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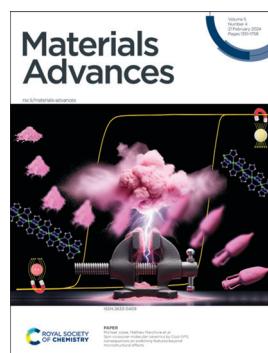
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ISSN 2633-5409 CODEN MAADC9 5(4) 1351–1758 (2024)



### Cover

See Toshio Naito *et al.*, pp. 1492–1501.  
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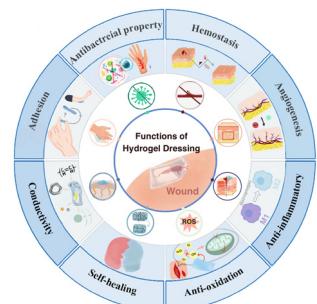
See Michael Josse, Mathieu Marchivie *et al.*, pp. 1502–1512.  
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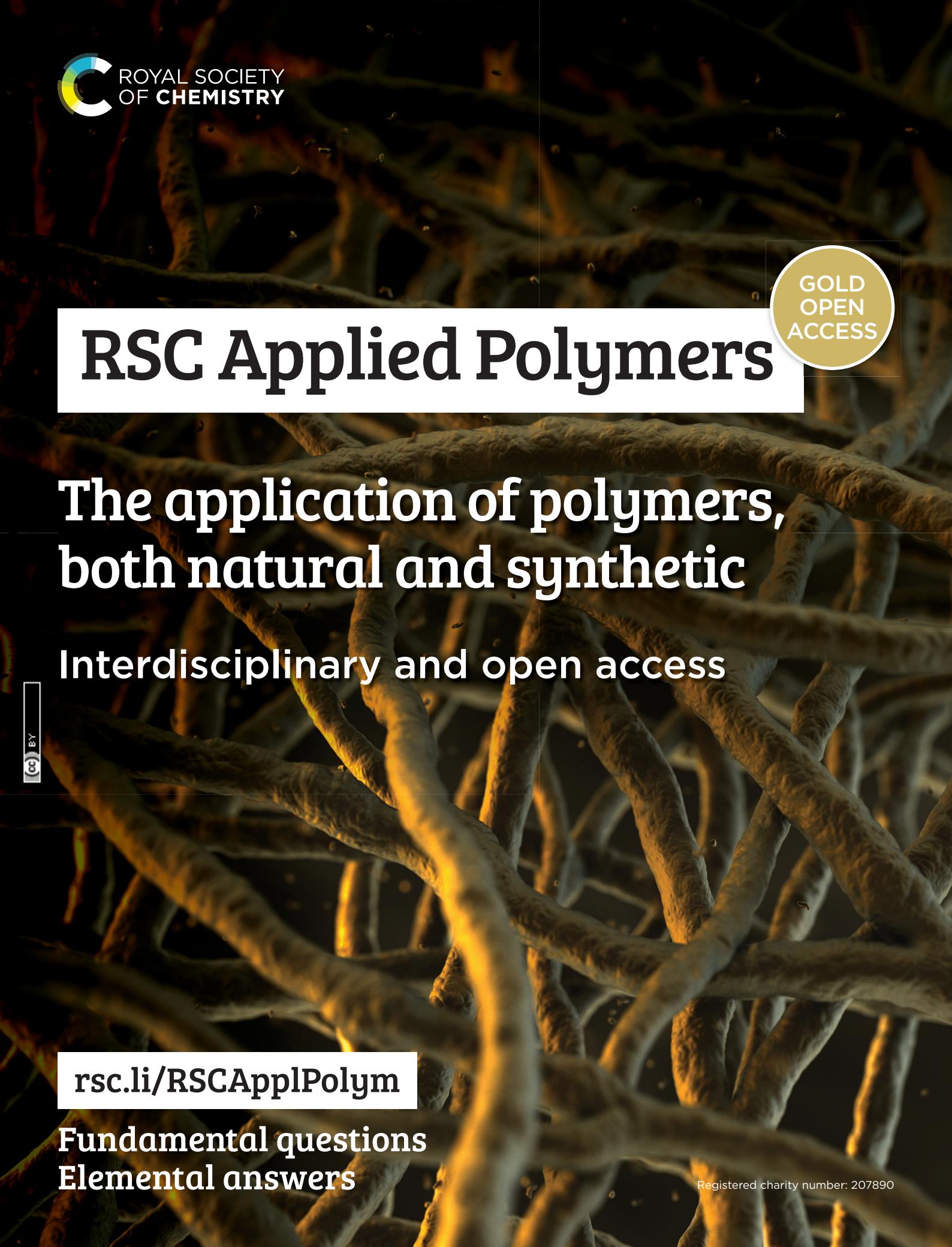


