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Journal of Materials Chemistry B

Materials for biology and medicine

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IN THIS ISSUE

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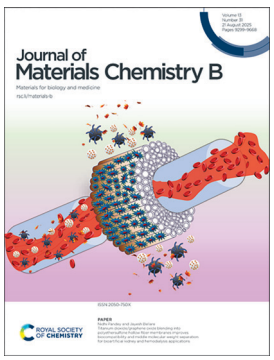

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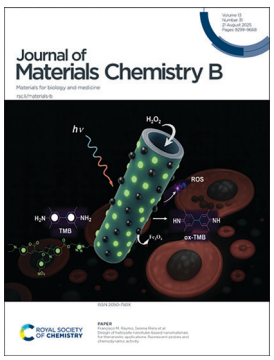
See Nidhi Pandey and Jayesh Bellare, pp. 9392–9406. Image reproduced by permission of Nidhi Pandey and Jayesh Bellare from *J. Mater. Chem. B*, 2025, **13**, 9392.



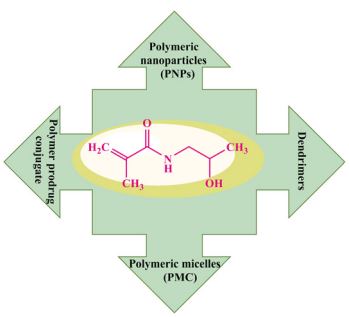
Inside cover
See Françisco M. Raymo, Serena Riela *et al.*, pp. 9407–9417. Image reproduced by permission of Serena Riela from *J. Mater. Chem. B*, 2025, **13**, 9407.

REVIEWS

9309

HPMA nanomedicine: targeting cancer with precision

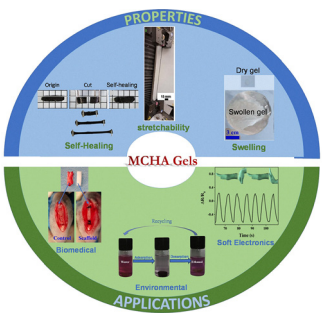
Sarita Rani, Vinay Kumar, Sofiya Tarannum and Umesh Gupta*



9329

A state-of-the-art review of multi-cross-linked hydrophobic associated hydrogels for soft electronic, biomedical, and environmental applications

Pooria Rahmani,* Akbar Shojaei,* Mohammadreza Sahabi, Mohammad Akbarizadeh, Mani Mahmoodi and Aref Zarghanishiraz



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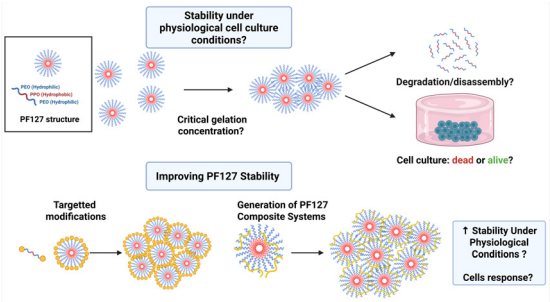
REVIEWS

9351

Thermoresponsive polymers for cell support: poloxamers as a case study of promise and challenge

Shane Clerkin, Krutika Singh, Danielle Winning, Ivan Krupa, John Crean, Dermot F. Brougham* and Jacek K. Wychowaniec*

