

# Biomaterials Science

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

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### Cover

See Srinivasa Reddy Bonam, Bidya Dhar Sahu, Rajendra Kurapati *et al.*, pp. 2164–2178.

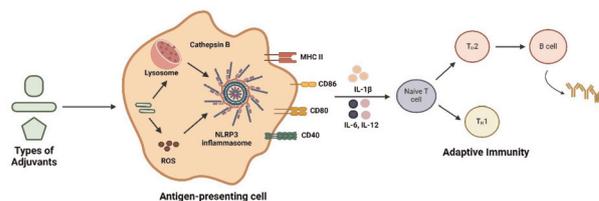
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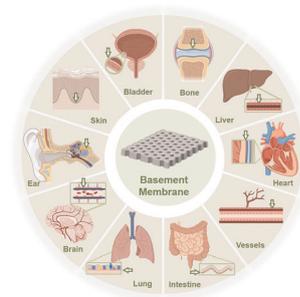
Momitul Ahmed, Pavithra Kurungottu, K. Swetha, Sandeep Atla, Nivethitha Ashok, Easa Nagamalleswari, Srinivasa Reddy Bonam,\* Bidya Dhar Sahu\* and Rajendra Kurapati\*



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### Biomimetic basement membranes: advances in materials, preparation techniques, and applications in *in vitro* biological models

Aoxiang Jin, Chunxiang Lu, Chuang Gao, Hao Qiao, Yi Zhang, Huazhen Liu, Wenbin Sun, Qiqi Dai and Yuanyuan Liu\*



# Environmental Science: Atmospheres

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Fundamental questions  
Elemental answers

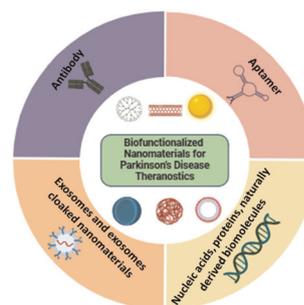


## REVIEWS

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**Biofunctionalized nanomaterials for Parkinson's disease theranostics: potential for efficient PD biomarker detection and effective therapy**

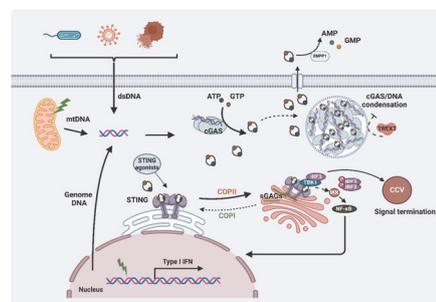
Saheli Sabnam, Raj Kumar\* and Pranav\*



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**Enhancing nano-immunotherapy of cancer through cGAS–STING pathway modulation**

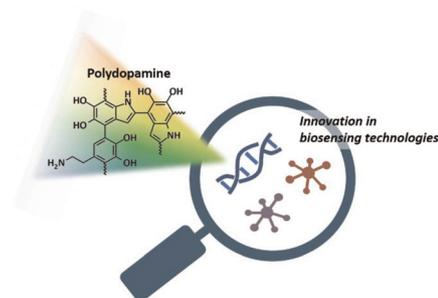
Gaohong Fu, Yanan Zhao, Chengqiong Mao\* and Yang Liu\*



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**Polydopamine as a versatile optical indicator for colorimetric and fluorescence-based biosensing**

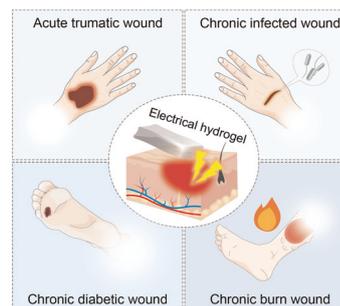
Jena Subhra Sulipta, Haejin Jeong and Seonki Hong\*



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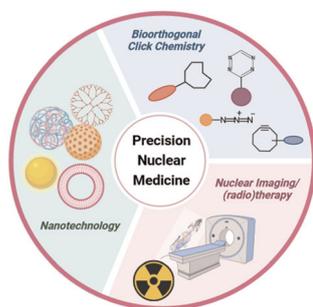
**Electrical hydrogel: electrophysiological-based strategy for wound healing**

Xingan Qiu, Feng Xiang, Hong Liu, Fangbiao Zhan, Xuezhe Liu, Pengzhen Bu, Bikun Zhou, Qiaoqian Duan, Ming Ji\* and Qian Feng\*



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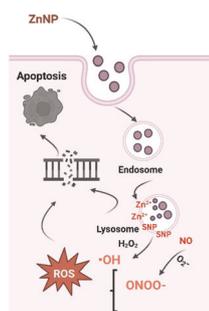


## Harnessing nanoparticles and bioorthogonal chemistries for improving precision of nuclear medicine

Gayathri R. Ediriweera, Mengdie Li, Nicholas L. Fletcher, Zachary H. Houston, Muneer Ahamed, Idriss Blakey and Kristofer J. Thurecht\*