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João V. Paulin,\* Carlos F. O. Graeff\* and A. Bernardus Mostert\*





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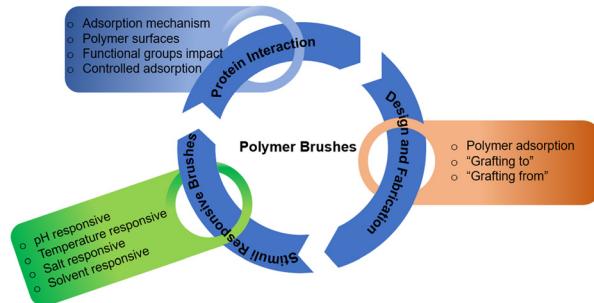
Fundamental questions  
Elemental answers

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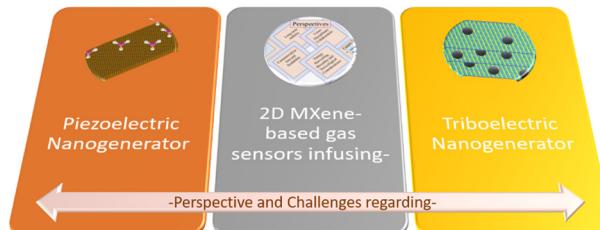
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Sayali Atkare, Chandra Sekhar Rout\* and Shweta Jagtap\*

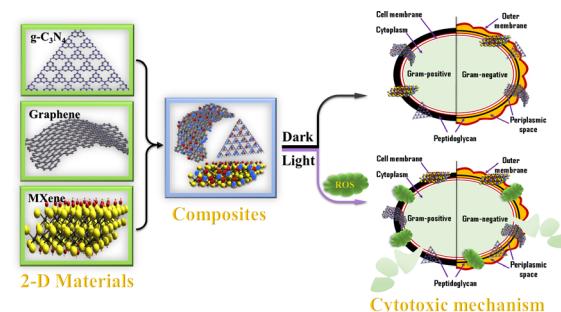


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Neetu Talreja,\* Divya Chuhuan and Mohammad Ashfaq\*

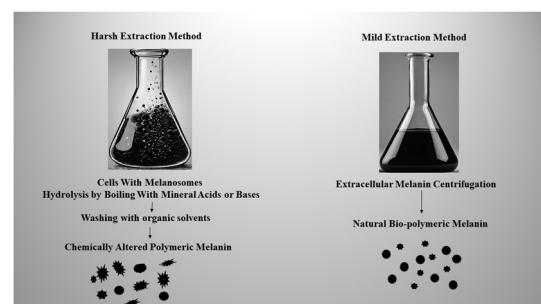


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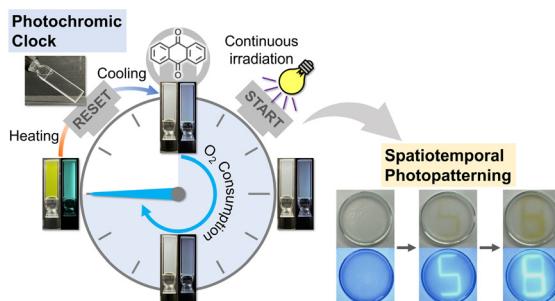
**One-pot synthesis of black biopolymeric eumelanin pigment by indigenous salt-tolerant *Pseudomonas stutzeri* SGM-1**