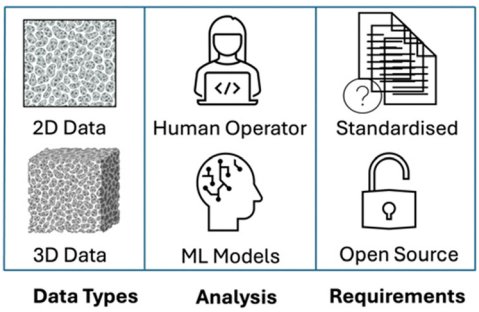


PERSPECTIVE

9377

Automated analysis of pore structures in biomaterials

Nicola Rossberg, Simon Corrie, Lisbeth Grøndahl and Imanda Jayawardena*

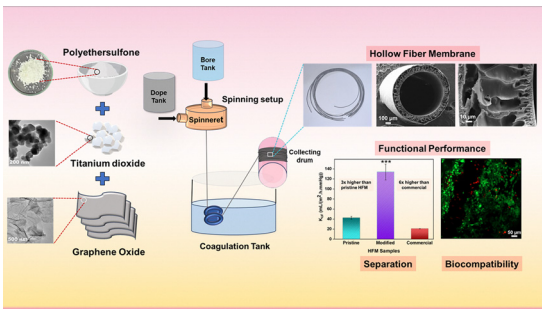


PAPERS

9392

Titanium dioxide/graphene oxide blending into polyethersulfone hollow fiber membranes improves biocompatibility and middle molecular weight separation for bioartificial kidney and hemodialysis applications

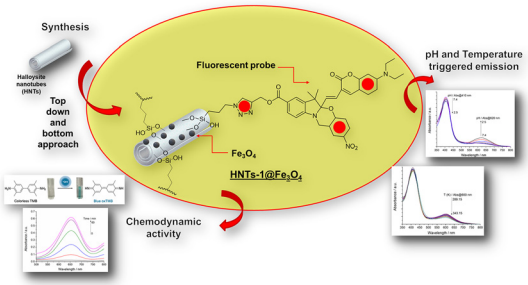
Nidhi Pandey and Jayesh Bellare*



9407

Design of halloysite nanotube-based nanomaterials for theranostic applications: fluorescent probes and chemodynamic activity

Marina Massaro, Federica Leone, Françisco M. Raymo,* Raquel de Melo Barbosa, Rita Sánchez-Espejo, César Viseras, Renato Noto and Serena Riela*



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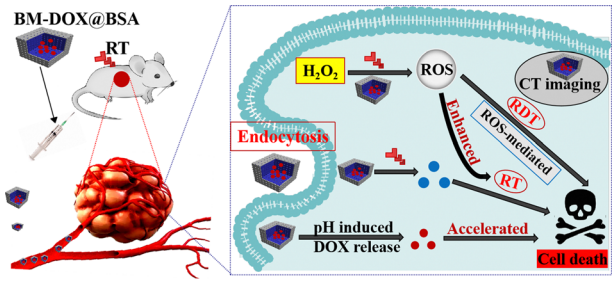
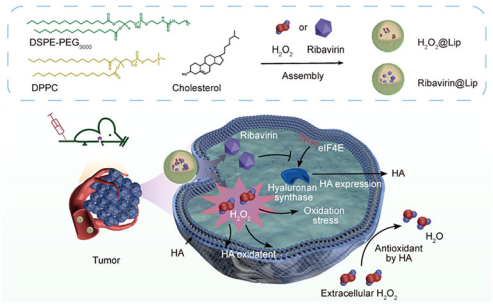


pH-Responsive bimetallic MOF nanoparticles enable triple-synergistic radiosensitization for enhanced radiotherapy

Qijun Du, Guohua Wu, Ao Xie, Di Wu, Wenqi Hu, Qinrui Lu, Jie Liu, Jiashu Wang, Youlong Yang, Bangchuan Hu,* Haijie Hu* and Shuqi Wang*

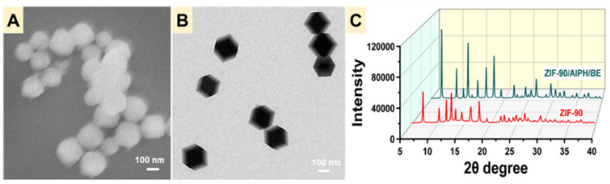
9430



Impairing antioxidant protection by diminishing hyaluronic acid using nanoliposomes for tumor therapy

Hegang Lu, Yunjian Yu, Shengke Zhao, Youtao Xin, Hongyu Liu, Qinghua Feng, Mahmoud Elsabahy and Hui Gao*

9442



Lung-targeted feedback regulation of the mitochondrial ATP synthesis pathway for orthotopic tumor suppression

