

# Materials Advances

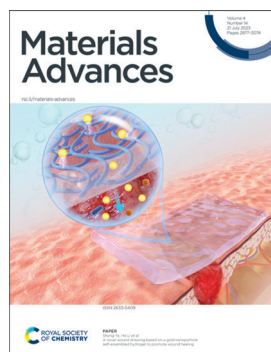
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## IN THIS ISSUE

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### Cover

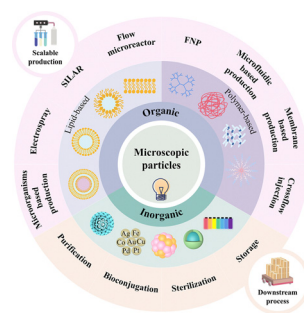
See Sheng Ye, He Li et al., pp. 2918–2925. Image reproduced by permission of Sheng Ye from *Mater. Adv.*, 2023, 4, 2918.

## REVIEW

2885

### Scalable production of microscopic particles for biological delivery

Huoyue Lin, Jing Leng, Pingqing Fan, Zixing Xu\* and Gang Ruan\*

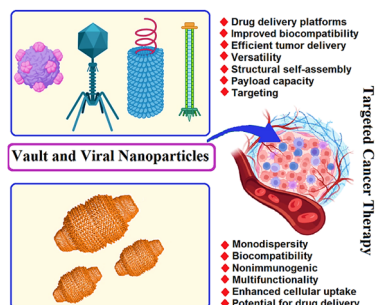


## HIGHLIGHT

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### Vault, viral, and virus-like nanoparticles for targeted cancer therapy

Siavash Iravani\* and Rajender S. Varma



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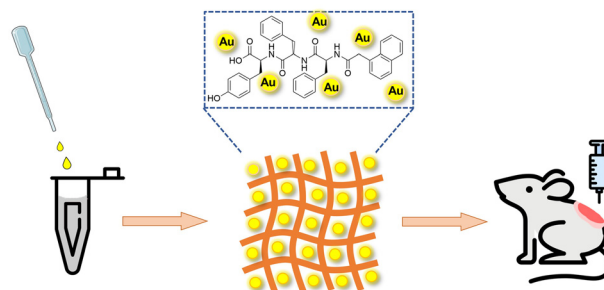
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### A novel wound dressing based on a gold nanoparticle self-assembled hydrogel to promote wound healing

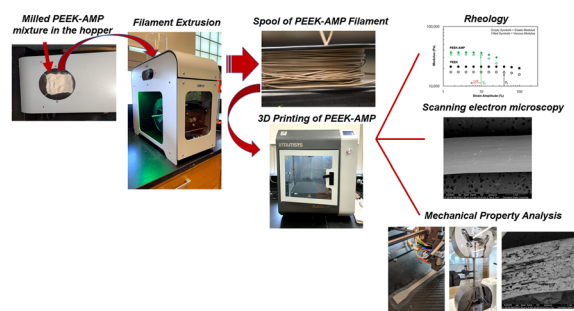
Weihong Chen, Ruixi Chu, Hualong Li, Tianfeng Hua, Hong Chen, Rui Li, Deqing Zhou, Sufeng Cao, Sheng Ye\* and He Li\*



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### Extrusion of uniform-diameter polyetheretherketone–magnesium phosphate bio-composite filaments for 3D printing of design-specific multi-functional implants

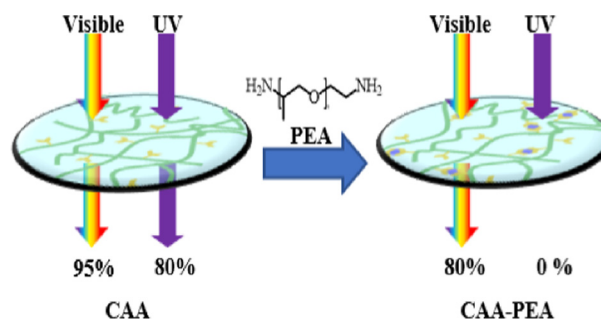
Vijay K. Bokam, Surendrasingh Y. Sonaye, Phaniteja Nagaraju, Harsha P. S. Naganaboyina and Prabaha Sikder\*



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### Cellulose-based fluorescent films with anti-counterfeiting and UV shielding capabilities enabled by enamine bonds

