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# Biomaterials Science

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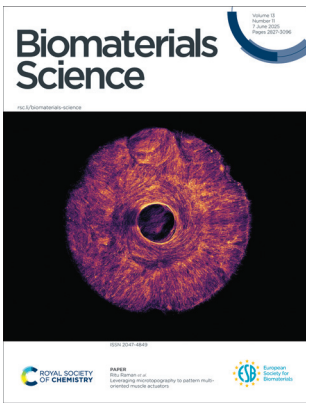


**Cover**
See Ritu Raman *et al.*, pp. 2891–2907.

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**Inside cover**
See Helen O. McCarthy *et al.*, pp. 2908–2924.

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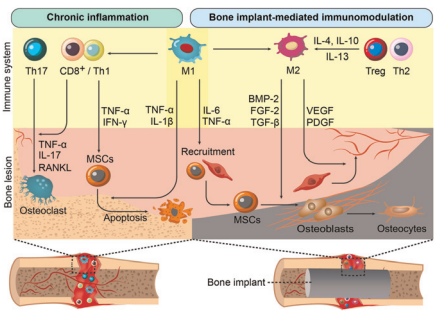
## REVIEW

2836

**Osteoimmunomodulation by bone implant materials: harnessing physicochemical properties and chemical composition**

Mehdi Sanati,* Ines Pieterman, Natacha Levy, Tayebeh Akbari, Mohamadreza Tavakoli, Alireza Hassani Najafabadi and Saber Amin Yavari*

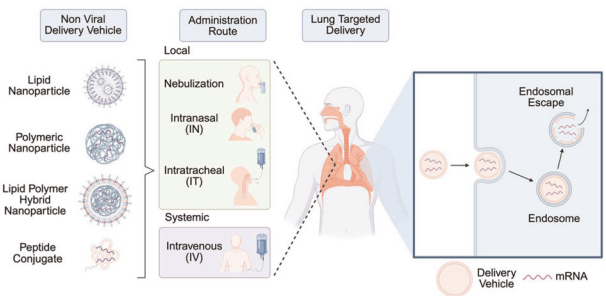



## MINIREVIEW

2871

**Non-viral mRNA delivery to the lungs**

Lauren Healy, Breanna Y. Seto, Haissi Cui and Bowen Li*



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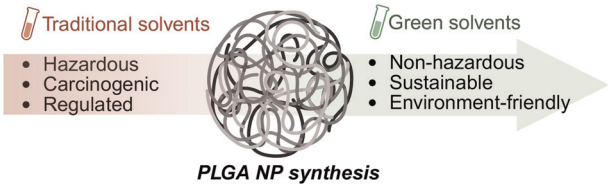
## COMMUNICATION

2883

**Evaluating green solvents for sustainable PLGA nanoparticle synthesis**

Senjuti Karmaker, Rhea Joshi, Amartya Viravalli and Natalie Boehnke*

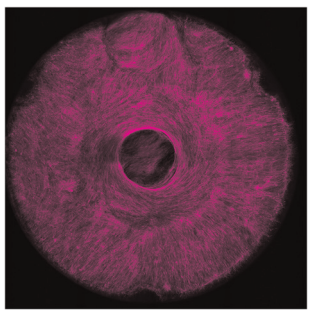



## PAPERS

2891

**Leveraging microtopography to pattern multi-oriented muscle actuators**

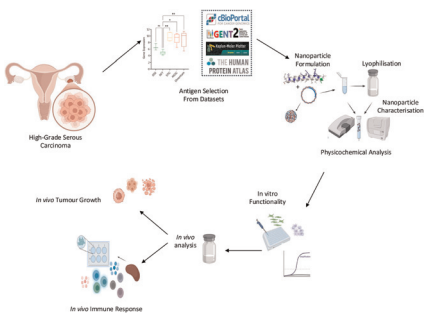
Tamara Rossy, Laura Schwendeman, Sonika Kohli, Maheera Bawa, Pavankumar Umashankar, Roi Habba, Oren Tchaicheeyan, Ayelet Lesman and Ritu Raman*