Zhou Jiang, Songlan Pan, Jianhua Chen, Huihuang Yi, Yingfeng Li, Yi Qing, Erhu Xiong* and Zhen Zou*

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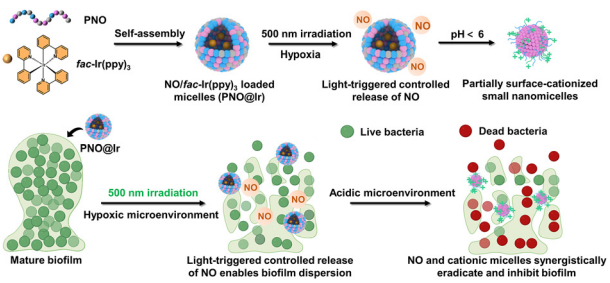

Light-mediated activation of nitric oxide and antibacterial polymers for anti-biofilm applications

Siyuan Luo, Zuotao Zhou, Yu Jin, Haochuan Ding, Faxing Jiang* and Zhiqiang Shen*

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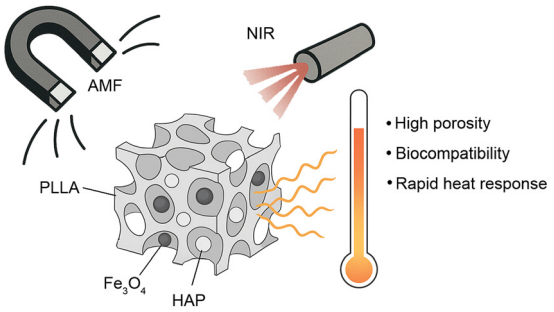
Triggered by light and magnetism: smart foam PLLA/HAP/Fe_3O_4 scaffolds for heat-controlled biomedical applications

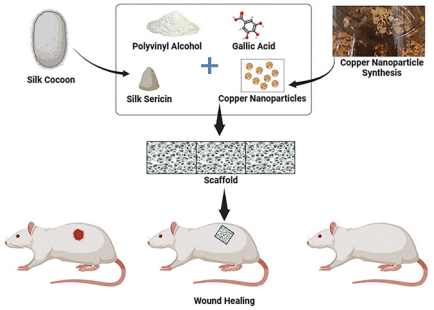
Emilia Zachanowicz,* Anna Tomaszewska, Magdalena Kulpa-Greszta, Piotr Krzemiński, Jean-Marie Nedelec, Dominika Zákutná, Štefan Hricov, Aleksandra Nurzyńska, Anna Belcarz-Romaniuk and Robert Pązik*



9486

SSP–CG scaffolds: a synergistic approach to enhance wound healing and tissue repair

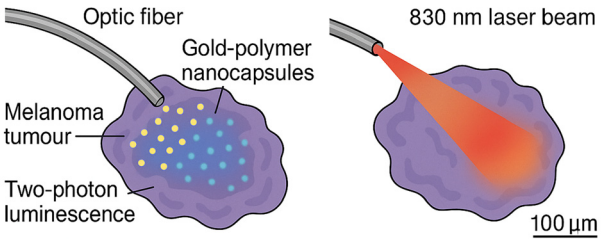
Tasaduq Manzoor, Lateef Ahmad Dar, Yaawar Bashir Mir, Showkat Ahmad Shah, Sheikh F. Ahmad, Meena Godha and Syed Mudasir Ahmad*



9498

Two photon-responsive gold nanocapsules enable targeted photothermal hyperthermia of chemoresistant melanoma: injection-route-dependent efficacy and renal evidence of fragment clearance

Paula Zamora-Pérez, Qiutian She, Harrisson D. Santos, Jose J. Conesa, M. Carmen Iglesias de la Cruz, Nuria Fernández, Daniel Jaque and Pilar Rivera-Gil*



