

# Journal of Materials Chemistry B

Materials for biology and medicine

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## IN THIS ISSUE

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### Cover

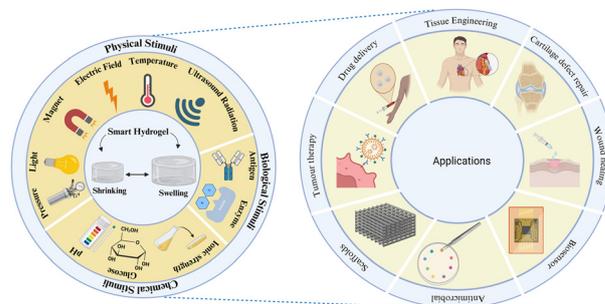
See Archana Bhaw-Luximon *et al.*, pp. 3304–3318. Image reproduced by permission of Lakshmi Yaneesha Sujeeun from *J. Mater. Chem. B*, 2025, 13, 3304.

## REVIEWS

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### Next-generation biopolymer gels: innovations in drug delivery and theranostics

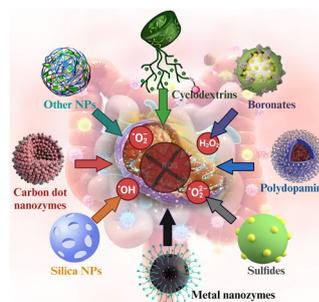
Danish Ahmad Shergujri, Murtaza Ahmad Khanday, Aisha Noor, Mohd Adnan, Iqra Arif, Syed Naiem Raza, Reyaz Hassan Mir\* and Nisar Ahmad Khan\*



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### Precision therapeutics for inflammatory bowel disease: advancing ROS-responsive nanoparticles for targeted and multifunctional drug delivery

Xiuping Wan, Caijie Zhang, Pengyu Lei, Hanbing Wang, Rongbing Chen, Qinsi Yang, Yongwei Cheng, Wei Wu,\* Da Sun\* and Xiaofei Hong\*



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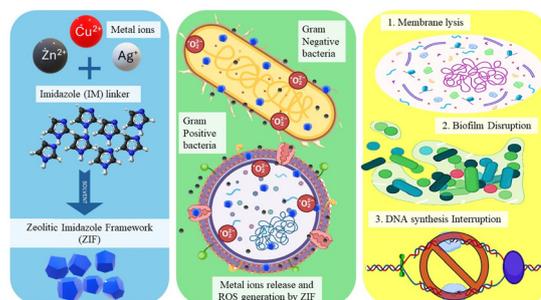
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### Unleashing the antibacterial potential of ZIFs and their derivatives: mechanistic insights

Geetika Jain, Radhika Chaurasia, Bani Preet Kaur, Ontar Paul Chowdhury, Hiranmay Roy, Richa Rani Gupta, Bhaskar Biswas, Sandip Chakrabarti\* and Monalisa Mukherjee\*

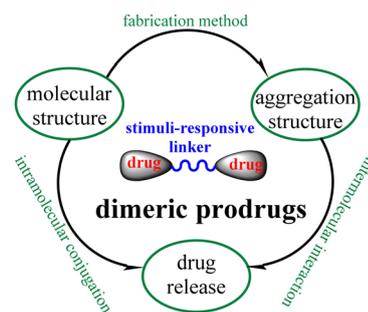


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### Structural aspects of dimeric prodrug-based carrier-free nanomedicines for tumor chemotherapy

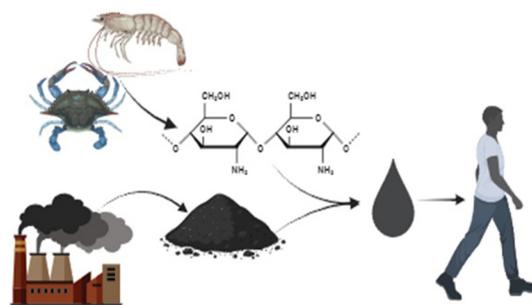
Chen Yang and Peng Liu\*



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### A low-cost biocompatible and biodegradable multipurpose resistive ink for monitoring biological systems

Akshayakumar Kompa, Revathi Ravindran, Jianyu Hao and Javier G. Fernandez\*

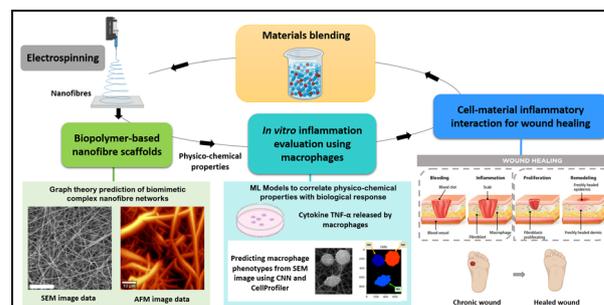


## PAPERS

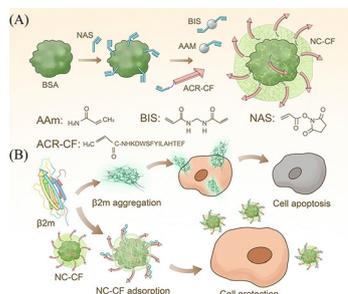
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### Predicting inflammatory response of biomimetic nanofibre scaffolds for tissue regeneration using machine learning and graph theory