Swapnil G. Mahajan,\* Vinod S. Nandre, Kisan M. Kodam and Mohan V. Kulkarni



## COMMUNICATIONS

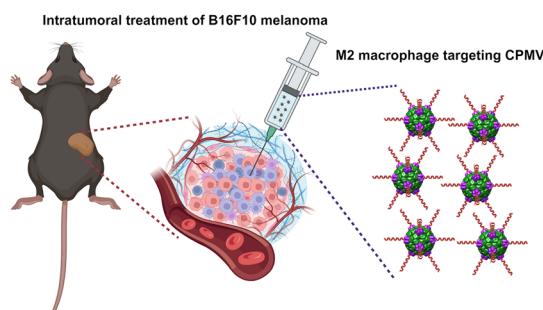
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**Photochromic clock reaction of anthraquinone in supramolecular gel and its application to spatiotemporal patterning**

Sota Fujisaki, Yuki Nagai,\* Yoshinori Okayasu and Yoichi Kobayashi\*

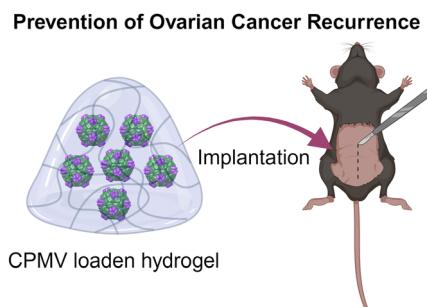
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**Melanoma immunotherapy enabled by M2 macrophage targeted immunomodulatory cowpea mosaic virus**

Zhongchao Zhao, Young Hun Chung and Nicole F. Steinmetz\*

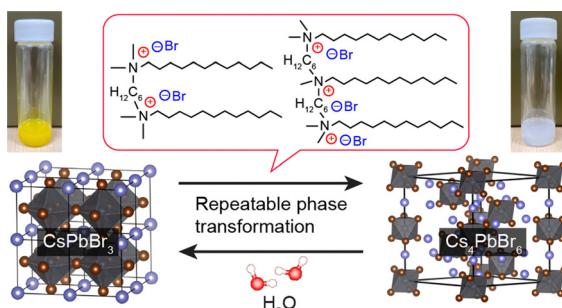
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**3D bioprinting cowpea mosaic virus as an immunotherapy depot for ovarian cancer prevention in a preclinical mouse model**

Zhongchao Zhao, Yi Xiang, Edward C. Koellhoffer, Sourabh Shukla, Steven Fiering, Shaochen Chen\* and Nicole F. Steinmetz\*

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Norio Saito,\* Akihiro Urayama, Takahiro Takei and Nobuhiro Kumada

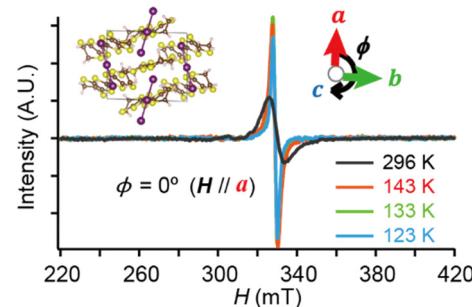


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## Nearly three-dimensional Dirac fermions in an organic crystalline material unveiled by electron spin resonance

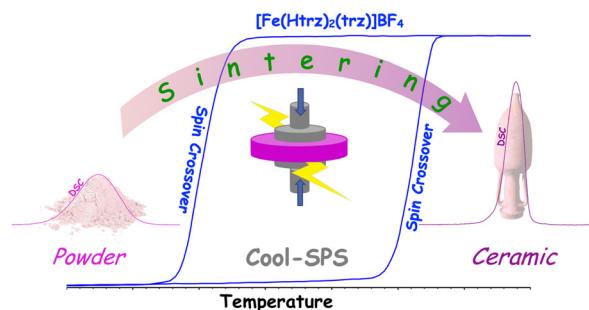
Ryuhei Oka, Keishi Ohara, Naoya Tajima, Toshihiro Shimada and Toshio Naito\*



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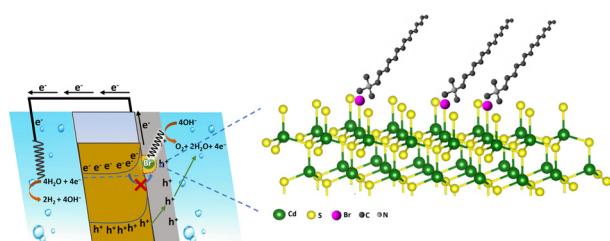
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## Profound influence of surface trap states on the utilization of charge carriers in CdS photoanodes