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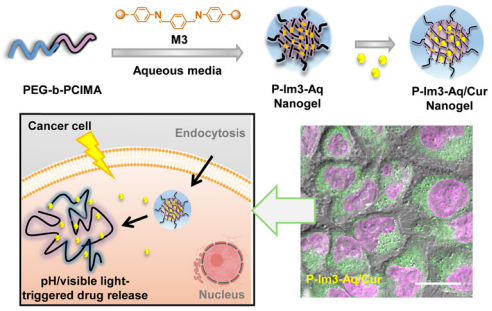
Development of dual acid–visible light-degradable core-crosslinked nanogels with extended conjugate aromatic imines for enhanced drug delivery

Kadambari Bairagi, Mehdi Shamekhi, Ioanna Tountas, Natasha Letourneau, Gilles H. Peslherbe, Alisa Piekny and Jung Kwon Oh*



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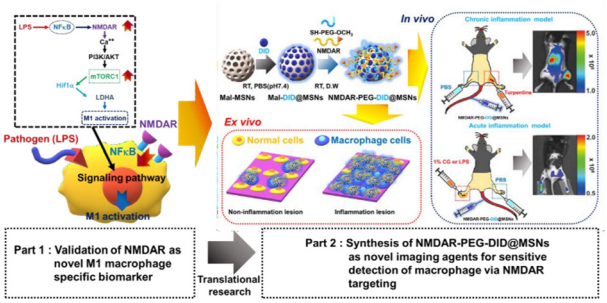

***N*-Methyl-D-aspartate receptors as novel M1 macrophage-specific biomedical imaging nanoplatform agents: feasibility of targeted imaging in an inflammatory mice model**

Sang Bong Lee, Hui-Jeon Jeon, Dinesh Kumar, Hoon Hyun* and Yong Hyun Jeon*

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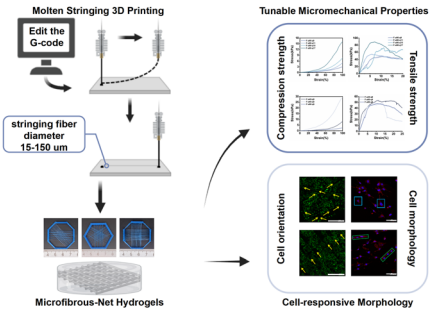

Molten stringing 3D printed microfibrous net-integrated mineralized hydrogels with tunable micromechanical and cell-responsive properties

Dongxuan Li, Fengxiong Luo, Yu Yang, Ziqi Zhao, Ruiqi Mao, Yawen Huang, Yafang Chen,* Kefeng Wang,* Yujiang Fan and Xingdong Zhang

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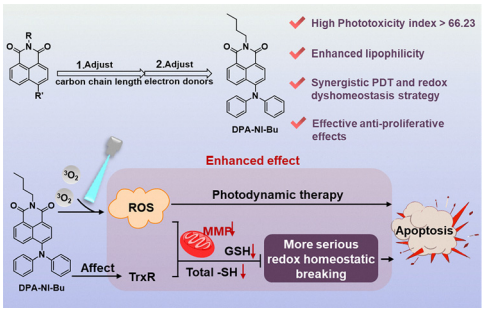

Boosting PDT with DPA-NI-Bu: high photocytotoxicity through redox homeostasis perturbation

Jingwen Tu, Zhiyuan Wang, Mengzhao Zhang, Suntao Shi, Miao Zhong, Zhengyu Ma, Haijuan Zhang, Jiang Wu, Zhongtian Bai and Baoxin Zhang*

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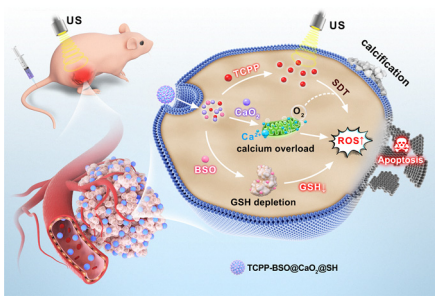

A versatile nanoplatform for enhanced sonodynamic therapy *via* hypoxia alleviation, glutathione depletion, and calcium overload

Min Zhang, Xuehui Wang, Chaocai Zhang, Dandan Sun, Zhuole Wu, Dayan Yang, Pingyang Zhang* and Xiangxiang Jing*

