

Biomaterials Science

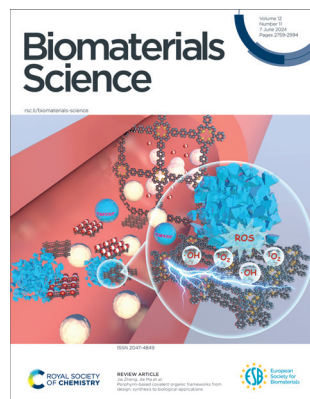
An international high impact journal exploring the underlying science behind the function, interactions and design of biomaterials

rsc.li/biomaterials-science

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 2047-4849 CODEN BSICCH 12(11) 2759–2994 (2024)



Cover

See Jie Zheng, Jie Ma *et al.*,
pp. 2766–2785.

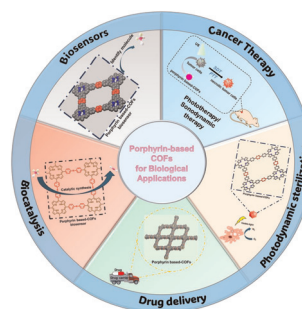
Image reproduced by
permission of Jie Zheng
from *Biomater. Sci.*,
2024, **12**, 2766.

REVIEWS

2766

Porphyrin-based covalent organic frameworks from design, synthesis to biological applications

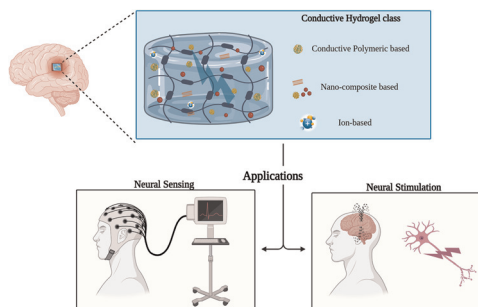
Xin-Gui Li, Junjian Li, JinFeng Chen, Liangmei Rao,
Libin Zheng, Fei Yu, Yijing Tang, Jie Zheng* and Jie Ma*



2786

Advances in conductive hydrogels for neural recording and stimulation

Hewan Dawit, Yuewu Zhao,* Jine Wang* and
Renjun Pei*



Environmental Science journals

One impactful portfolio for
every exceptional mind

Harnessing the power of interdisciplinary
science to preserve our environment

rsc.li/envsci

Fundamental questions
Elemental answers

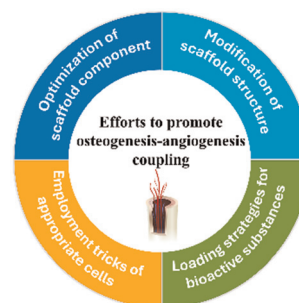


REVIEWS

2801

Efforts to promote osteogenesis–angiogenesis coupling for bone tissue engineering

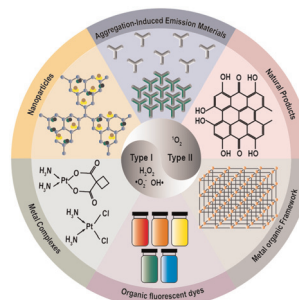
Zhiwei Xu, Bingbing Wang, Ruoyu Huang, Mengyao Guo, Di Han, Lan Yin, Xiaoyun Zhang, Yong Huang and Xiaoming Li*



2831

A type I and type II chemical biology toolbox to overcome the hypoxic tumour microenvironment for photodynamic therapy

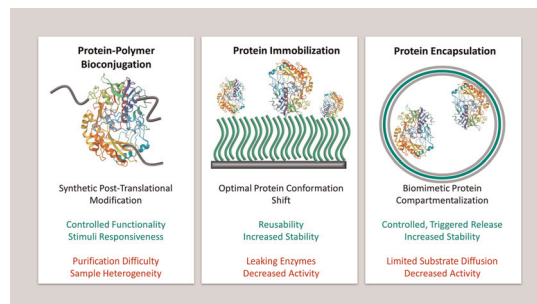
Minzi Ju, Lu Yang, Guowei Wang, Feng Zong, Yu Shen, Shuangshuang Wu,* Xuna Tang* and Decai Yu*



2841

Protein–polymer bioconjugation, immobilization, and encapsulation: a comparative review towards applicability, functionality, activity, and stability

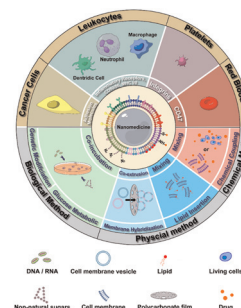
Berke Çalbaş, Ashley N. Keobounnam, Christopher Korban, Ainsley Jade Doratan, Tiffany Jean, Aryan Yashvardhan Sharma and Thaiesha A. Wright*



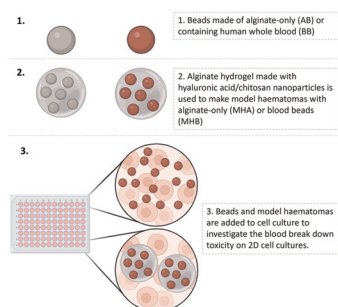
2865

Cell-membrane engineering strategies for clinic-guided design of nanomedicine

Di Huang, Xiaoyu Wang, Wentao Wang, Jiachen Li, Xiaomei Zhang and Bing Xia*



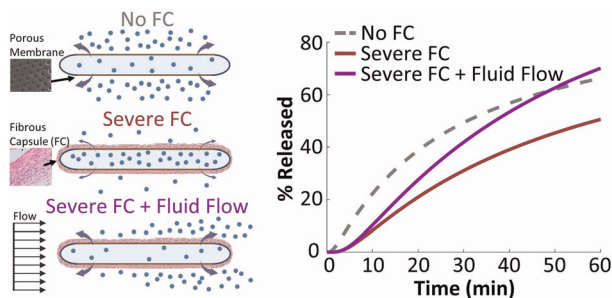
2885



Developing an *in vitro* model of haematoma for study of intracerebral haemorrhage