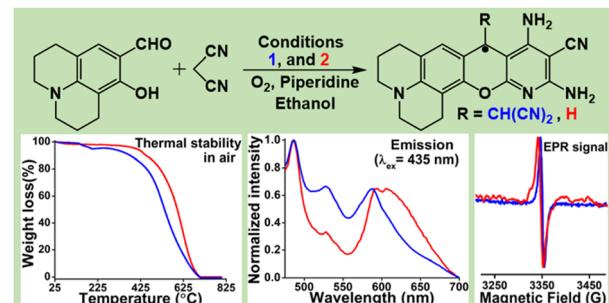
Elif Öykü Alagöz, Hadi Jahangiri and Sarp Kaya\*



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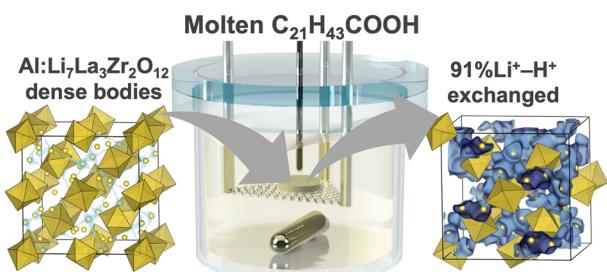
## One pot oxygen mediated syntheses of stable radicals

Mohit Kulshrestha, C. N. Ramachandran,\* Rajesh G. Gonnade\* and Kalyan K. Sadhu\*



## PAPERS

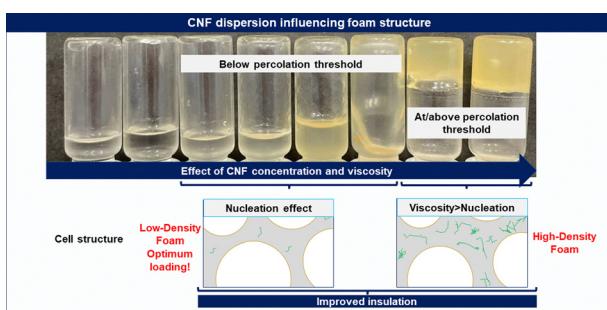
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## Proton conductivity of $\text{Li}^+ - \text{H}^+$ exchanged $\text{Li}_7\text{La}_3\text{Zr}_2\text{O}_{12}$ dense membranes prepared by molten long-chain saturated fatty acids

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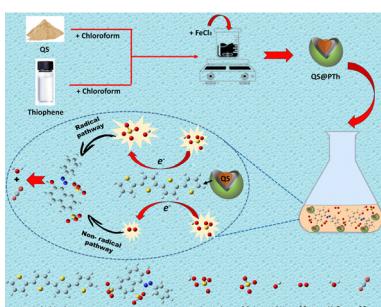


## Dispersion engineering of cellulose nanofibres in polyols: for controlled microstructure of high-performance polyurethane foam

Hima Haridevan, David A. C. Evans, Darren J. Martin and Pratheep K. Annamalai\*

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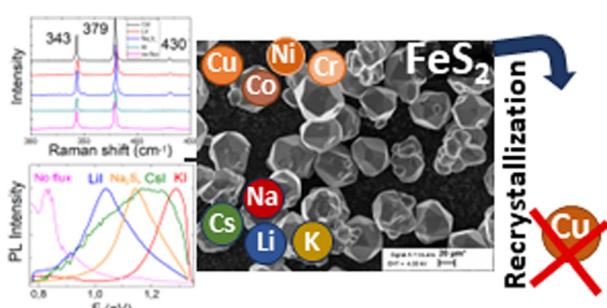


# Efficient degradation of orange G dye using the quartz-sand@polythiophene composite for peroxymonosulfate activation: a sustainable approach for advanced oxidation processes

Asma Amjlef,\* Abdellah Ait El Fakir, Salaheddine Farsad, Aboubakr Ben Hamou, Ayoub Chaoui, Saïd Et-Taleb\* and Noureddine El Alem