Lakshmi Yaneesha Sujeeun, Itisha Chummun Phul, Nowsheen Goonoo, Nicholas A. Kotov and Archana Bhaw-Luximon\*



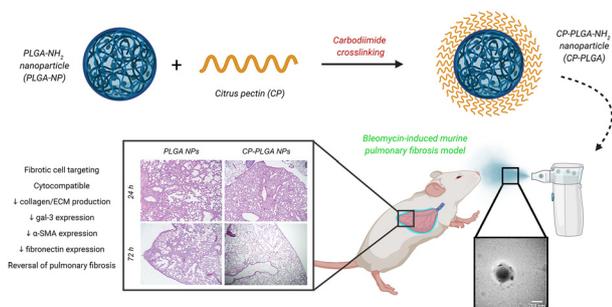
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### Peptide-functionalized nanocapsules for targeted inhibition of $\beta 2$ -microglobulin amyloid aggregation

Lin Tang, Miao Sun, Junnan Chen, Qiong Dai, Song Xue,\* Chaoyong Liu\* and Ming Zhang\*

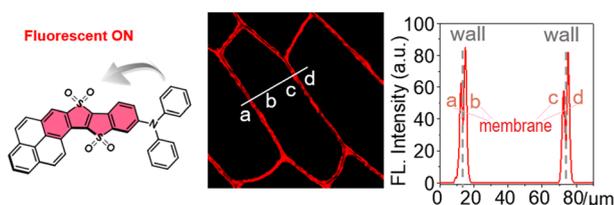
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### Citrus pectin-coated inhalable PLGA nanoparticles for treatment of pulmonary fibrosis

Kalindu Perera, Moez Ghumman, Parand Sorkhdini, Carmelissa Norbrun, Seraphina Negash, Yang Zhou\* and Jyothi U. Menon\*

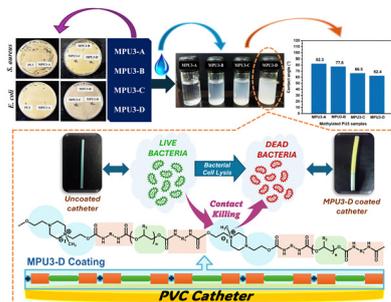
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### Ultra-photostable fluorescent dye molecular engineering—for measuring plant cells' membrane-spacing through a "deposition-embedding" strategy

Wendong Jin, Jie Huang, Jie Niu, Shiqian Zhang, Zhiqiang Liu\* and Xiaoqiang Yu\*

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### 1,4-Bis(2-hydroxyethyl)piperazine-derived water-dispersible and antibacterial polyurethane coatings for medical catheters

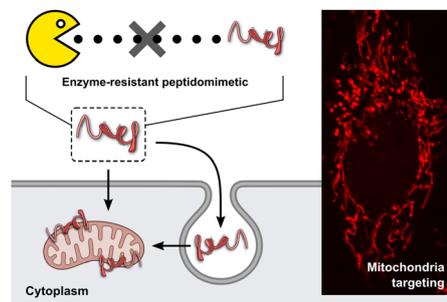
Anchal Gupta, Simran Kaur Rainu, Manleen Kaur, Mahipal Meena, Neetu Singh and Josemon Jacob\*



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### A non-hydrolysable peptidomimetic for mitochondrial targeting

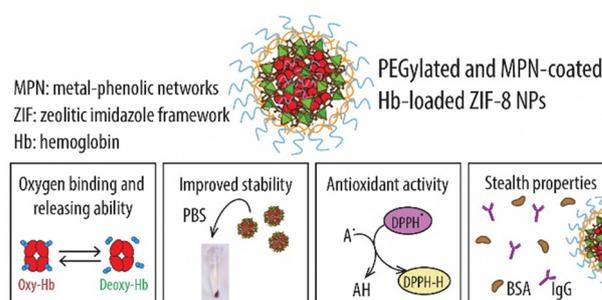
Yeray Folgar-Cameán, Daniel Torralba-Maldonado, Patricia Fúlias-Guzmán, Marta Pazo, Irene Máximo-Moreno, Miriam Royo, Ona Illa\* and Javier Montenegro\*



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### Hemoglobin-loaded ZIF-8 nanoparticles equipped with PEGylated metal-phenolic network coatings: an oxygen carrier with antioxidant and stealth properties

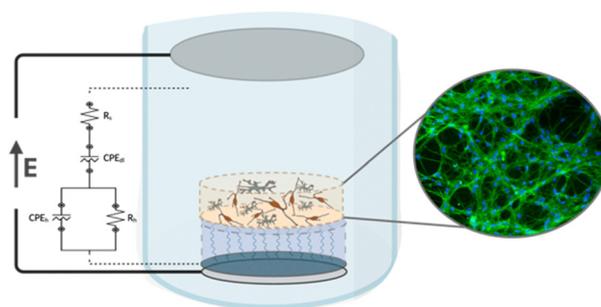
Clara Coll-Satue, Eva Cabrera-San Millan, Michelle Maria Theresia Jansman, Lisa Arnholdt and Leticia Hosta-Rigau\*



