

# Biomaterials Science

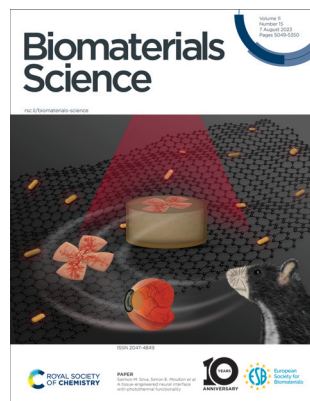
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### Cover

See Saimon M. Silva,  
Simon E. Moulton *et al.*,  
pp. 5146–5162.

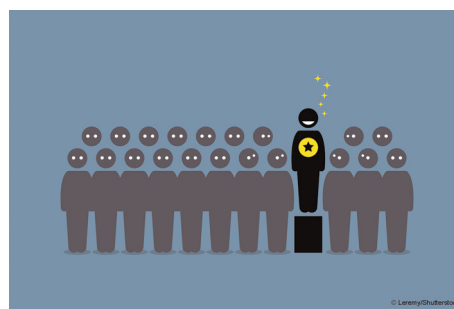
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## EDITORIAL

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### Outstanding Reviewers for *Biomaterials Science* in 2022

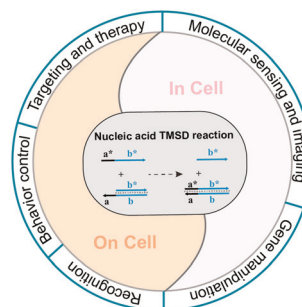


## REVIEWS

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### Principles of nucleic acid toehold mediated strand displacement (TMSD) reaction model and its applications in cell environment

Linlin Tang, Tao Luo, Sisi Fan, Yan Liu and Jie Song\*



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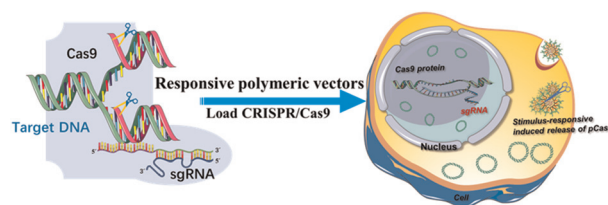


## REVIEWS

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### Recent advances in stimuli-responsive polymeric carriers for controllable CRISPR/Cas9 gene editing system delivery

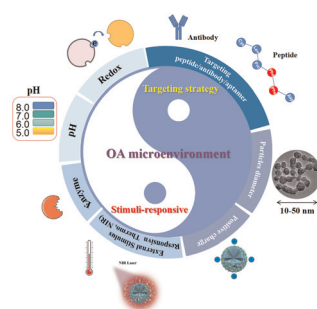
Panqin Ma, Qi Wang, Xi Luo, Liuzhou Mao, Zhanxiang Wang,\* Enyi Ye, Xian Jun Loh, Zibiao Li\* and Yun-Long Wu\*



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### Bio-responsive and multi-modality imaging nanomedicine for osteoarthritis theranostics

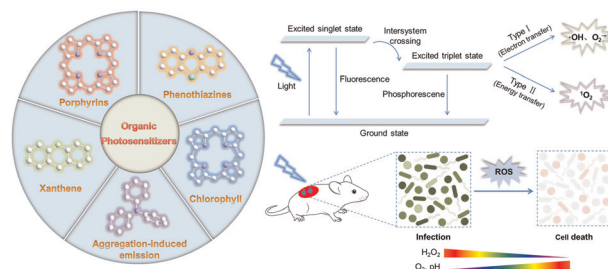
Song Xue, Guangfeng Ruan, Jia Li, Henning Madry, Chao Zhang\* and Changhai Ding\*



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### Development of organic photosensitizers for antimicrobial photodynamic therapy

Wenya Zhou, Xiqun Jiang and Xu Zhen\*

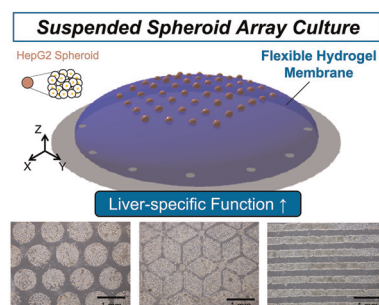


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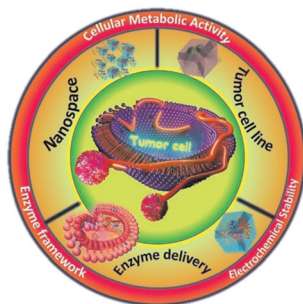
### Construction of a spheroid array culture system on a suspended permeable hydrogel membrane scaffold for improving the expression of a liver-specific drug-metabolizing enzyme of HepG2 cells

