

# Journal of Materials Chemistry B

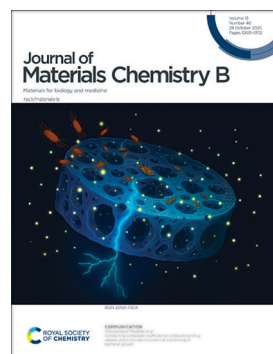
Materials for biology and medicine

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### Cover

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### Inside cover

See Joshua Tropp *et al.*, pp. 12918–12925. Image reproduced by permission of Joshua Tropp from *J. Mater. Chem. B*, 2025, 13, 12918. Art by the team of INMYWORK Studio (<https://inmywork.com>).

## PROFILE

12701

Contributors to the *Journal of Materials Chemistry B* Emerging Investigators 2025 collection

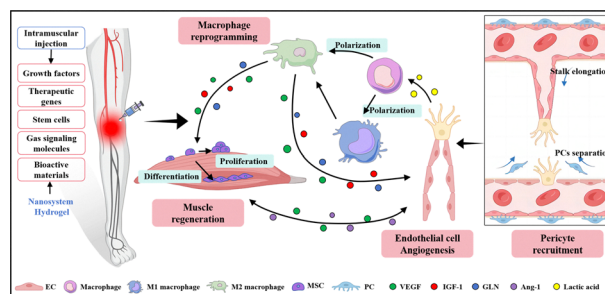


## REVIEWS

12707

**Therapeutic strategies for critical limb ischemia: a focus on endogenous cell behavior modulation**

Haoran Wang, Xiaoyu Wang,\* Chunlei Liu and Chunzhao Liu\*



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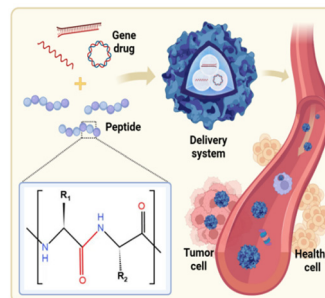


## REVIEWS

12738

**Design of peptide-based gene delivery systems to overcome biological barriers**

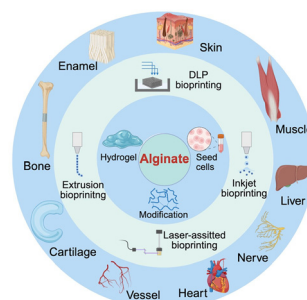
Zixuan Wang, Jialin Zhou, Rongxin Su, Wei Qi and Yuefei Wang\*



12765

**Alginate-based 3D bioprinting strategies for structure–function integrated tissue regeneration**

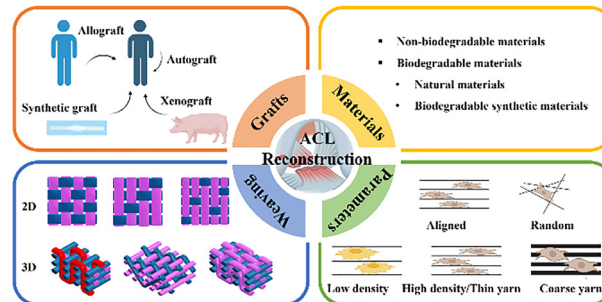
Fan Liu, Jiabao Jiang, Man Zhe, Peiyun Yu, Fei Xing\* and Zhou Xiang



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**Advancements in anterior cruciate ligament reconstruction based on weaving technology: current developments and future prospects**

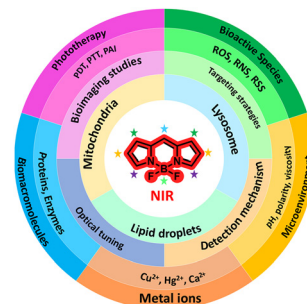
Danjie Yang, Faqian Shen and Xiaogang Chen\*



12831

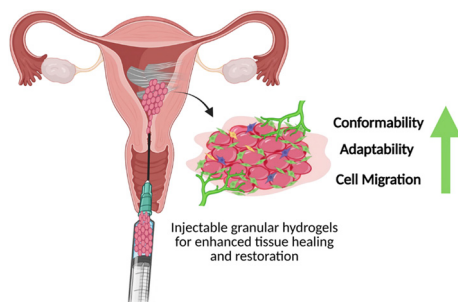
**Far-red/NIR BODIPY probes in focus: tailored strategies for organelle-specific imaging and biomedical applications**

