

# Journal of Materials Chemistry B

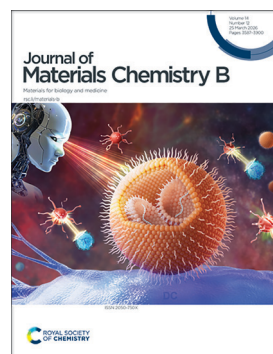
Materials for biology and medicine

[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 14(12) 3587-3900 (2026)



### Cover

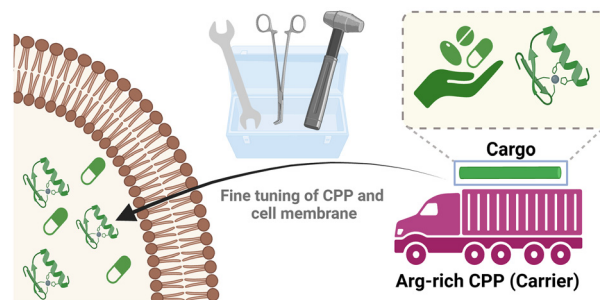
Image reproduced by permission of Beijing Youcare Kechuang Pharmaceutical Technology Co., Ltd.

## REVIEWS

3596

### Strategies to improve intracellular delivery of arginine-rich cell-penetrating peptides

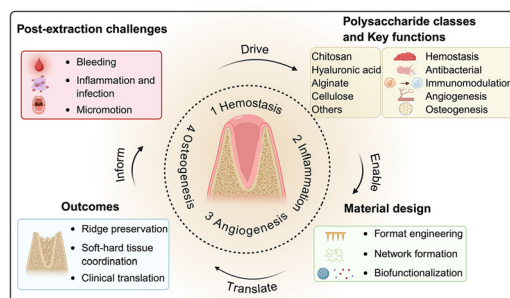
Rachel Anjous, P. Kavyashree and Abhishek Saha\*



3620

### Polysaccharide-based hydrogels for alveolar socket healing: biological functions and material design strategies

Yuxuan Guo, Hongtao Hu, Bo Yang, Liao Wang\* and Chongyun Bao\*



# RSC Advances

At the heart of open access for  
the global chemistry community

## Editor-in-chief

Russell J Cox

Leibniz Universität Hannover, Germany

## We stand for:



**Breadth** We publish work in all areas of chemistry and reach a global readership



**Affordability** Low APCs, discounts and waivers make publishing open access achievable and sustainable



**Quality** Research to advance the chemical sciences undergoes rigorous peer review for a trusted, society-run journal



**Community** Led by active researchers, we publish quality work from scientists at every career stage, and all countries

Submit your work now

[rsc.li/rsc-advances](https://rsc.li/rsc-advances)

@RSC\_Adv

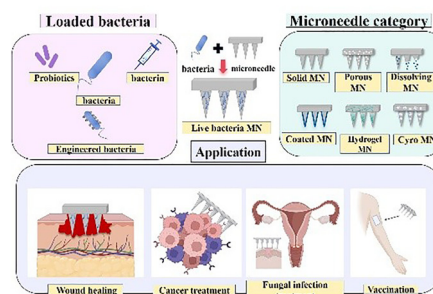


## REVIEWS

3643

### Live bacteria microneedles for biomedical applications

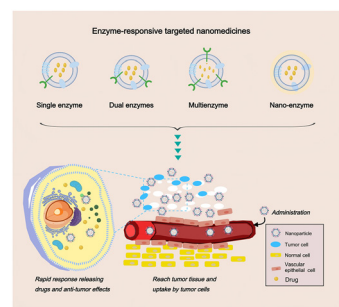
Junfeng Feng, Yu Wang, Letong Huang, Kun Guo\* and Guangyan Du\*



3661

### Enzyme-responsive targeted nanomedicines: a novel strategy for cancer therapy

Mingtang Zeng, Zhongzhen Yang, Liuxuan Yang, Xueyan Wang, Yao Wang, Tao Chen, Xi Yin and Fengbo Wu\*

