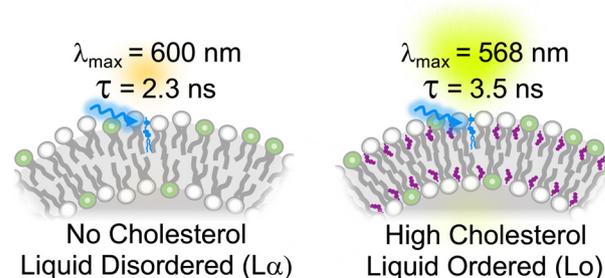
Shiwei Fu, Ajay Zheng, Lukun Wang, Jiuyan Chen, Bowen Zhao, Xiao Zhang, Victoria A. A. McKenzie, Zixin Yang, Roger M. Leblanc, Rajeev Prabhakar and Fuwu Zhang\*



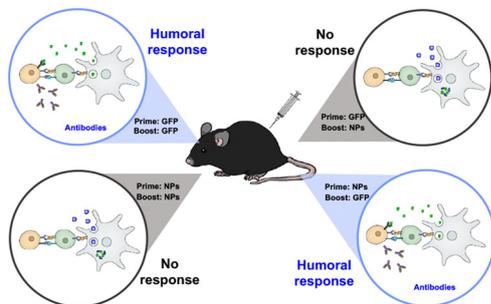
6570

### Sensing cholesterol-induced rigidity in model membranes with time-resolved fluorescence spectroscopy and microscopy

Bidisha Biswas, Dhari Shah, Sarah J. Cox-Vázquez and Ricardo Javier Vázquez\*



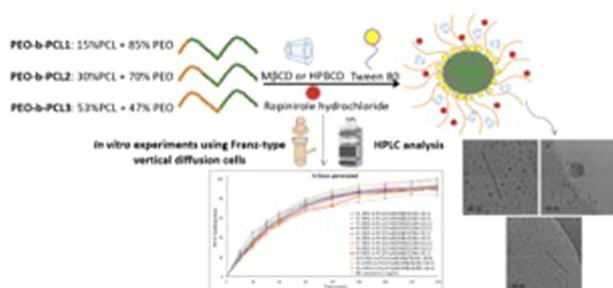
6577



### Administration sequence- and formation-dependent vaccination using acid-degradable polymeric nanoparticles with high antigen encapsulation capability

Yeon Su Choi, Jiin Felgner, Sharon Jan, Jenny E. Hernandez-Davies, D. Huw Davies\* and Young Jik Kwon\*

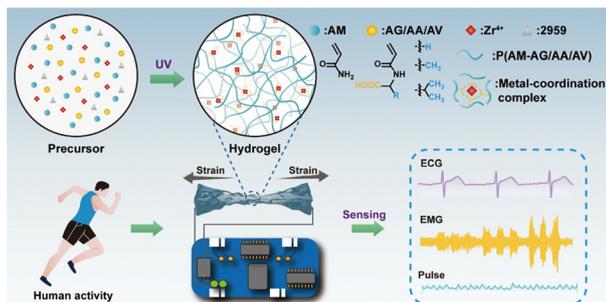
6587



### PEO-*b*-PCL/Tween 80/cyclodextrin systems: from bioinspired fabrication to possible nasal administration of ropinirole hydrochloride

Elmina-Marina Saitani, Natassa Pippa,\* Diego Romano Perinelli, Aleksander Forsy, Paraskevi Papakyriakopoulou, Nefeli Lagopati, Giulia Bonacucina, Barbara Trzebicka, Maria Gazouli, Stergios Pispas\* and Georgia Valsami

6605



### Tough and elastic hydrogels based on robust hydrophobicity-assisted metal ion coordination for flexible wearable devices

Zheng Liu, Kaixiang Shen, Mengyuan Zhang, Yuchen Zhang, Zhuting Lv, Qinghua Shang, Renjie Li, Can Zhou\* and Yilong Cheng\*

6617



### Multifunctional protocatechuic acid-polyacrylic acid hydrogel adhesives for wound dressings

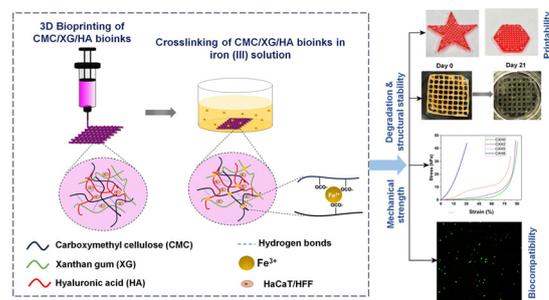
Yue Dong, Jingjing Su, Xiwei Guo, Qi Zhang, Shiping Zhu, Kun Zhang\* and He Zhu\*



6627

## Development of novel iron(III) crosslinked bioinks comprising carboxymethyl cellulose, xanthan gum, and hyaluronic acid for soft tissue engineering applications

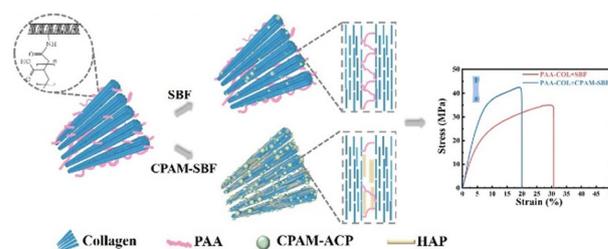
Hien-Phuong Le, Kamrul Hassan, Mahnaz Ramezanzpour, Jonathan A. Campbell, Tran Thanh Tung, Sarah Vreugde and Dusan Losic\*