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PAPERS

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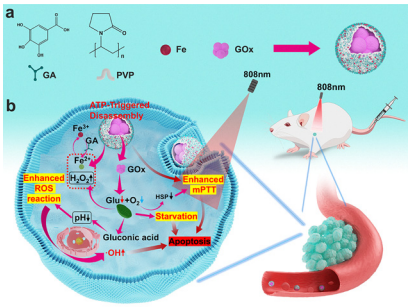
An ATP-activated self-cascade nanoplatform for ROS/mPTT/starvation tri-therapy through tumor microenvironment remodeling

Jing Yu,* Hao Gao, Huayu Zhang, Shenglei Che and Dan Su*



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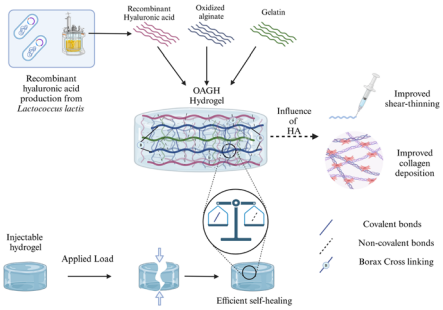
Recombinant hyaluronic acid-incorporated self-healing injectable hydrogels for cartilage tissue engineering: a case study on effects of molecular weight

Manoj Kumar Sundaram, Chelladurai Karthikeyan Balavigneswaran,* Iniyan Saravanakumar, Guhan Jayaraman and Vignesh Muthuvijayan*



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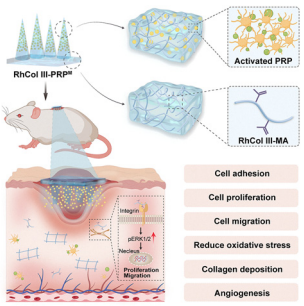
Recombinant human collagen microneedle patches loaded with PRP for diabetic wound treatment

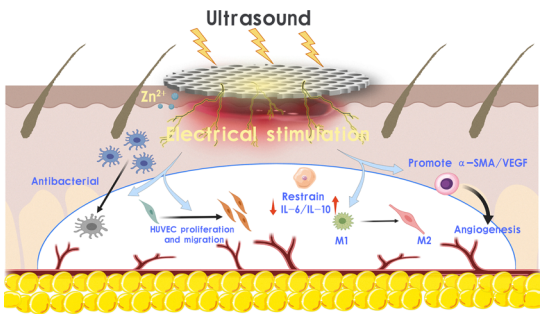
Xinyue Wang, Xinyue Zhang, Yihan Zhao, Xue Zhan, Chen Hu, Haihang Li, Xiaoju Fan, Jie Liang, Yafang Chen* and Yujiang Fan



9625

A multifunctional piezoelectric ZIF-8/PVDF fiber dressing for managing infected wound healing

Mengnan Chai, Shengqian Wang, Jiangshan Liu, Yufan Li, Yulun Liu, Yubao Li and Jidong Li*



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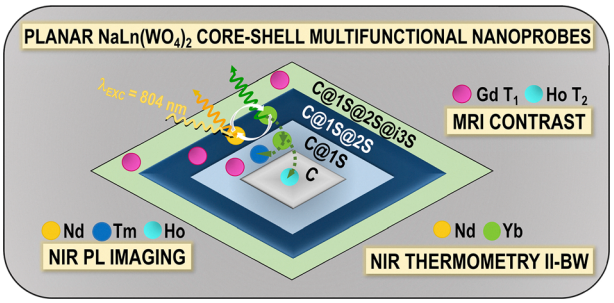

Biocompatible $NaLn(WO_4)_2$ core–shell nanoplatelets for multimodal MRI contrast, NIR imaging, and high sensitivity infrared luminescent ratiometric thermometry

Carlos Alarcón-Fernández, Carlos Zaldo, Manuel Bañobre-López, Juan Gallo, Pedro Ramos-Cabrer, Sandra Plaza-García, Gonzalo Villaverde, Alejandro Ruperti and Concepción Cascales*

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