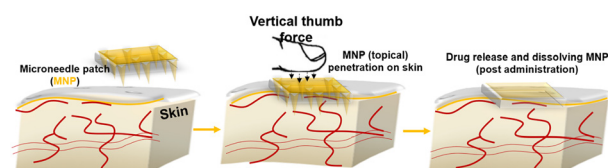


## PAPERS

3693

### Treatment of diabetic wounds using dissolvable microneedle patches co-delivering levofloxacin and lidocaine

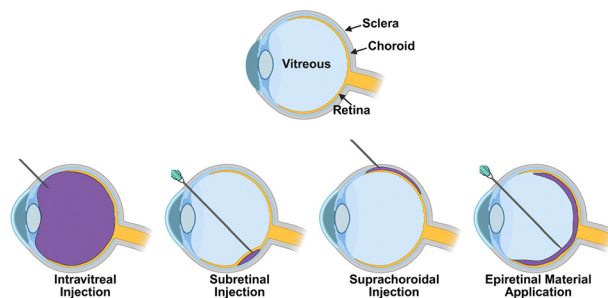
Arifur Rahman Nibir, Jamila Akther, Ferdous-Ul-Haque Joy, Tahmina Foyez, Md. Borhan Uddin and Shazid Md. Sharker\*



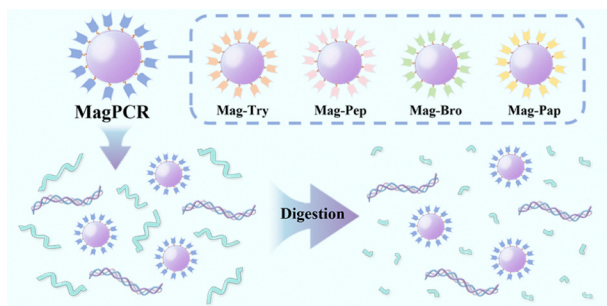
3703

### Synthesis and characterization of an injectable telechelic material for the epiretinal delivery of retinal gene therapies

James H. Westbay, Daniel P. Bigley, Sushma Sappa, Anfisa Ayalon, Hamzah Aweidah, Lauren D. Dignam, Joseph N. Martel, William A. Beltran, José-Alain Sahel, Leah C. Byrne and Morgan V. DiLeo\*



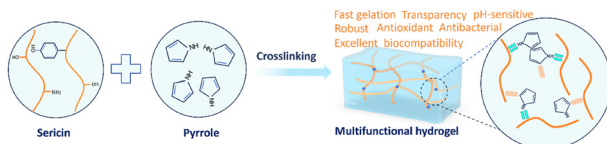
3719



### A magnetic multi-enzyme nanoplatform for high-purity collagen preparation through efficient contaminant protein elimination

Zibing Zeng, Wenhao Guo, Nannan Wei, Xiangdong Cai\* and Jianxi Xiao\*

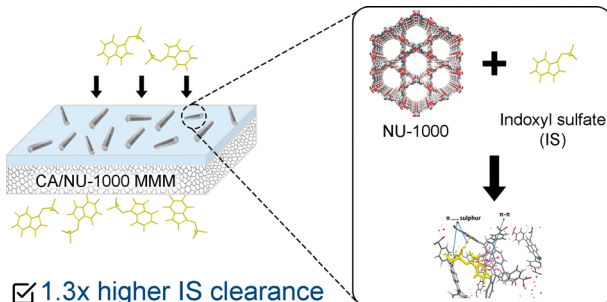
3730



### A pH-responsive multifunctional sericin-pyrrole hydrogel with inherent antibacterial and antioxidant activities

Weiyang Wang, Akou May Tehoungue, Zilong Gao, Yi Wang, Manyi Sun, Yixue Lu, Guozheng Zhang and Yeshun Zhang\*

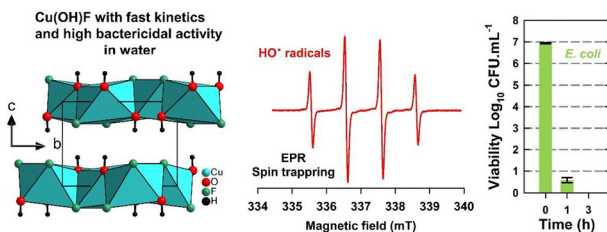
3743



### Incorporation of NU-1000 into cellulose acetate membranes with preserved indoxyl sulfate adsorption

Rita F. Pires, Beatriz S. Nunes, Flávia S. C. Rodrigues,\* Anup Paul, Ana Charas, Anirban Kamakar and Mónica Faria

