

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.

ISSN 2047-4849 CODEN BSICCH 12(7) 1607-1934 (2024)

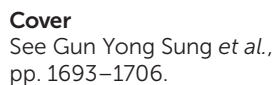
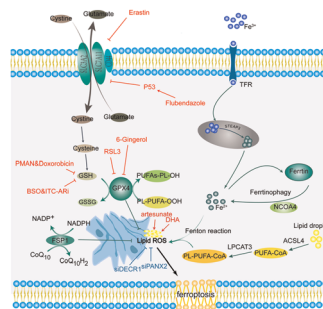


Image reproduced by permission of Gun Yong Sung from *Biomater. Sci.*, 2024, **12**, 1693.

1617

Ferroptosis and ferroptosis-inducing nanomedicine as a promising weapon in combination therapy of prostate cancer

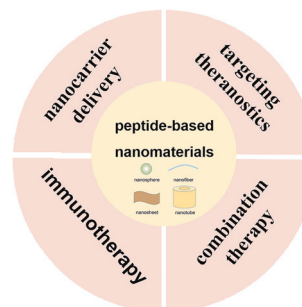
Mengjun Huang, Qiliang Teng, Fei Cao,
Jinsheng Huang* and Jun Pang*



1630

Applications of peptide-based nanomaterials in targeting cancer therapy

Beilei Sun, Limin Zhang, Mengzhen Li, Xin Wang and Weizhi Wang*



Environmental Science: Atmospheres

GOLD
OPEN
ACCESS

Connecting communities
and inspiring new ideas

rsc.li/submittoEA

Fundamental questions
Elemental answers

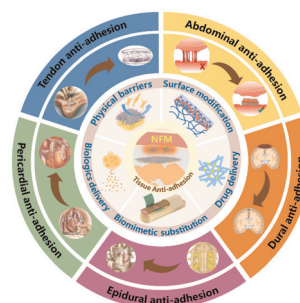


REVIEWS

1643

Advanced postoperative tissue antiadhesive membranes enabled with electrospun nanofibers

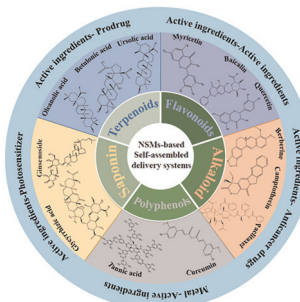
Yanting Zhu, Chenwei Zhang, Ying Liang, Jianyuan Shi, Qiuhao Yu, Shen Liu, Dengguang Yu and Hui Liu*



1662

Self-assembled nanodrug delivery systems for anti-cancer drugs from traditional Chinese medicine

Qiao Li, Yuan Lianghao, Gao Shijie, Wang Zhiyi, Tang Yuanting, Chen Cong,* Zhao Chun-Qin* and Fu Xianjun*

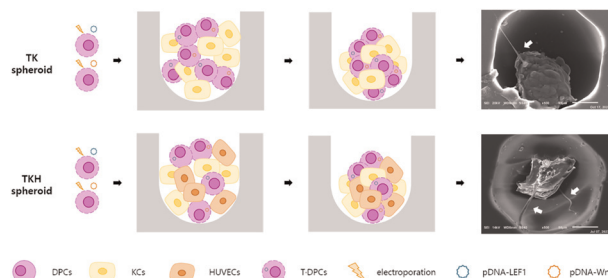


PAPERS

1693

Optimization of hair follicle spheroids for hair-on-a-chip

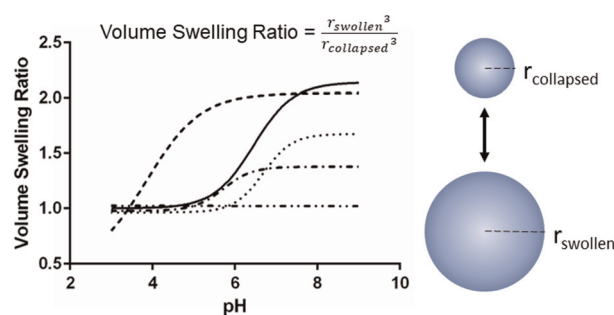
Subin Jeong, Hyeon-Min Nam and Gun Yong Sung*