## PAPERS

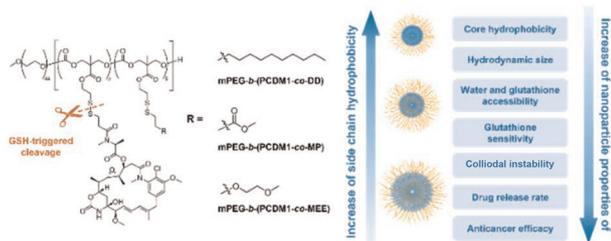
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## Self-targeted nanosystem for enhanced chemodynamic cancer therapy

Kanwal Asif, Md. Mahbubur Rahman, Vincenzo Canzonieri, Isabella Caligiuri, Flavio Rizzolio\* and Muhammad Adeel\*

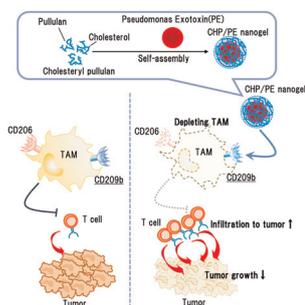
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## Controlling stimulus sensitivity by tailoring nanoparticle core hydrophobicity

Xiao Zhang, Bowen Zhao, Shiwei Fu, Ronald S. Seruya, Hannah E. Fanos, Ashley A. Petrisor, Yilin Liu, Zixin Yang and Fuwu Zhang\*

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## Antitumor immune response elicited by M2 TAM-specific DDS via C-type lectin CD209b using cholesteryl pullulan nanogel as a protein drug carrier

Takaaki Nakatsukasa, Daisuke Muraoka,\* Situo Deng, Kiyoshi Yasui, Shin-ichi Sawada, Asako Shimoda, Hirokazu Matsushita, Keitaro Matsumoto, Takeshi Nagayasu, Naozumi Harada, Kazunari Akiyoshi and Hiroaki Ikeda\*

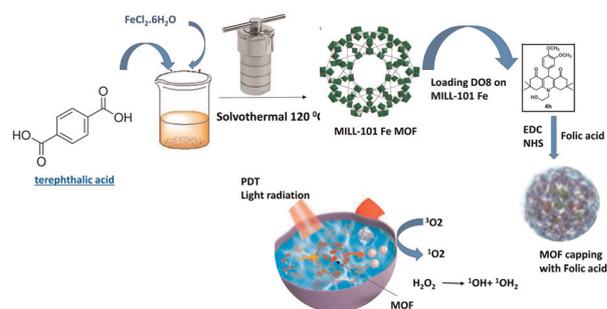


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### Metal–organic framework MIL-101(Fe) functionalized with folic acid as a multifunctional nanocarrier for targeted chemotherapy–photodynamic therapy

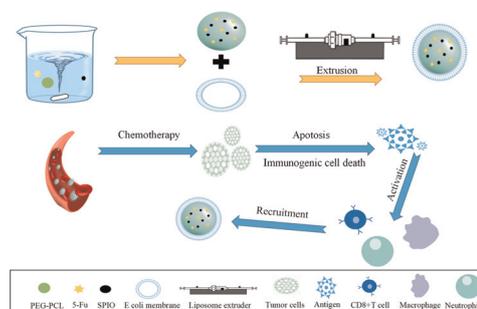
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### Localized and sustained delivery of indomethacin using poly(lactic-co-glycolic acid)-based microspheres to prevent traumatic heterotopic ossification

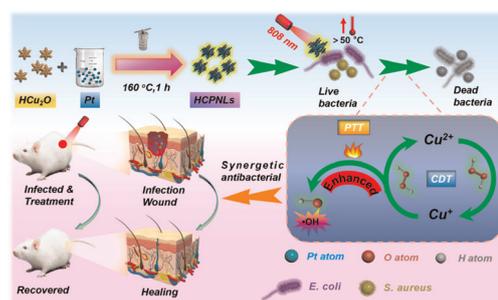
Junmin Shen, Ti Zhang, Junyu Chen, Feifan Chang, Liming Yang, Zhikang Guo, Ruijing Chen, Penghao Liu,\* Ni Jiang\* and Yajun Xie\*



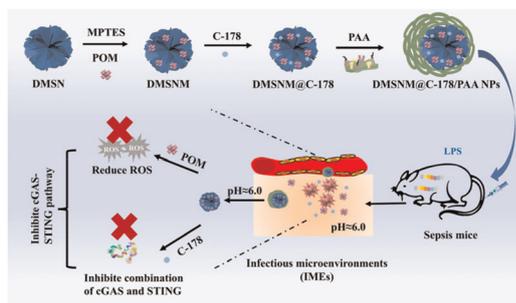
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### Snowflake-like Cu<sub>2</sub>O–Pt nanocluster-mediated Fenton photothermal and chemodynamic therapy for antibiotic wound healing