2908

**Development of a nano-vaccine for high-grade serous ovarian cancer**

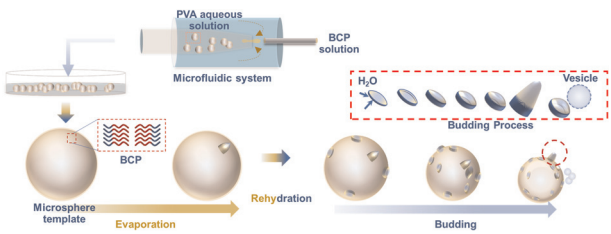
Chayanika Saha, Ahmed Elkashif, Elaine J. Gilmore, Binyumeng Jiang, Ying Sun, Raj Kumar Duary, Niamh Buckley, Nicholas J. Dunne and Helen O. McCarthy*




2925

**Microfluidics-driven templating preparation of polymer vesicles with tailorable dimensions and rapid cellular internalization**

Donghua Dong, Tong Zhu, Guoxing Liao, Fangrong Tan, Lei Chen, Qianqian Yu* and LinGe Wang*

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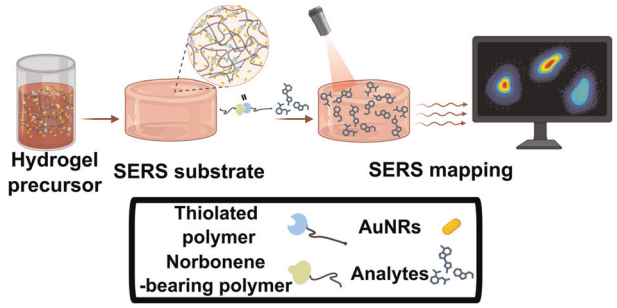
PAPERS

2936




**Using thiol–ene click chemistry to engineer 3D printed plasmonic hydrogel scaffolds for SERS biosensing**

Lara Troncoso-Afonso, Yolany M. Henríquez-Banegas, Gail A. Vinnacombe-Willson, Junkal Gutierrez, Gorka Gallastegui, Luis M. Liz-Marzán and Clara García-Astrain*

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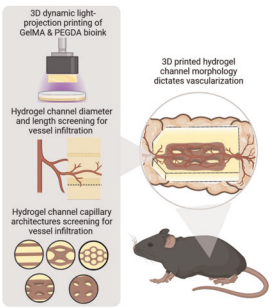


**Guiding vascular infiltration through architected GelMA/PEGDA hydrogels: an *in vivo* study of channel diameter, length, and complexity**

Martha Fowler, Alvaro Moreno Lozano, Julian Krause, Patrick Bednarz, Shalini Pandey, Mina Ghayour, Qixu Zhang and Omid Veiseh*

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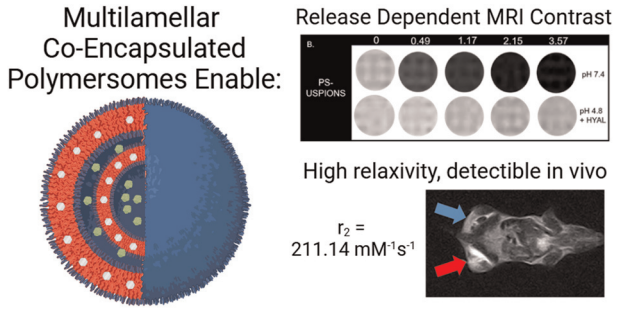


**Multilamellar hyaluronic acid-*b*-poly(lactic acid) polymersomes for pathology-responsive MRI enhancement**

Dorian Foster,* Naisha Shah, Alaura Cakley, Ronald Beyers and Jessica Larsen

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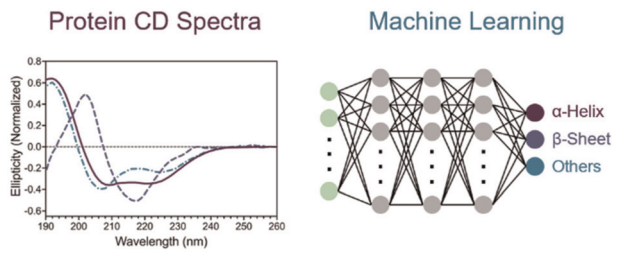