Charutha Kalarikkal and Chinna Ayya Swamy P\*



## PERSPECTIVE

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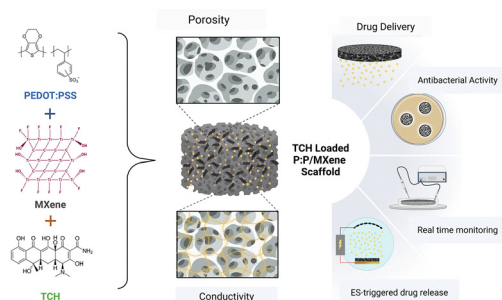


### Toward next-generation therapies for intrauterine adhesions: a perspective on granular hydrogel systems

Kawailani Lilly, Akhilesh Agrawal, Bapun Barik, Sriram Bharath Gugulothu, Subha Narayana Rath, Suk-Jung Oh and Akshat Joshi\*

## COMMUNICATIONS

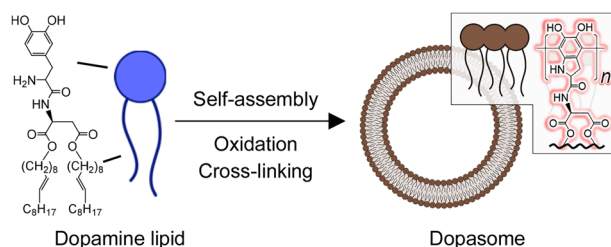
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### Conducting composite scaffolds for antibacterial drug release and *in situ* electrochemical monitoring of bacterial growth

Khulood H. Alshehhi, Deema Islayem, Shahd B. Alshehhi, Bushara Fatma, Abdulrahim A. Sajini and Charalampos Pitsalidis\*

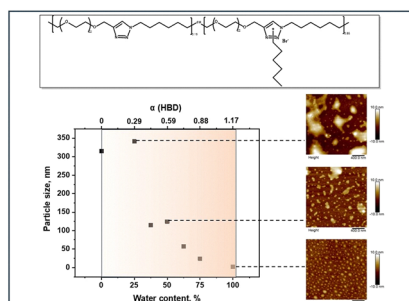
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### Dopasomes: dopamine-mediated cross-linked lipid vesicles

Keita Yamana,\* Kouki Fujihara, Miu Maeda, Tomoki Nishimura, Riku Kawasaki and Atsushi Ikeda\*

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### Alternating partially quaternized polytriazole amphiphiles: bridging neutral and ionic domains for tunable aggregation

Anastasiia Hubina,\* Yevheniia Lobko, Ivan Khalakhan and Yuliya Khrunyk



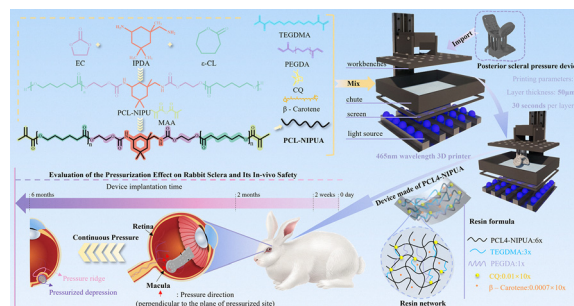


## COMMUNICATIONS

12903

# A biocompatible, eco-friendly 3D-printed PCL-NIPUA resin for macular bucking devices in myopic tractional maculopathy

Zi Fu, Yan Zhou, Ziyi Liu, Zhe Chen, Qiang Fu, Shiqun Lin, Rongping Dai\* and Huade Zheng\*