En Li, Qi Han, Ting Chen, Si Cheng and Jinghua Li\*



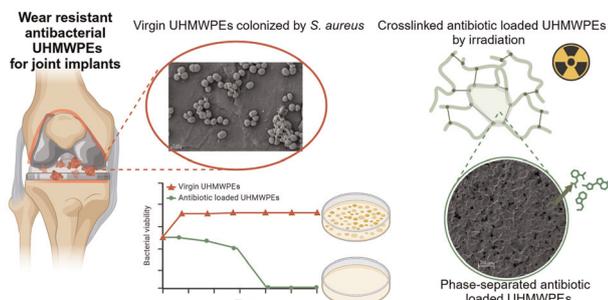
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Xinyu Wang, Qingbin He, Lining Wang, Chengzhilin Li, Wenyu Zhang, Zhonghou Rong,\* Qingqing Yin\* and Yingchun Zhao\*

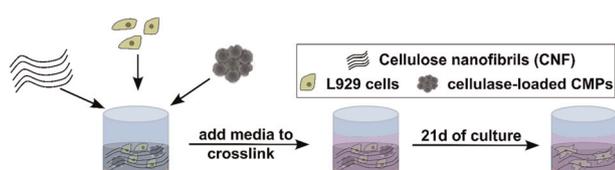
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### Wear-resistant antibacterial UHMWPE-based implant materials obtained by radiation crosslinking

Nicoletta Inverardi, Maria F. Serafim, Amita Sekar, Keita Fujino, Matheus Ferreira, Anthony Marzouca, Emma Nagler, Orhun K. Muratoglu and Ebru Oral\*

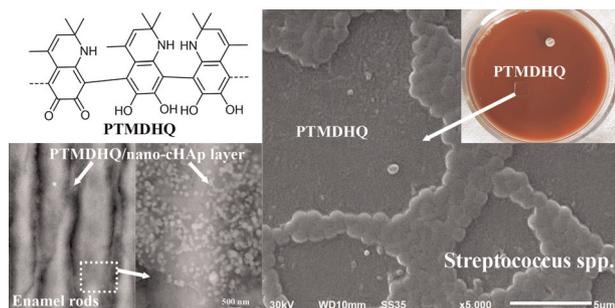
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### Casein microparticles filled with cellulose to enzymatically degrade nanocellulose for cell growth

Céline Bastard, Jann Carl-Theodor Schulte, Md Asaduzzaman, Calvin Hohn, Yonca Kittel, Laura De Laporte\* and Ronald Gebhardt\*

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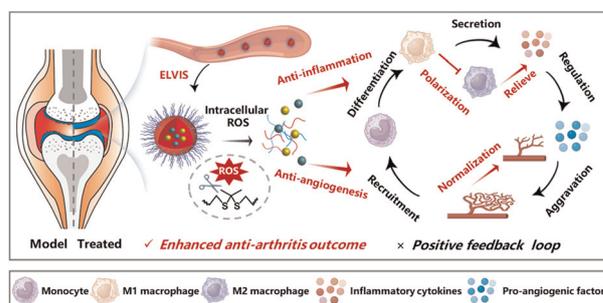


## PAPERS

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### Natural product-integrated microneedle patch for rheumatoid arthritis treatment through anti-inflammation and angiogenesis suppression

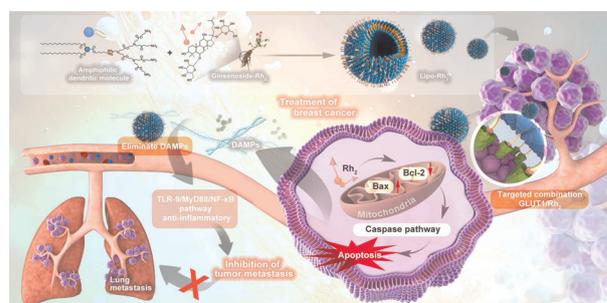
Peng Hua, Suleixin Yang, Lin Yu, Yongzhuo Huang and Meiwan Chen\*



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### Multifunctional biomimetic liposomal nucleic acid scavengers inhibit the growth and metastasis of breast cancer

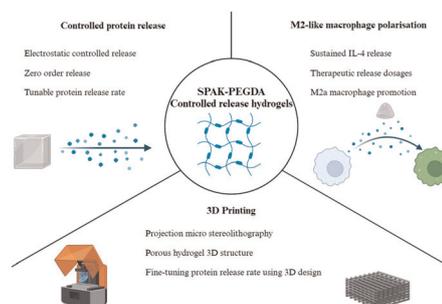
Yuhang Miao, Kaizhen Wang, Xin Liu, Xin Wang, Yanwei Hu, Zhenwei Yuan\* and Dawei Deng\*



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### Long-term interleukin-4 release from 3D printable affinity hydrogels promotes M2-like macrophage polarisation *in vitro*

George A. Loxley, Consuelo Coser, Amir M. Ghaemmaghami\* and Jing Yang\*



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### OligoA-tailed DNA for dense functionalization of gold nanoparticles and nanorods in minutes without thiol-modification: unlocking cross-disciplinary applications

Feng Liu and Guoqing Wang\*

