

# 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 Sheng Yan, Yong He et al., pp. 1950–1964.

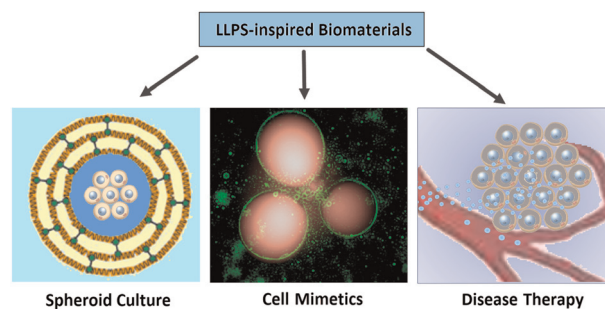
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## MINIREVIEW

1943

### Liquid–liquid phase separation-inspired design of biomaterials

Yang Song

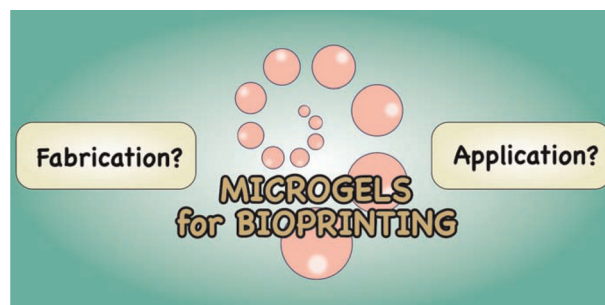


## REVIEWS

1950

### Microgels for bioprinting: recent advancements and challenges

Mingjun Xie, Ji Wang, Sufan Wu, Sheng Yan\* and Yong He\*



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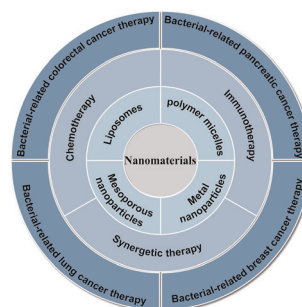
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## REVIEWS

1965

**Recent progress in nanomaterials for bacteria-related tumor therapy**

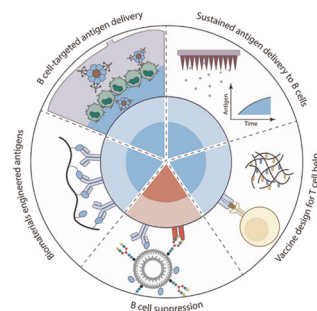
Fuping Zhang, Shuyu Wang,\* Shuo Yang, Feihe Ma\* and Hui Gao\*



1981

**Biomaterial engineering strategies for B cell immunity modulations**

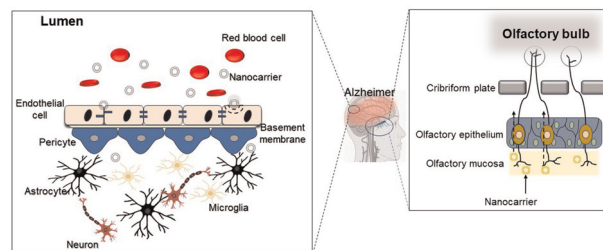
Ali Zareein, Mina Mahmoudi, Shruti Sunil Jadhav, Joel Wilmore and Yaoying Wu\*



2007

**Nanotechnology-based delivery of therapeutics through the intranasal pathway and the blood–brain barrier for Alzheimer’s disease treatment**

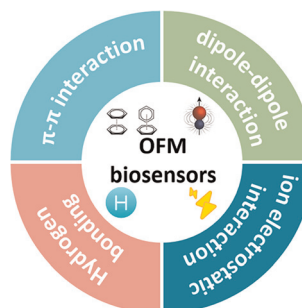
Mark-Jefferson Buer Boyetey, Yonghyun Choi, Hee-Young Lee\* and Jonghoon Choi\*



2019

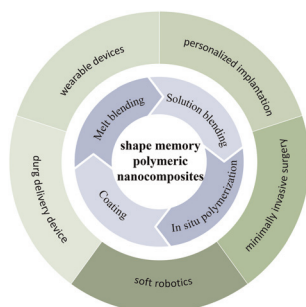
**Highly-ordered assembled organic fluorescent materials for high-resolution bio-sensing: a review**