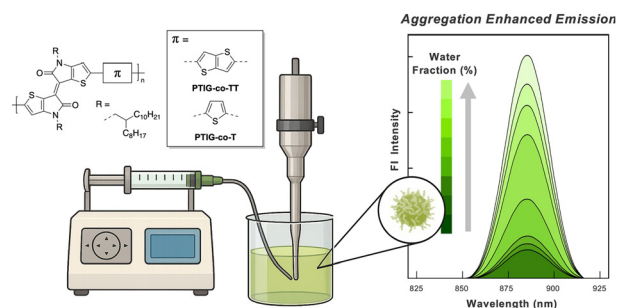


## PAPERS

12918

# Tuning the structure of thienoisindigo (TIG) copolymers to afford bright near-infrared emission for bioimaging through aggregation-enhanced emission

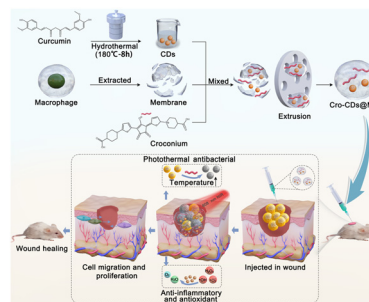
Robert Posey, Nikita Gill, Daniel Fernandez, Luan Gabriel Fonseca Dos Santos, Helena Garza, Jacquelyn Tran, Brenda Alfaro, Nicholas Payne, Tahamida Alam Oyshi, Colin Cashman, Boris Salinas, Isabella Vasquez, Alexander Mdzinarishvili, Indrajit Srivastava, Ulrich Bickel, Hans Lischka and Joshua Tropp\*



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# A croconium-functionalized macrophage biomimetic retention vesicle system for photothermal therapy of infected wounds

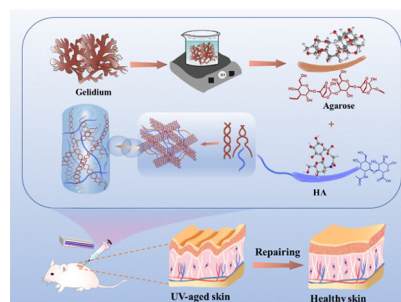
Lan Zheng, Minghai Zhao, Yuechao Yang, Bing Cao\* and Judun Zheng\*



12938

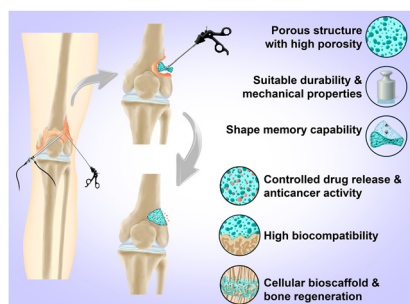
# Physically crosslinked agarose–hyaluronic acid hydrogel for injectable treatment of photoaged skin

Ying Guo, Bei Tian, Yi Xie and Jianxi Xiao\*



## PAPERS

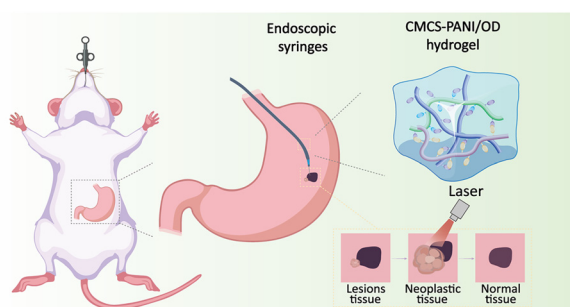
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### A programmable shape memory bioscaffold incorporating doxorubicin for postoperative chemotherapy and enhanced bone regeneration

Hong-Phuc Nguyen, Quynh-Nhu Doan Nguyen, Thanh-Ngan Le Phong, Ngoc Hong T. Luu, Shehzahdi S. Moonshi, Hien Ngoc Trieu, Vinh-Han Dac Le, Thanh-Mai Ngoc Nguyen, Diep Phan, Cuong Hung Luu\* and V. H. Giang Phan\*

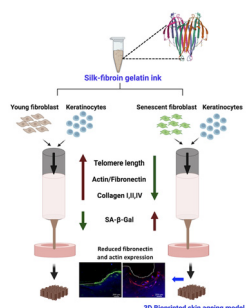
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### An injectable carboxymethyl chitosan–polyaniline/oxidized dextran triple-network hydrogel for long-term gastrointestinal tissue marking and photothermal tumor therapy