Atsushi Tsuyukubo, Kana Morishita, Toshiyuki Kanamori and Kimio Sumaru\*



## COMMUNICATIONS

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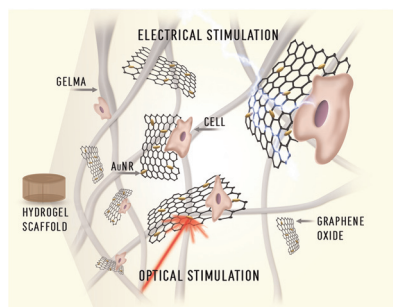


### Cellular metabolic activity and electrochemical stability assay of embedded oxidoreductase enzyme confined in the nanospace of a framework exoskeleton

Tapan Dey, Netra Hiremath, Vishav Kant, Rakesh K. Sharma,\* Raviraj Vankayala\* and Saikat Dutta\*

## PAPERS

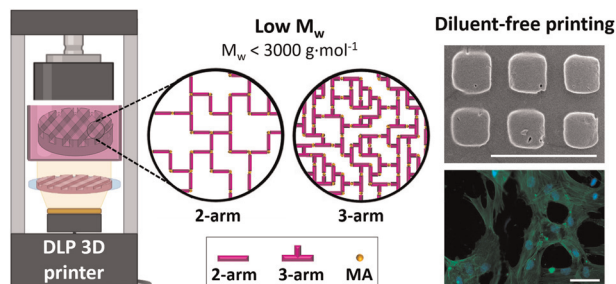
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### A tissue-engineered neural interface with photothermal functionality

Adriana Teixeira do Nascimento, Alexandre Xavier Mendes, James M. Begeng, Serena Duchi, Paul R. Stoddart, Anita F. Quigley, Robert M. I. Kapsa, Michael R. Ibbotson, Saimon M. Silva\* and Simon E. Moulton\*

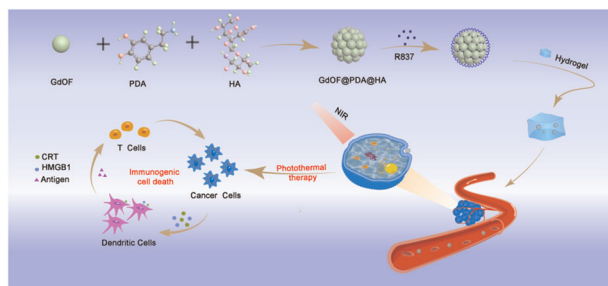
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### Low molecular weight poly((D,L)-lactide-co-caprolactone) liquid inks for diluent-free DLP printing of cell culture platforms

Sandra Ramos-Díez,\* Garazi Larrañaga-Jaurrieta,\* Leire Iturriaga, Ander Abarrategi and Sandra Camarero-Espinosa

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### NIR-II imaging-guided photothermal cancer therapy combined with enhanced immunogenic death

Yukun Wang, Wenjing Li, Bi Lin, Ying Yuan, Pengbo Ning,\* Xiaofeng Tao\* and Ruichan Lv\*



Xuan Fu, Xu Zhao, Li-Jian Chen, Piming Ma, Tianxi Liu  
and Xiu-Ping Yan\*

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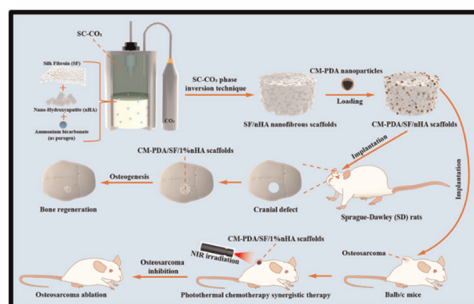
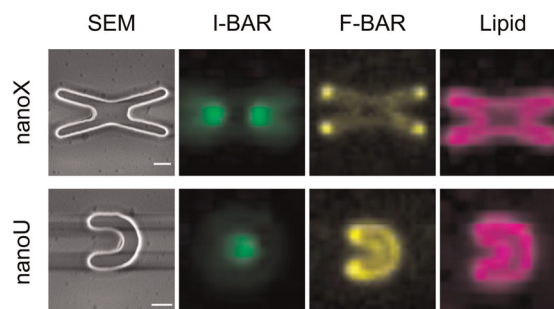
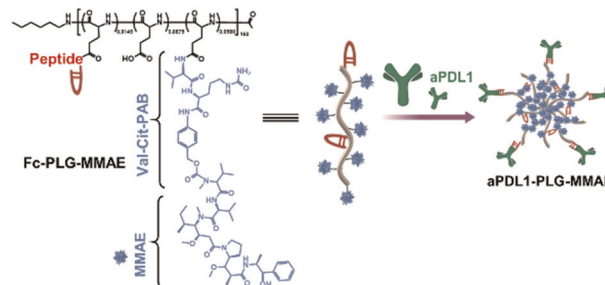
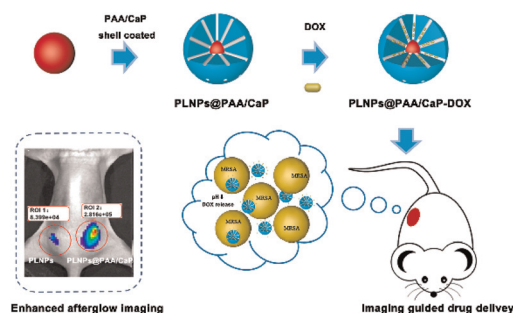
Zhenqian Zhang, Honglei Zhang, Linjie Cui,  
Xiaoshuang Wang, Di Wang, Zhilin Liu,\* Xuefei Zhang\*  
and Zhaohui Tang\*