Zheng Wang, Zilong Chen, Zhenhao Zhang, Hongzhen Wang and Haichang Zhang\*



## REVIEWS

2033

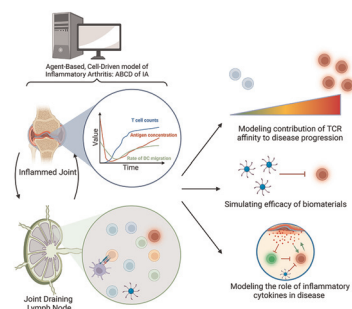


### Recent advances in shape memory polymeric nanocomposites for biomedical applications and beyond

Yifan Zheng, Yudi Du, Ling Chen, Wei Mao, Yuan Pu, Steven Wang\* and Dan Wang\*

## PAPERS

2041

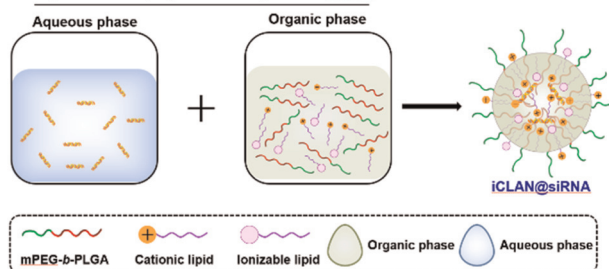


### ABCD of IA: A multi-scale agent-based model of T cell activation in inflammatory arthritis

David A. McBride,\* James S. Wang, Wade T. Johnson, Nunzio Bottini and Nisarg J. Shah\*

2057

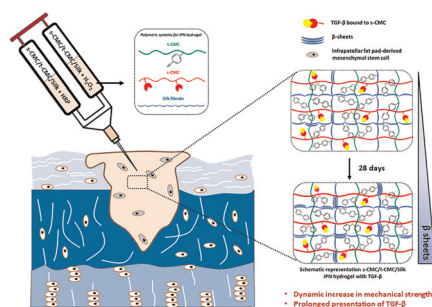
#### Lipid assisted polymeric nanoparticle: iCLAN



### Optimization of lipid assisted polymeric nanoparticles for siRNA delivery and cancer immunotherapy

Song Lin, Houjin Jing, Xiaojiao Du,\* Xianzhu Yang\* and Jun Wang

2067



### Engineering sulfated polysaccharides and silk fibroin based injectable IPN hydrogels with stiffening and growth factor presentation abilities for cartilage tissue engineering

Akansha Dixit, Aman Mahajan, Rakshita Saxena, Saptomee Chakraborty and Dharendra S. Katti\*

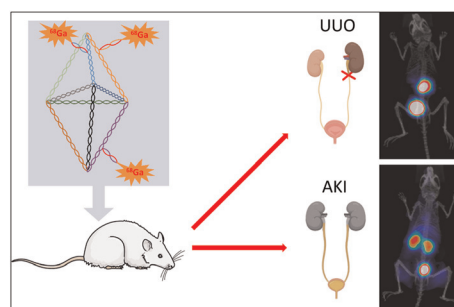


## PAPERS

2086

**PET image-guided kidney injury theranostics enabled by a bipyramidal DNA framework**

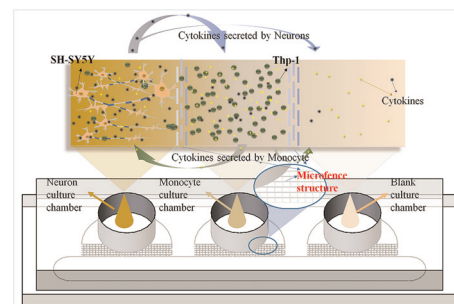
Pinghui Li, Zhidie Huang, Xiaoyan Duan, Tao Wang, Shaowen Yang, Dawei Jiang\* and Jianbo Li\*



2096

**Neuroinflammatory response on a newly combinatorial cell–cell interaction chip**

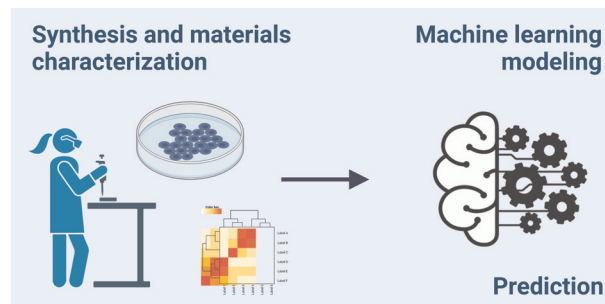
Yimeng Zhao, Xuefei Lv,\* Yu Chen, Chen Zhang, Di Zhou and Yulin Deng\*