Xiuyun Li, Jiaxuan Guo, Haibo Chen, Ximeng Duan, Min Cui and Shige Wang\*

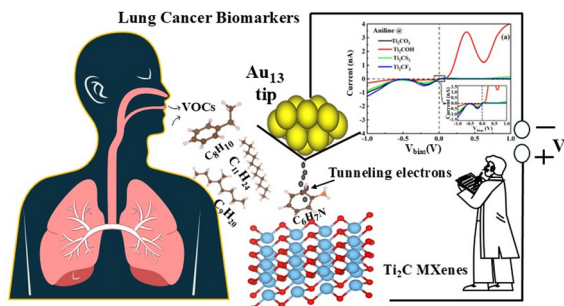
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### A 3D bioprinted *in vitro* full-thickness skin aging model

Juhi Chakraborty, Abhishak C. Gupta and Sourabh Ghosh\*

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### Sensing of lung cancer biomarkers using titanium carbide ( $\text{Ti}_2\text{C}$ ) MXenes

Mukesh K. Choudhary,\* Puspamitra Panigrahi,\* Ashok Kumar and Ravindra Pandey

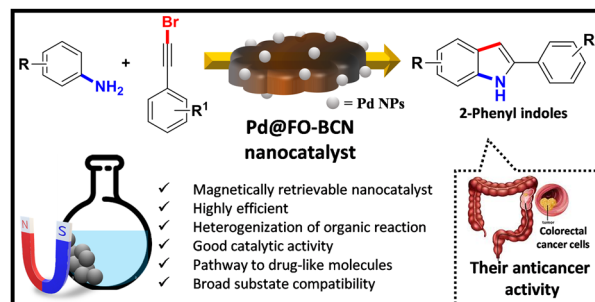


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### Ligand-free C–H functionalization using a palladium nanocatalyst for the synthesis of 2-phenylindoles and their anticancer potential

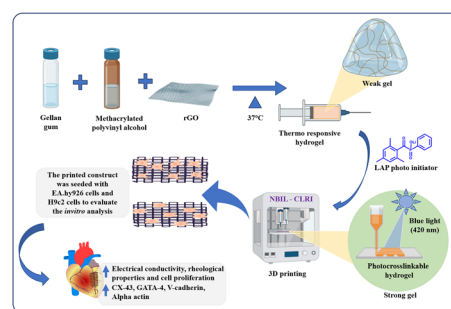
Harini G. Sampatkumar, S. Likitha, Maruboina Hemanth Kumar, M. S. Sudhanva, C. V. Yelamaggad, Ramesh B. Dateer, Kiran B. Manjappa\* and Siddappa A. Patil\*



13020

### An electrically conductive gellan gum/polyvinyl alcohol interpenetrating network hydrogel: a dual crosslinked 3D printing ink for cardiac tissue

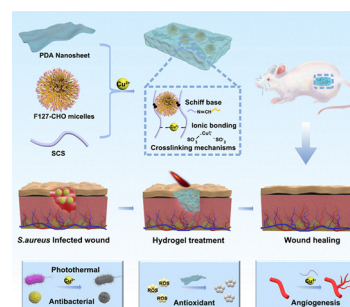
Mohandass Pachaiyappan, Mercyjayapriya Jebakumar, Janani Radhakrishnan\* and Niraikulam Ayyadurai\*



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### Dynamic multistage hydrogel with auto-adjusting networks for sequential anti-infection, anti-inflammation, and angiogenesis in infected wound regeneration

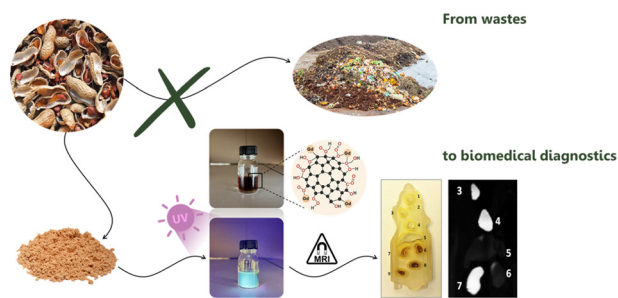
Genhua Liu, Zhiwen Deng, Ruichen Ma, Song Liu, Peng Liu\* and Kaiyong Cai\*