1707

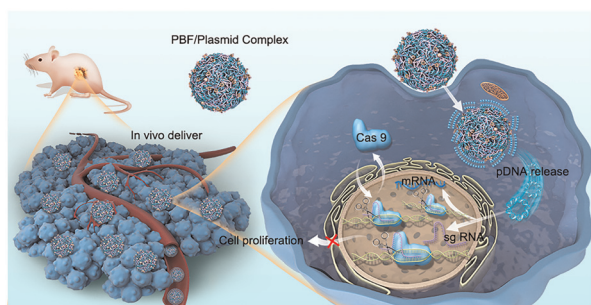
A highly tuneable inverse emulsion polymerization for the synthesis of stimuli-responsive nanoparticles for biomedical applications

Andrew C. Murphy, Heidi F. Oldenkamp and Nicholas A. Peppas*



PAPERS

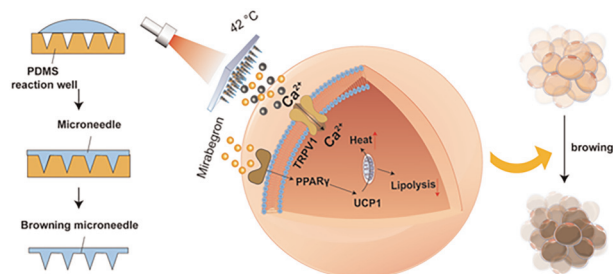
1716



Ultra-efficient delivery of CRISPR/Cas9 using ionic liquid conjugated polymers for genome editing-based tumor therapy

Zhongming Huang, Tongren Yang, Jie Yu, Yijian Gao, Yuhua Weng,* Yuanyu Huang and Shengliang Li*

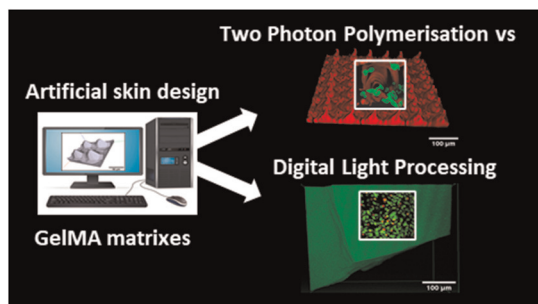
1726



A microneedle patch realizes weight loss through photothermal induction of fat browning

Zichun Gao, Yixuan Liu, Wenjiao Lin, He Lian* and Zhaoxu Meng*

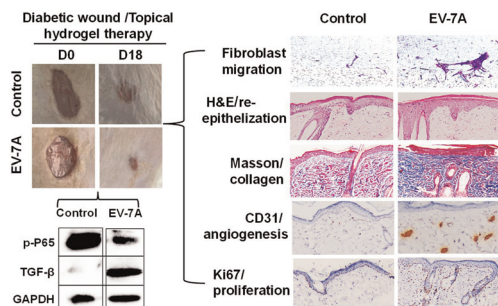
1738



Gelatine–collagen photo-crosslinkable 3D matrixes for skin regeneration

Gauthier Menassol, Boudewijn van der Sanden,* Laetitia Gredy, Capucine Arnol, Thibaut Divoux, Donald K. Martin and Olivier Stephan*

1750



Efficient healing of diabetic wounds by MSC-EV-7A composite hydrogel via suppression of inflammation and enhancement of angiogenesis

Xinyi Long, Qian Yuan, Rui Tian, Wanting Zhang, Lang Liu, Minghui Yang, Xin Yuan, Zhujie Deng, Qianjiang Li, Ronghui Sun, Yuyi Kang, Yingying Peng, Xiubin Kuang, Lingfang Zeng* and Zhengqiang Yuan*

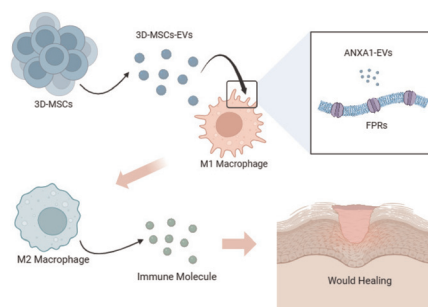


PAPERS

1761

Extracellular vesicles produced by 3D cultured MSCs promote wound healing by regulating macrophage activation through ANXA1

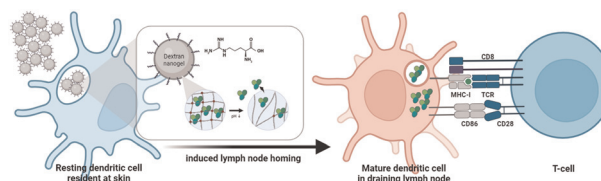
Hao Deng, Yuheng Jiang, Junhao Deng, Feifan Chang, Junyu Chen, Xinyu Sun, Dongliang Cheng, Zhongqi Wang, Ran Li, Jiang Liu, Yi Li,* Licheng Zhang* and Pengbin Yin*