2108

**Enhancing antioxidant properties of CeO<sub>2</sub> nanoparticles with Nd<sup>3+</sup> doping: structural, biological, and machine learning insights**

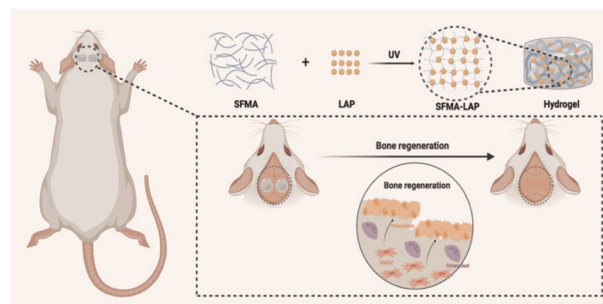
Oscar Ceballos-Sanchez, Diego E. Navarro-López, Jorge L. Mejía-Méndez,\* Gildardo Sanchez-Ante, Vicente Rodríguez-González, Angélica Lizeth Sánchez-López, Araceli Sanchez-Martinez,\* Sergio M. Duron-Torres, Karla Juarez-Moreno,\* Naveen Tiwari\* and Edgar R. López-Mena\*



2121

**A nanoparticle reinforced microporous methacrylated silk fibroin hydrogel to promote bone regeneration**

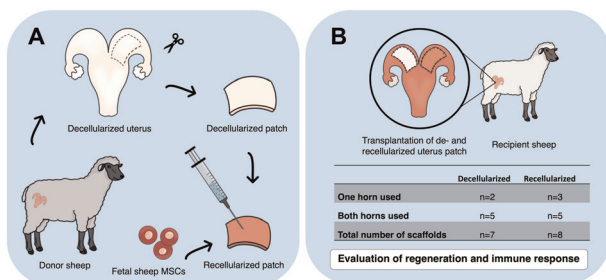
Ruideng Wang, Xi He, Zhengyang Chen, Shilong Su, Jinwu Bai, Haifeng Liu\* and Fang Zhou\*





## PAPERS

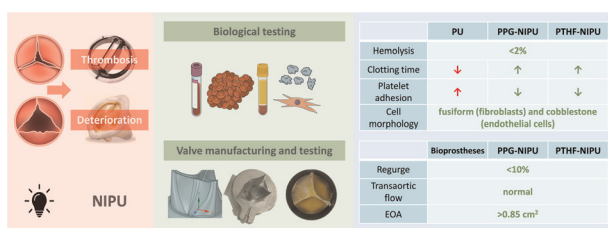
2136



### Transplantation of a bioengineered tissue patch promotes uterine repair in the sheep

Edina Sehic, Lucía de Miguel Gómez, Hardis Rabe, Emy Thorén, Ingigerdur Gudmundsdottir, Mihai Oltean, Randa Akouri, Mats Brännström and Mats Hellström\*

2149



### Design, manufacturing and testing of a green non-isocyanate polyurethane prosthetic heart valve

Sofia F. Melo, Alicia Nondonfaz, Abdelhafid Aqil, Anna Pierrard, Alexia Hulin, Céline Delierneux, Bartosz Ditkowski, Maxime Gustin, Maxime Legrand, Bibian M. E. Tullemans, Sanne L. N. Brouns, Alain Nchimi, Raoul Carrus, Astrid Dejosé, Johan W. M. Heemskerck, Marijke J. E. Kuijpers, Jan Ritter, Ulrich Steinseifer, Johanna C. Clauser, Christine Jérôme, Patrizio Lancellotti and Cécile Oury\*

## CORRECTION

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### Correction: A Y<sub>1</sub> receptor ligand synergized with a P-glycoprotein inhibitor improves the therapeutic efficacy of multidrug resistant breast cancer

Yinjie Wang, Zhenqi Jiang, Bo Yuan, Yuchen Tian, Lingchao Xiang, Yanying Li, Yong Yang, Juan Li\* and Aiguo Wu\*

## RETRACTION

2167

### Retraction: Strontium-doped gelatin scaffolds promote M2 macrophage switch and angiogenesis through modulating the polarization of neutrophils

Tao Li, Hongtao He, Zezheng Yang, Junjie Wang, Yuxin Zhang, Guangxu He, Jun Huang, Deye Song, Jiangdong Ni, Xiaojun Zhou,\* Junfeng Zhu\* and Muliang Ding\*