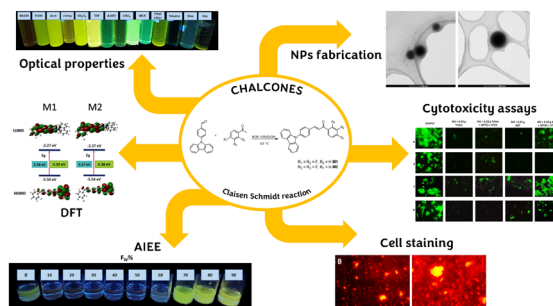
Yuhong Qiao, Youwei Ma, Xiaomin Chen, Wenyao Guo, Yulin Min, Jinchen Fan\* and Zixing Shi\*



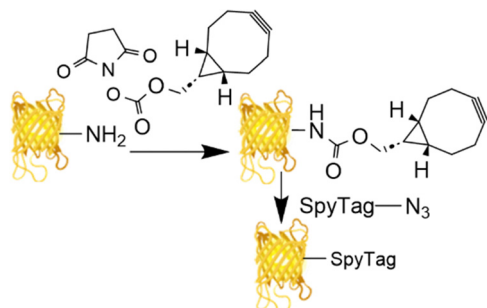
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### Fabrication of photoluminescent nanoparticles from carbazole-derived chalcones: a study of optical properties, cell biomarking, and metabolism

Susana Lucía Estrada-Flores, Cesar Garcias-Morales,\* Catalina M. Perez-Berumen, Arxel de León-Santillán, Mario Rodríguez, Juan Pablo García-Merinos, Jesús A. Claudio-Rizo and Eder Iván Martínez-Mora



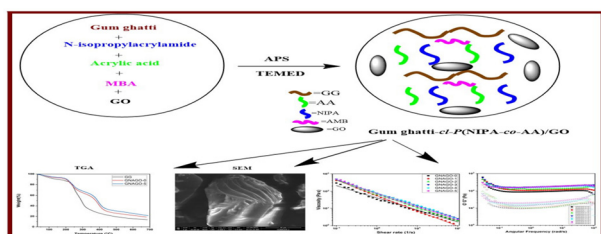
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### Modification of bacterial microcompartments with target biomolecules via post-translational SpyTagging

David M Beal,\* Mingzhi Liang,\* Ian Brown, James D Budge, Emily R Burrows, Kevin Howland, Phoebe Lee, Sarah Martin, Andrew Morrell, Emi Nemoto-Smith, Joanne Roobol, Maria Stanley, C Mark Smales and Martin J Warren

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### Synthesis and rheological investigations of gum-ghatti-cl-poly(NIPA-co-AA)-graphene oxide based hydrogels

Pragnesh N. Dave,\* Pradip M. Macwan and Bhagvan Kamaliya

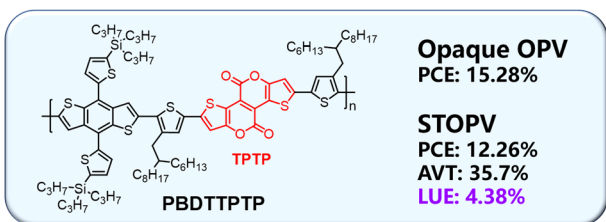
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### Removal of methyl red from wastewater using a NiO@Hyphaene thebaica seed-derived porous carbon adsorbent: kinetics and isotherm studies

Abdelaal S. A. Ahmed,\* Moustafa M. S. Sanad, Ahmed Kotb, Ahmed N. R. M. Negm and Mohamed H. Abdallah

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### A tetracyclic-bis lactone-based copolymer donor for efficient semitransparent organic photovoltaics

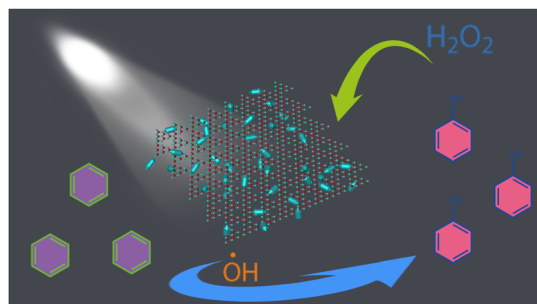
Mingjie Li, Tai An, Zongliang Ou, Ke Jin, Zhiwen Jin, Keyou Yan, He Tian, Wentao Wang, Shangfeng Yang, Guan-Wu Wang,\* Qiuling Song,\* Zuo Xiao\* and Liming Ding



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### An efficient photocatalysis-self-Fenton system based on Fe(II)-MOF/g-C<sub>3</sub>N<sub>4</sub> for direct hydroxylation of benzene to phenol