**Machine-learning-guided identification of protein secondary structures using spectral and structural descriptors**

Ziqi Wang and Kenry*

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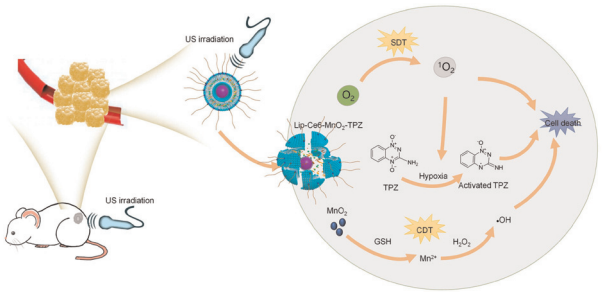
## PAPERS

2983

**A hypoxia-activated and tumor microenvironment-remodeling nanoplatform for augmenting sonodynamic–chemodynamic-chemotherapy of breast cancer**

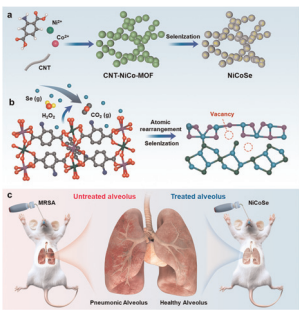
Chengxi Li, Can Yang, Tiantian Jiang, Zheming Song, Danling Cheng, Jingchao Li,* Yong Han* and Ting Su*




2994

**Selenium-vacancy-mediated NiCoSe nanoplatforms with NIR-II amplified nanozymes for methicillin-resistant *Staphylococcus aureus*-infected pneumonia**

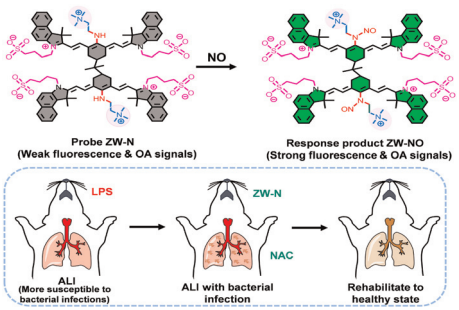
Liqin Wu, Lida Jin, Xintong Zou, Xiaojun He,* Yuanrong Dai* and Jianan Huang*




3006

**A zwitterionic chromophore as both a biomarker-activatable optical imaging probe and a therapeutic agent for the detection and treatment of acute lung injury with bacterial infection**

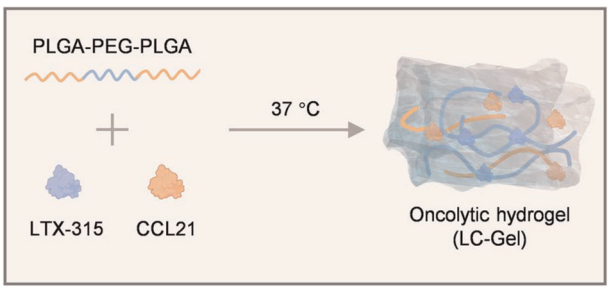
Zunpan She, Fang Zeng* and Shuizhu Wu*




3016

**An injectable oncolytic hydrogel platform for *in situ* dendritic cell vaccination to boost antitumor immunity**

Zi-Lu Wang, Si-Yu Qiu, Yi-Qun Sun, Xiao-Jiao Du, Cong-Fei Xu, Zi-Yang Cao* and Zi-Dong Lu*