1771

Self-adjuvanted L-arginine-modified dextran-based nanogels for sustained local antigenic protein delivery to antigen-presenting cells and enhanced cellular and humoral immune responses

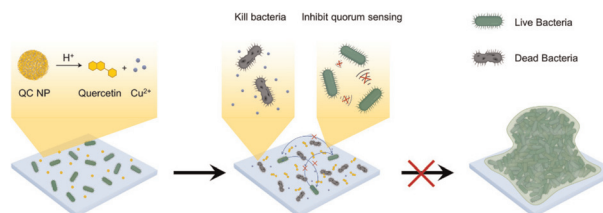
Jin Teng Chung, Mehrnoosh Rafiei and Ying Chau*



1788

Bi-functional quercetin/copper nanoparticles integrating bactericidal and anti-quorum sensing properties for preventing the formation of biofilms

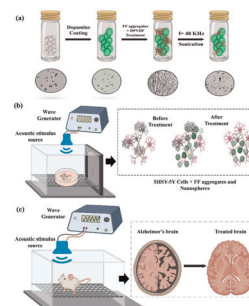
Jingjing Cheng, Haixin Zhang, Kunyan Lu, Yi Zou, Dongxu Jia, Hong Yang, Hong Chen, Yanxia Zhang* and Qian Yu*



1801

Futuristic Alzheimer's therapy: acoustic-stimulated piezoelectric nanospheres for amyloid reduction

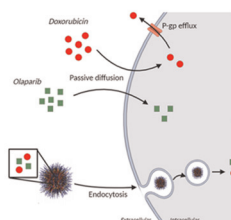
Manju Sharma, Samraggi Choudhury, Anand Babu, Varun Gupta, Dipanjan Sengupta, Syed Afroz Ali, Mrunali D. Dhokne, Ashok Kumar Datusalia, Dipankar Mandal* and Jiban Jyoti Panda*



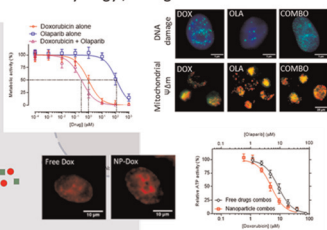
PAPERS

1822

1. Drug combination screening



2. Synergy / antagonism mechanism



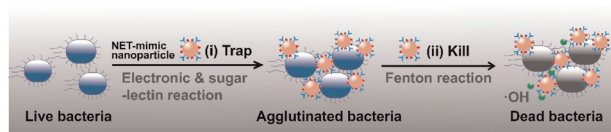
3. Fixing drug ratio with nanoparticles

4. Increased drug delivery and potency

Free drug and ROS-responsive nanoparticle delivery of synergistic doxorubicin and olaparib combinations to triple negative breast cancer models

Robert J. Cavanagh,* Patrícia F. Monteiro, Cara Moloney, Alessandra Travanut, Fatemeh Mehradnia, Vincenzo Taresco, Ruman Rahman, Stewart G. Martin, Anna M. Grabowska, Marianne B. Ashford and Cameron Alexander*

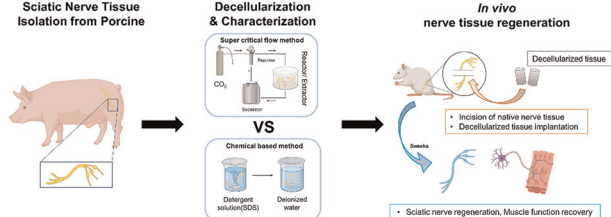
1841



Trap & kill: a neutrophil-extracellular-trap mimic nanoparticle for anti-bacterial therapy

Jingtao Zheng, Lei Rong, Yao Lu, Jing Chen, Kai Hua, Yongzhong Du, Qiang Zhang* and Weishuo Li*

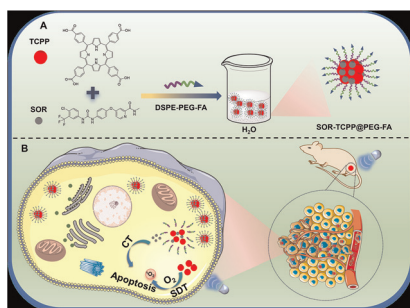
1847



Comparative analysis of supercritical fluid-based and chemical-based decellularization techniques for nerve tissue regeneration