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### Multi-layered electrode constructs for neural tissue engineering

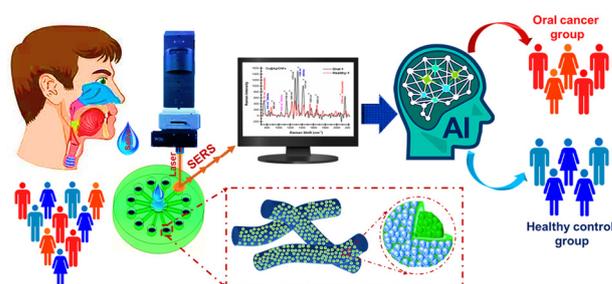
Marjolaine Boulingre, Mateusz Chodkowski, Roberto Portillo Lara, Aaron Lee, Josef Goding and Rylie A. Green\*



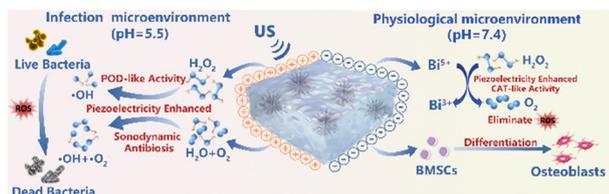
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### Development of an AI-derived, non-invasive, label-free 3D-printed microfluidic SERS biosensor platform utilizing Cu@Ag/carbon nanofibers for the detection of salivary biomarkers in mass screening of oral cancer

Navami Sunil, Rajesh Unnathpadi, Rajkumar Kottayasamy Seenivasagam, T. Abhijith, R. Latha, Shina Sheen and Biji Pullithadathil\*



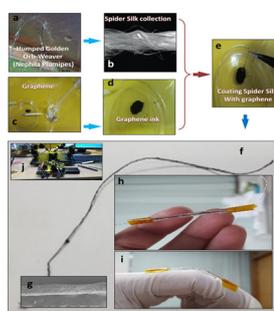
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### A piezoelectric hydrogel containing bismuth sulfide with cationic vacancies with enhanced sonodynamic/nanozyme activity for synergistically killing bacteria and boosting osteoblast differentiation

Xiaowen Xi, Susu Ma, Ping Sun,\* Zhitao Hu, Jie Wei\* and Yunfei Niu\*

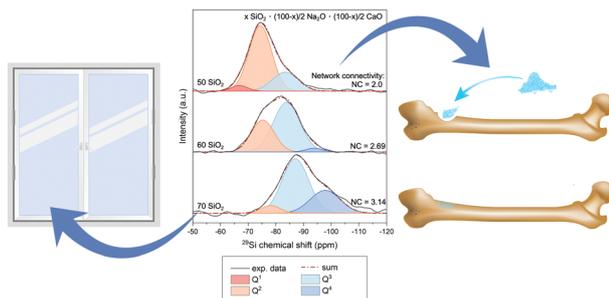
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### Polyurethane packed graphene-coated spider silk by dip-casting for a highly stretchable strain sensor

Zaigham Abbas, Gul Hassan,\* Muhammad Umair Khan, Haider Abbas, Basheer Ahmad, Ahmed Shuja, Memoon Sajid, Jinho Bae\* and Changwan Choi\*

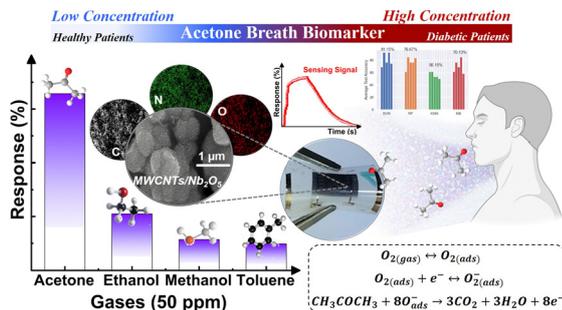
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### From window panes to bone regeneration: structure, viscosity and bioactivity of soda lime silicate glasses

Zhaorui Jin, Daniel R. Neuvill,\* Coraline Chartier, Pavel Kachanov, Scott Kroeker, Stéphane Gin, Jincheng Du\* and Delia S. Brauer\*

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### Room temperature operated flexible MWCNTs/Nb<sub>2</sub>O<sub>5</sub> hybrid breath sensor for the non-invasive detection of an exhaled diabetes biomarker

Gulshan Verma, Sonu Sarraf, Aviru K. Basu, Pranay Ranjan and Ankur Gupta\*



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## Polycaprolactone/ $\alpha$ -cyclodextrin polyrotaxanes with cellular uptake enhancing properties

Gergely Kali,\* Alexander H. Mayer, Dennis To, Martyna Truszkowska, Anna Seybold, Doris Elfriede Braun, Raphael Plangger, Markus Gallei and Andreas Bernkop-Schnürch\*