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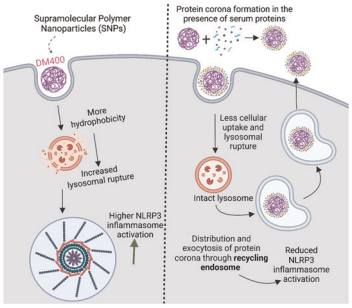


**Protein corona formation on supramolecular polymer nanoparticles causes differential endosomal sorting resulting in an attenuated NLRP3 inflammasome activation**

Maharshi Debnath, Mehak Malhotra and Ashish Kulkarni*

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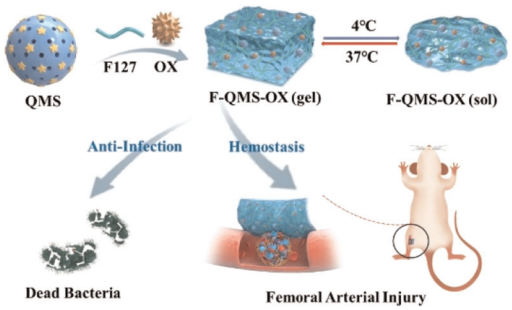


**A thermosensitive poloxamer hydrogel with ofloxacin and cationic microparticles for antibacterial and hemostatic applications**

Kan Ji, Hanlu Chen, Yang Su, Bing Yuan, Zhenfei Song, Kai Zhang, Guochao Zhang,* Yang Hu,* Feng Duan* and Fu-Jian Xu

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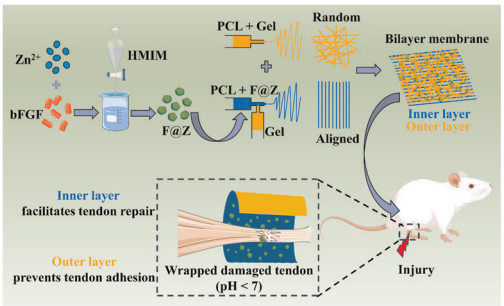


**ZIF-8 composite nanofibrous membranes loaded with bFGF: a new approach for tendon adhesion prevention and repair**

Min Sun, Jinke Cao, Yang Zou, Haiyan Ju and Yonggang Lv*

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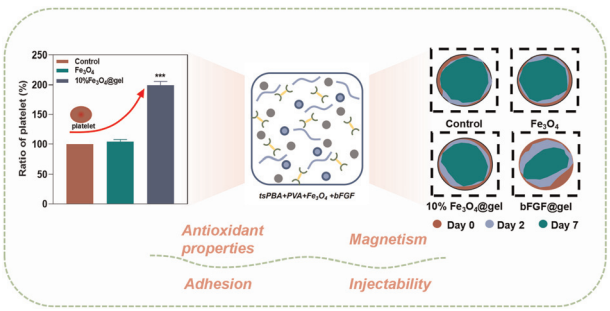


**Borate ester-based multifunctional self-healing hydrogels for tissue adhesion and hemostasis**

Ashleigh Tinotenda Chitakunye, Shihui Zhang, Qin Zhu, Jianan Ni, Qiuyu Sun, Yuxin Lei, Jie Xu, Odinaka Cassandra Ezekiel, Bingxin Li, Hanxuan Lin, Miao Zhang and Lin Cai*



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## CORRECTIONS

3090

### Correction: Urethral reconstruction using an amphiphilic tissue-engineered autologous polyurethane nanofiber scaffold with rapid vascularization function

Yuqing Niu, Guochang Liu, Chuangbi Chen, Ming Fu, Wen Fu, Zhang Zhao, Huimin Xia* and Florian J. Stadler*

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### Correction: Dual bioresponsive antibiotic and quorum sensing inhibitor combination nanoparticles for treatment of *Pseudomonas aeruginosa* biofilms *in vitro* and *ex vivo*

Nishant Singh, Manuel Romero, Alessandra Travanut, Patricia F. Monteiro, Elena Jordana-Lluch, Kim R. Hardie, Paul Williams, Morgan R. Alexander and Cameron Alexander*

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