Beom-Seok Kim, Jeong-Uk Kim, Jae Woo Lee, Kyung Min Ryu, Rachel H. Koh, Kyoung-Ha So* and Nathaniel S. Hwang*

1864



Sorafenib and tetrakis (4-carboxyphenyl) porphyrin assembled nanoparticles for synergistic targeted chemotherapy and sonodynamic therapy of hepatocellular carcinoma

Yongzhi Chen, Qiuxia Tan, Yuanyu Tang, E. Pang, Rui Peng, Minhuan Lan* and Dousheng Bai*

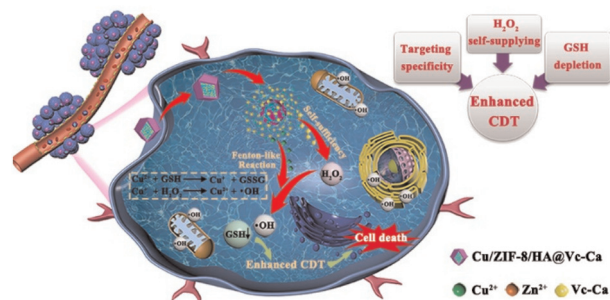


PAPERS

1871

Copper(II)-based metal–organic framework delivery of calcium ascorbate for enhanced chemodynamic therapy via H_2O_2 self-supply and glutathione depletion

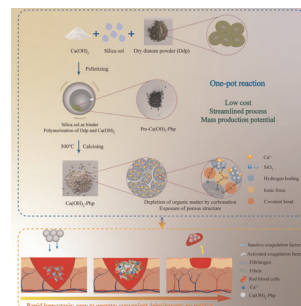
Meng Zhang, Hongjin Xue, Jiaxin Yang, Xin Zhao, Mei Xue, Wei Sun, Jianfeng Qiu* and Zhihong Zhu*



1883

One-pot reaction for the preparation of diatom hemostatic particles with effective hemostasis and economic benefits

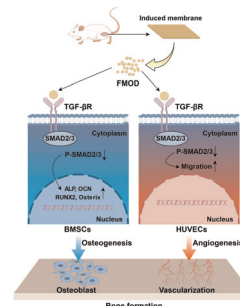
Yunji Sun, Chang Su, Jinfeng Liu, Zheng He, Shengting Che, Qinglan Wan, Jingyu Cai, Hao Zhan, Chao Feng, Xiaojie Cheng, Feng Lin, Junqiang Wei* and Xiguang Chen*



1898

Fibromodulin facilitates the osteogenic effect of Masquelet's induced membrane by inhibiting the TGF- β /SMAD signaling pathway

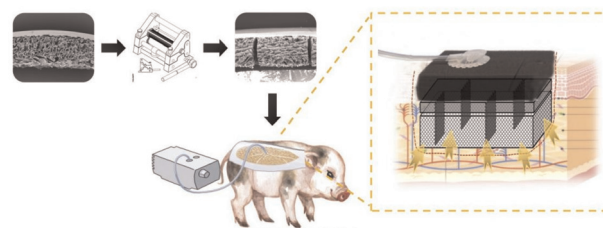
Kai Wang, Ming Zhou, Yuanshu Zhang, Yesheng Jin, Yuan Xue, Dong Mao* and Yongjun Rui*



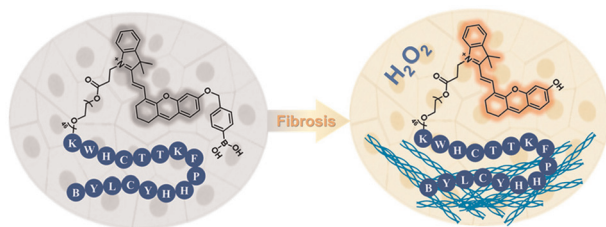
1914

Application of a meshed artificial dermal scaffold and negative-pressure wound therapy in the treatment of full-thickness skin defects: a prospective *in vivo* study

Pei Wei, Lijiao Wu, Hongteng Xie, Zhaohong Chen, Rongwei Tan and Zhaorong Xu*



1924



Dynamic monitoring of the fibrosis disease by a collagen targeting near infrared probe

Xiaoke Zhang, Qianwen Yang, Sensen Zhou, Cheng Li* and Xiqun Jiang*