Siobhan Crilly,* Victor Sebastian Tapia, Carlo Bawn and Annalisa Tirella

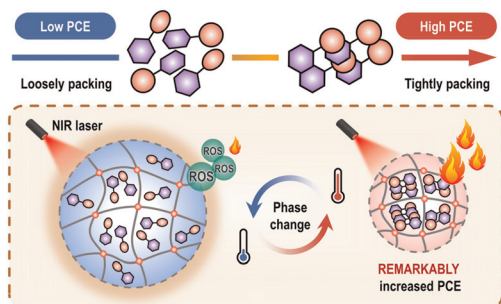
2899



Exploring therapy transport from implantable medical devices using experimentally informed computational methods

Lesley Trask, Niamh A. Ward, Ruth Tarpey, Rachel Beatty, Eimear Wallace, Joanne O'Dwyer, William Ronan, Garry P. Duffy and Eimear B. Dolan*

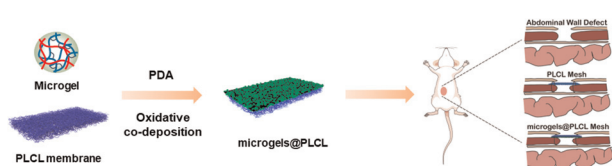
2914



A universal strategy to enhance photothermal conversion efficiency by regulating the molecular aggregation states for safe photothermal therapy of bacterial infections

Hao Fu, Yongxin Zhang, Cheng Wang, Zhencheng Sun, Shuyi Lv, Minghui Xiao, Kaiyu Wu, Linqi Shi and Chunlei Zhu*

2930



Bioactive microgel-coated electrospun membrane with cell-instructive interfaces and topology for abdominal wall defect repair

Renquan Xing, Rui Gao, Yini Huangfu, Yufeng Zhang, Shuangyang Li, Chuangnian Zhang,* Pingsheng Huang, Weiwei Wang, Anjie Dong* and Zujian Feng*

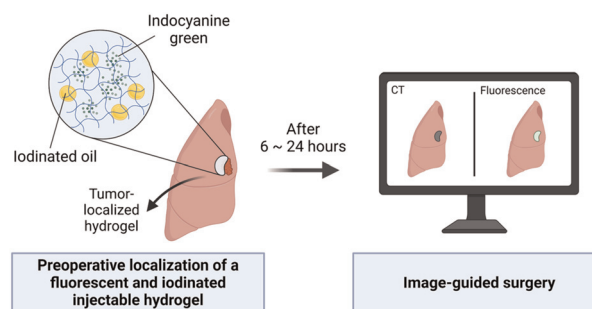


PAPERS

2943

An injectable fluorescent and iodinated hydrogel for preoperative localization and dual image-guided surgery of pulmonary nodules

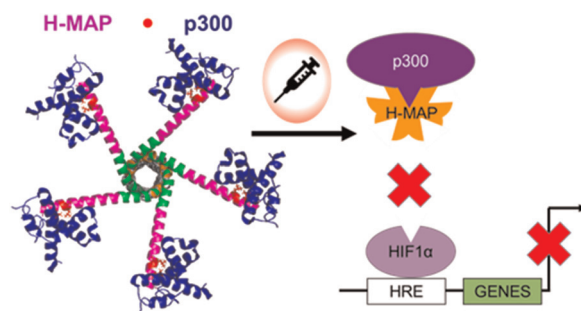
Woojin Back, Jiyun Rho, Kyungsu Kim, Hwan Seok Yong, Ok Hwa Jeon, Byeong Hyeon Choi, Hyun Koo Kim* and Ji-Ho Park*



2951

Engineered coiled-coil HIF1 α protein domain mimic

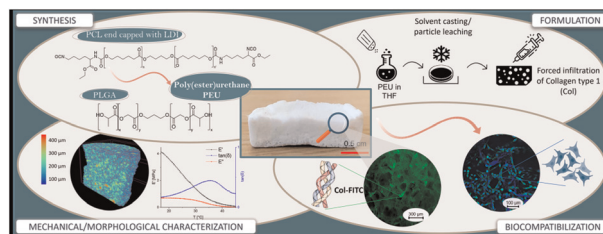
Dustin Britton, Olga Katsara, Orin Mishkit, Andrew Wang, Neelam Pandya, Chengliang Liu, Heather Mao, Jakub Legocki, Sihan Jia, Yingxin Xiao, Orlando Aristizabal, Deven Paul, Yan Deng, Robert Schneider, Youssef Z. Wadghiri and Jin Kim Montclare*



2960

Collagen/polyester-polyurethane porous scaffolds for use in meniscal repair

Gaëlle Savin, Sylvain Caillol, Audrey Bethry, Eric Rondet, Michel Assor, Ghislain David and Benjamin Nottelet*



2978

Lipid sulfoxide polymers as potential inhalable drug delivery platforms with differential albumin binding affinity

Gayathri R. Ediriweera, Neville J. Butcher, Ashok Kothapalli, Jiacheng Zhao, Joanne T. Blanchfield, Christopher N. Subasic, James L. Grace, Changkui Fu, Xiao Tan, John F. Quinn, David B. Ascher, Michael R. Whittaker, Andrew K. Whittaker* and Lisa M. Kaminskas*