6643

## Assembled collagen films modified using polyacrylic acid with improved mechanical properties via mineralization

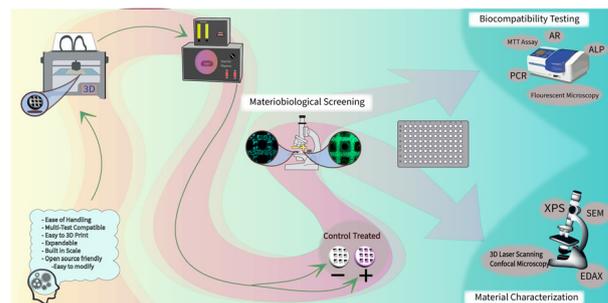
Xiaohui Chen, Zhilin Huang, Shuyun Zhang\* and Hong Li\*



6654

## A plasma-3D print combined *in vitro* platform with implications for reliable materiobiological screening

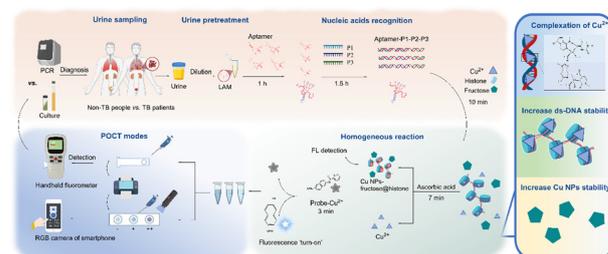
Gerardo Hernandez-Moreno, Vineeth M. Vijayan\*, Brian A. Halloran, Namasivayam Ambalavanan, Alexandria L. Hernandez-Nichols, John P. Bradford, Renjith R. Pillai and Vinoy Thomas\*



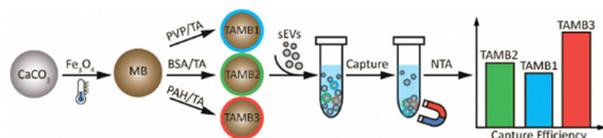
6668

## Fructose@histone synergistically improve the performance of DNA-templated Cu NPs: rapid analysis of LAM in tuberculosis urine samples using a handheld fluorometer and a smartphone RGB camera

Yanming Meng, Yue Wang, Zixuan Zhan, Yuemei Chen, Chunying Zhang, Wu Peng, Binwu Ying\* and Piaopiao Chen\*



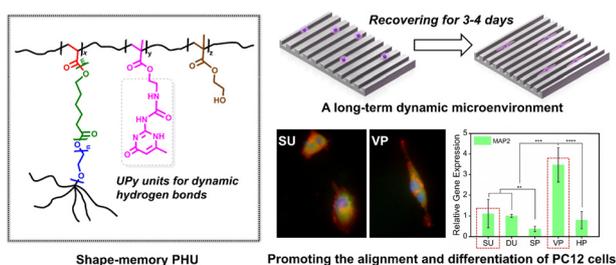
6678



### Studying the small extracellular vesicle capture efficiency of magnetic beads coated with tannic acid

Nikita A. Grishaev, Ekaterina O. Moiseeva, Vasily S. Chernyshev, Aleksei S. Komlev, Anton M. Novoselov and Alexey M. Yashchenok\*

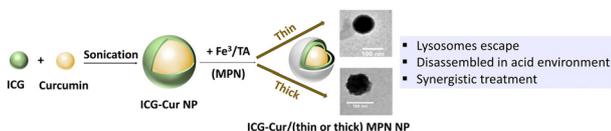
6690



### Micropatterned shape-memory polymer substrate containing hydrogen bonds creates a long-term dynamic microenvironment for regulating nerve-cell fate

Yilei Wang, Hao Liu, Huan Wang, Hui Xie\* and Shaobing Zhou\*

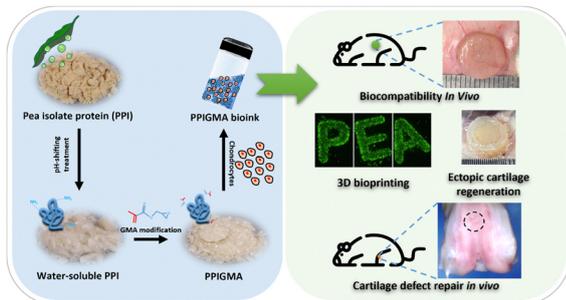
6703



### Carrier-free chemo-phototherapeutic nanomedicines with endo/lysosomal escape function enhance the therapeutic effect of drug molecules in tumors

Xue Feng, Calum M. Brown, Hongdi Wang, Saima Kashif, Sam Roberts, Li Yan, Tasnim Munshi, Philip J. W. Hands, Wenjun Zhang and Xianfeng Chen\*

6716



### A biocompatible pea protein isolate-derived bioink for 3D bioprinting and tissue engineering

Xin Chen, Zheng Zhou,\* Mengni Yang, Shuai Zhu, Wenxiang Zhu, Jingjing Sun, Mengyi Yu, Jiaqian He, You Zuo, Wenxin Wang, Ning He, Xiaoxiao Han and Hairong Liu\*