13048

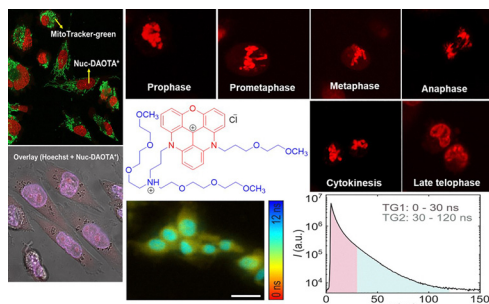
### Gadolinium-doped carbon dots derived from peanut shell waste for bioimaging applications

Federica Mancini, Arianna Menichetti, Alessio Adamiano, Marco Montalti, Konstantin Paliienko, Alain G  lo  n, Vladimir Lysenko and Michele Iafisco\*



## PAPERS

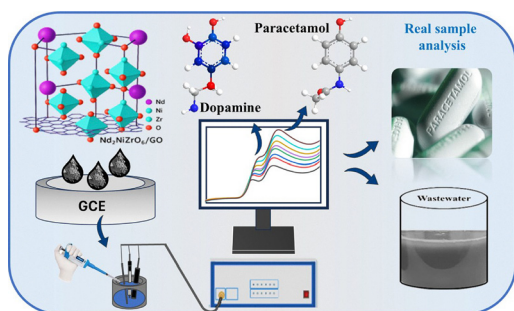
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**A water-soluble, long fluorescent lifetime DNA probe for real-time dynamic visualization of mitosis in live cells and applicability for FLIM/time-gated imaging**

Kapil Kumar,\* Thomas Hartig Braunstein, Pablo Hernandez-Varas, Mikkel Baldtzer Liisberg and Bo W. Laursen\*

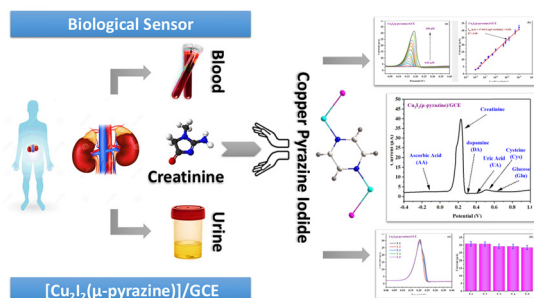
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**Unlocking the dual-detection potential of  $\text{Nd}_2\text{NiZrO}_6@\text{GO}$  electrodes for paracetamol and dopamine**

Gagana Mahesh, Sirisha Subbareddy, Nanjundaswamy Gumatapura Siddamallappa, Manickam Selvaraj, Mohammed Ali Assiri, Nandini Seetharamaiah, Santhosh Arehalli Shivamurthy,\* Nagesh Khadri Malayanur Jaiprakash, Puttaswamappa Mallu\* and Sandeep Shadakshari\*

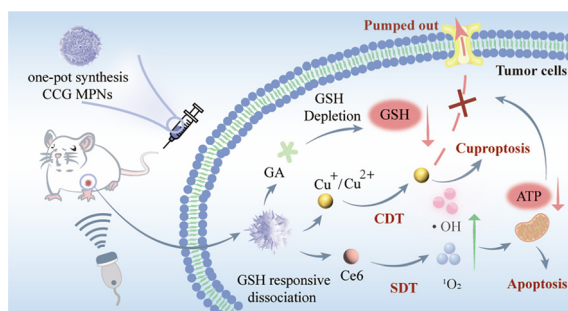
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**A new multifunctional copper iodide-pyrazine hybrid for sensitive creatinine detection in biological samples: synthesis, structural features, characterization, and electrochemical evaluation**

Wissem Hallab, Ahlem Guesmi, Raja Jlassi, Jassem Wannassi, Nouredine Mhadhbi, Abdellah Tahiri, Wesam Abd El-Fattah, Naoufel Ben Hamadi, Houcine Barhoumi and Houcine Naili\*

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**Ultrasound-activated copper-based sonosensitizer for dual-amplified ROS-mediated tumor therapy and cuproptosis induction**

Penghui Wang, Runming Zhong, Yingzhe Wu, Lingli Jin, Yanan Zhang, Kailong Zhang and Fan Zhao\*