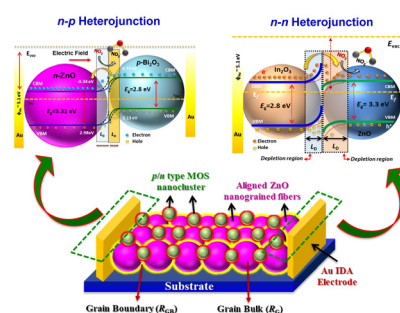
Xu Jia,\* Xueting Xu, Cong Liu, Fuying Wang, Liuxue Zhang,\* Shuyan Jiao,\* Genxing Zhu, Guomin Yu and Xiulian Wang



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### 1D aligned, n-p and n-n type ZnO heterojunction nanofibers for NO<sub>2</sub> sensors: exploration of conduction mechanism using *in situ* impedance spectroscopy

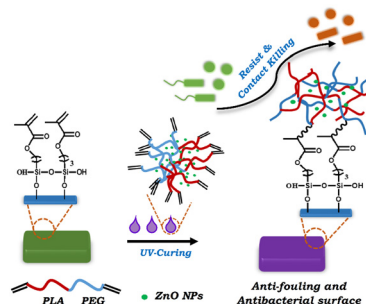
Ramakrishnan Vishnuraj, Mahaboobbatcha Aleem, Keerthi G Nair and Biji Pullithadathil\*



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### Zinc oxide nanoparticles embedded photo-crosslinkable PLA-*block*-PEG toward effective antibacterial coatings

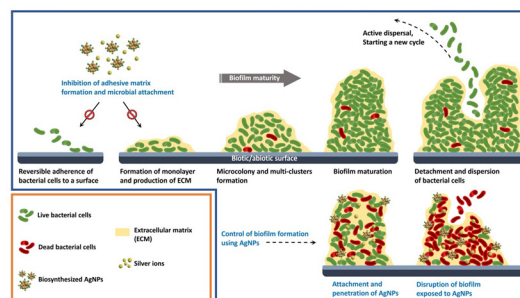
Nabasmata Maity, Netta Bruchiel-Spanier, Orna Sharabani-Yosef, Daniel Mandler\* and Noam Eliaz\*



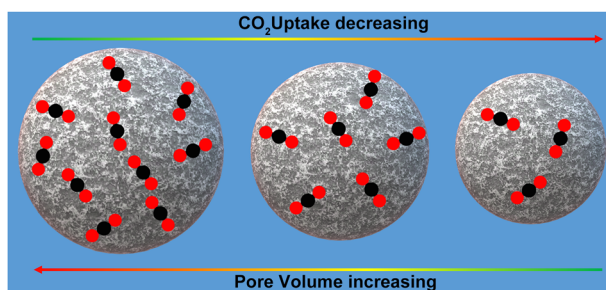
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### Bioinspired green-synthesized silver nanoparticles: *in vitro* physicochemical, antibacterial, biofilm inhibitory, genotoxicity, antidiabetic, antioxidant, and anticoagulant performance

Hamed Barabadi,\* Omid Hosseini, Kamyar Jounaki, Salar Sadeghian-Abadi, Fatemeh Ashouri, Ayat Mostafa Abdulabbas Alrikabi, Hossein Vahidi, Salimeh Amidi, Faraz Mojab, Neda Mohammadi and Ebrahim Mostafavi\*



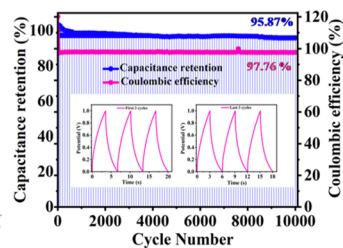
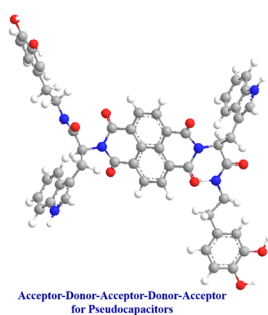
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### Pore volume regulated CO<sub>2</sub> adsorption in C–C bonded porous organic frameworks

Himan Dev Singh, Piyush Singh, Deepak Rase and Ramanathan Vaidhyanathan\*

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### Molecularly engineered A–D–A–D–A organic electrode system for efficient supercapacitor applications

Sudhir D. Jagdale, Chepuri R. K. Rao,\*  
Sidhanath V. Bhosale\* and Sheshanath V. Bhosale\*