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Chih-Hao Lu, Ching-Ting Tsai, Taylor Jones IV,  
Vincent Chim, Lasse H. Klausen, Wei Zhang, Xiao Li,  
Zeinab Jahed\* and Bianxiao Cui\*

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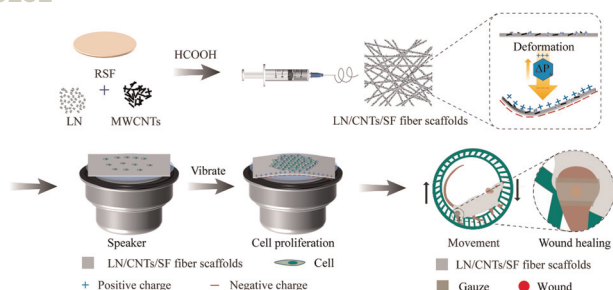
Ruijia Han, Yajun Min, Guanlin Li, Shilu Chen,  
Maobin Xie and Zheng Zhao\*





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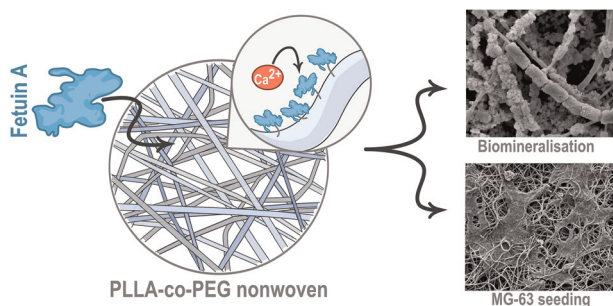
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### Silk fibroin-based piezoelectric nanofibrous scaffolds for rapid wound healing

Xiaoyang Yue, Zengkai Wang, Hui Shi, Rongrong Wu, Yonghai Feng, Liang Yuan, Shuai Hou, Xiaolu Song and Lei Liu\*

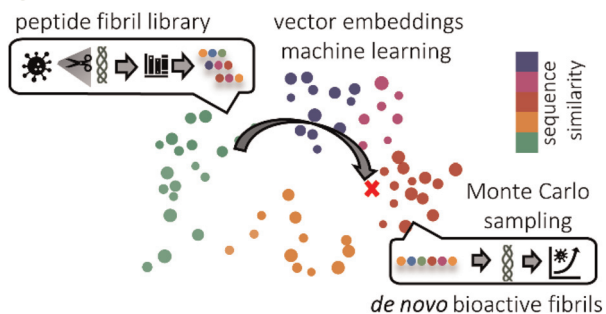
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### Fetuin A functionalisation of biodegradable PLLA-co-PEG nonwovens towards enhanced biomineralisation and osteoblastic growth behaviour

Stefan Oschatz,\* Michael Teske, Ulrike Burmeister, Sabine Illner, Volkmar Senz, Hermann Lang, Niels Grabow and Jana Markhoff

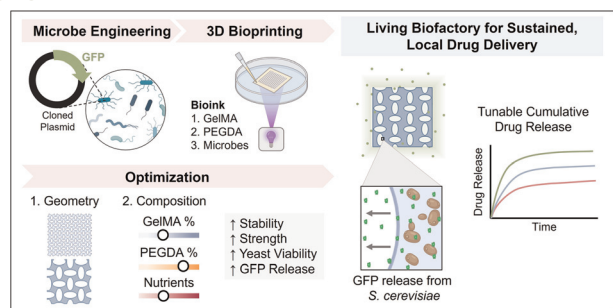
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### Inverse design of viral infectivity-enhancing peptide fibrils from continuous protein-vector embeddings