3763



### Bactericidal activity of the layered cupric hydroxy-fluoride Cu(OH)F against pathogenic *Escherichia coli* strain

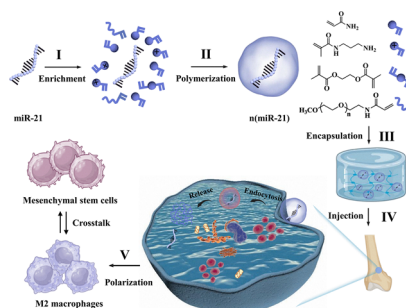
Batiste Clavier, Miriama Malček Šimunková, Fabien Boucher, Vlasta Brezová, Christine Roques and Gwenaél Corbel\*



3775

### MicroRNA nanocapsules for modulating macrophage polarization to promote bone repair

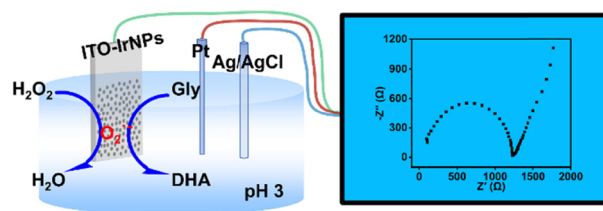
Xueping Li, Ming Zhang, Qi Zhan, Sai Gao, Yahan Zhang, Xiaolei Sun, Lixia Long, Xin Hou, Chaoyong Liu,\* Jin Zhao\* and Xubo Yuan\*



3793

### Immobilization of iridium nanoparticles on an ITO substrate for selective transformation of glycerol to 1,3-dihydroxyacetone and process tracking

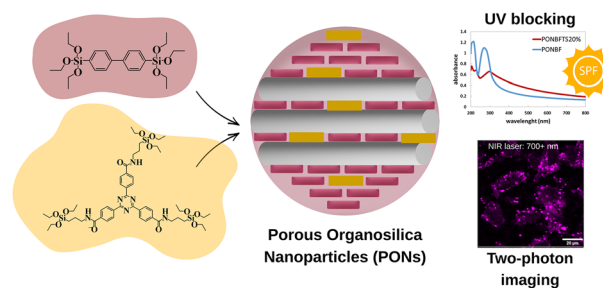
Lin Zhou, Zhanghong Guo, Haining Cui, Jinxin Ma, Chan Wang and Qijun Song\*



3803

### Porous organosilica nanoparticles enable UV blocking and two-photon fluorescence imaging

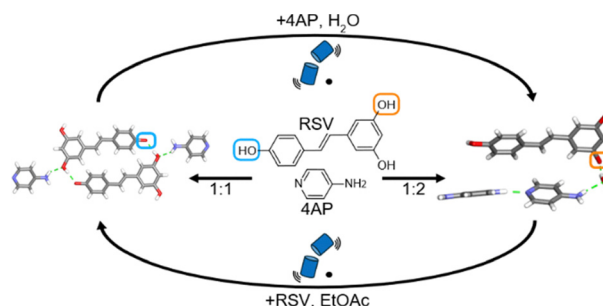
Aleksandra Pavlović, Irena Miler, Marta Bukumira, Marko Milojević, Branislav Jović, Mihailo D. Rabasović\* and Nikola Ž. Knežević\*



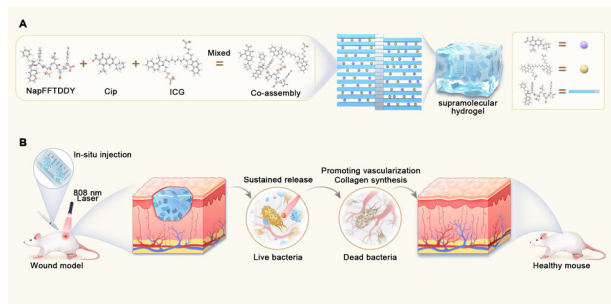
3814

### Control of site-specific deprotonation through mechanochemical interconversion of two ionic cocrystal forms of resveratrol