Kübra Kaygisiz, Arghya Dutta, Lena Rauch-Wirth, Christopher V. Synatschke, Jan Münch, Tristan Bureau\* and Tanja Weil\*

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### Microbe-loaded bioink designed to support therapeutic yeast growth

Emma L. Etter, Mairead K. Heavey, Matthew Errington and Juliane Nguyen\*

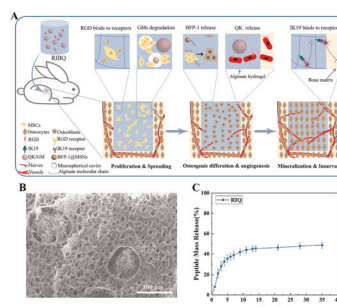


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## Functionalized hydrogel–microsphere composites stimulating neurite outgrowth for vascularized bone regeneration

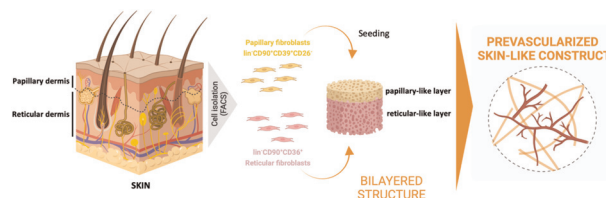
Qian Li, He Zhang, Ziqian Zeng, Shuang Yan, Yu Hei, Yifei Zhang, Yang Chen, Siqi Zhang, Wen Zhou, Shicheng Wei\* and Yuhua Sun\*



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## Pre-selection of fibroblast subsets prompts prevascularization of tissue engineered skin analogues

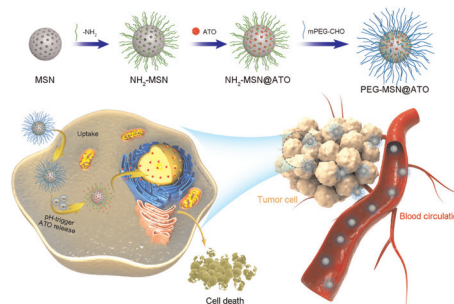
Helena R. Moreira, Mariana T. Cerqueira, Lucília P. da Silva, Joana Pires, Mariana Jarnalo, Ricardo Horta, Rui L. Reis and Alexandra P. Marques\*



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## PEG-grafted arsenic trioxide-loaded mesoporous silica nanoparticles endowed with pH-triggered delivery for liver cancer therapy

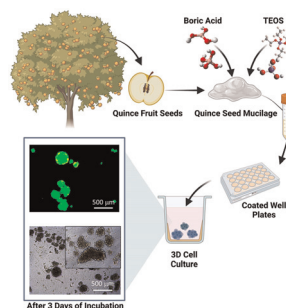
Liangdi Jiang, Xuerui Wang, Faisal Raza, Hongyu Zhong, Jing Su, Wei-En Yuan and Mingfeng Qiu\*



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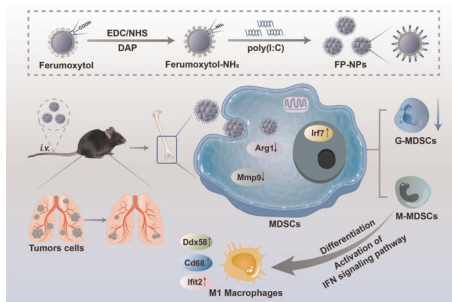
## Development of plant-based biopolymer coatings for 3D cell culture: boron–silica-enriched quince seed mucilage nanocomposites

Hilal Deniz Yilmaz, Ugur Cengiz, Burak Derkus and Yavuz Emre Arslan\*



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### Immunologically active ferumoxylol-poly(I : C) nanomaterials inhibit metastatic melanoma by regulating myeloid-derived suppressor cell differentiation

Gaochuan Fang, Zhonghai Zhang, Bo Jiang, Yunuo Zheng, Xufeng Xiao, Tianlong Wang, Zhengkui Zhang\* and Jiaojiao Zhao\*

## CORRECTION

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### Correction: Construction of perfluorohexane/IR780@liposome coating on Ti for rapid bacteria killing under permeable near infrared light

Xiuhua Wang, Lei Tan, Xiangmei Liu,\* Zhenduo Cui, Xianjin Yang, Kelvin W. K. Yeung, Paul K. Chu and Shuilin Wu\*