Bowyn D. Ziebarth, Liulei Ma, Gary C. George III and Kristin M. Hutchins\*



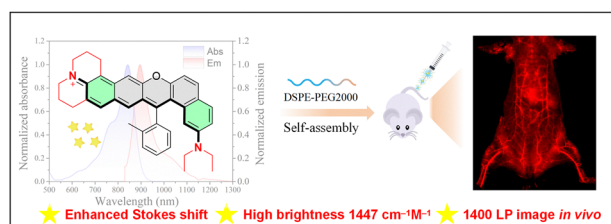
3826



### Supramolecular peptide hydrogel-mediated synergistic antibiotic–photothermal therapy for potent antibacterial applications

Chengfan Wu, Wenjie Liao, Hongquan Wang, Yujia Zhang, Yiqing Chen, Yue Li, Qiu Meng, Yunfeng Yan\* and Qing Zhu\*

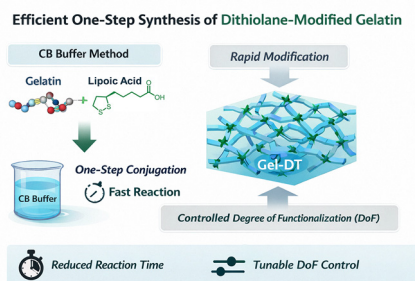
3840



### A molecular engineering platform for enhanced Stokes shift NIR-II fluorophores enabling high-fidelity 1400 nm *in vivo* imaging

Tong Xiangli, Yan Shang, Yongjie Chen, Qinghua Wu, Shenwei Chen,\* Hongbing Ji\* and Jin Li\*

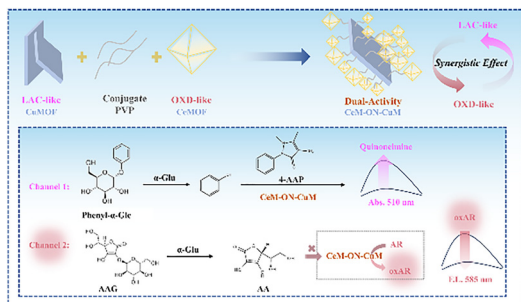
3848



### Scalable one-step synthesis of gelatin–dithiolane for neural tissue engineering

Muhammad Waqas Ishaq, Asma Talib Qureshi, Saad Asim, Akanksha Subbarao and Muhammad Rizwan\*

3860



### Hierarchical MOF-on-MOF-structured dual-functional nanozyme for enhanced catalysis and the dual-channel detection of $\alpha$ -glucosidase

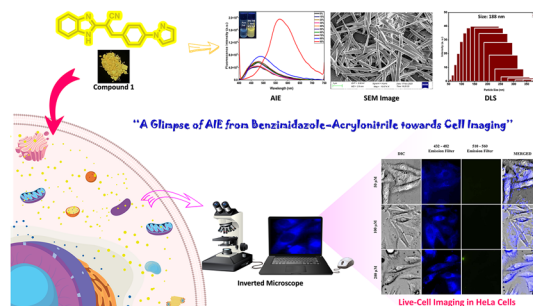
Qingjie Fu, Haosen Fan, Shuo Tian, Mengke Wang,\* Shun Wang\* and Kelong Fan\*



3869

## Unveiling aggregation-induced emission in benzimidazole–acrylonitriles for fluorescence live-cell imaging in HeLa cells

Munugala Chandrakanth, Ayswarya Mukharjee, Krishnan Rathinasamy, P. Chinna Ayya Swamy\* and Janardhan Banothu\*



3885

## A biofilm-penetrating nanozyme robot for drug-free inactivation of drug-resistant bacteria

Mansi G. Gaware, Saptami Goswami, Swati Sahai, Govind P. Chate, Tonmoy Banerjee, Swati Biswas,\* Ravindra D. Wavhale\* and Shashwat S. Banerjee\*