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## Characterization of $\text{FeS}_2$ pyrite microcrystals synthesized in different flux media

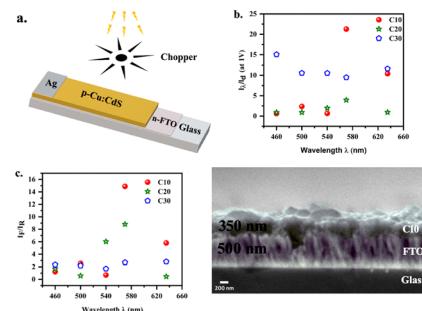
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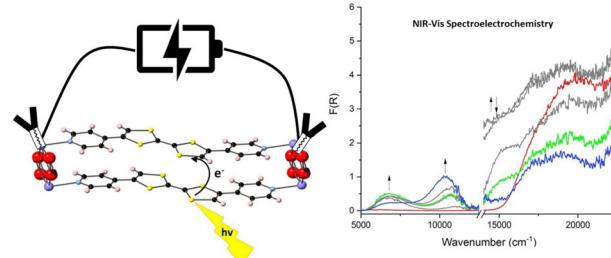
Ganesha Krishna V. S., Pawan Kumar, Gowrish Rao K. and Mahesha M. G.\*



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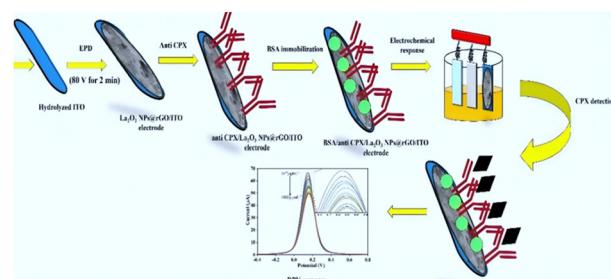
Eleanor R. Kearns, Bun Chan, Hunter J. Windsor, William Lewis and Deanna M. D'Alessandro\*



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**An electrochemical immunosensor based on a nanostructured lanthanum oxide-substituted reduced graphene oxide interface for ultralow ciprofloxacin detection in milk samples**

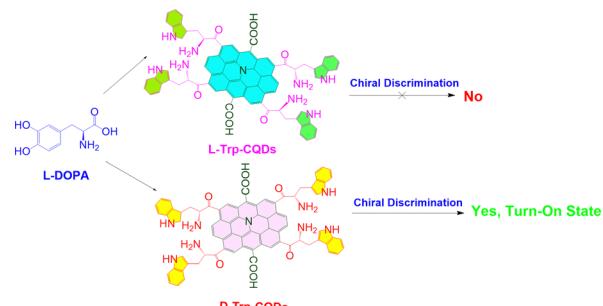
Navneet Chaudhary, Amit K. Yadav, Damini Verma, Jai Gopal Sharma and Pratima R. Solanki\*



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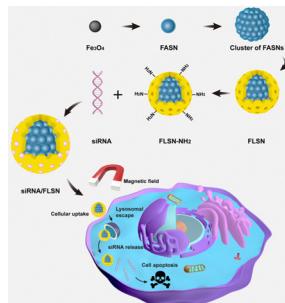
**Chiral discrimination of L-DOPA via L/D-tryptophan decorated carbon quantum dots**

Aram Rezaei,\* Mohammed Ahmed Hamad, Hadi Adibi, Huajun Zheng and Khdir Hamza Qadir



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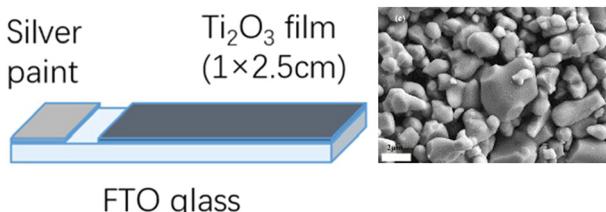
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**Development of magnetic nanoparticles with double silica shells of different porosities for efficient siRNA delivery to breast cancer cells**

Qing Bao, Xiangyu Liu, Yan Li, Tao Yang, Hui Yue, Mingying Yang\* and Chuanbin Mao\*

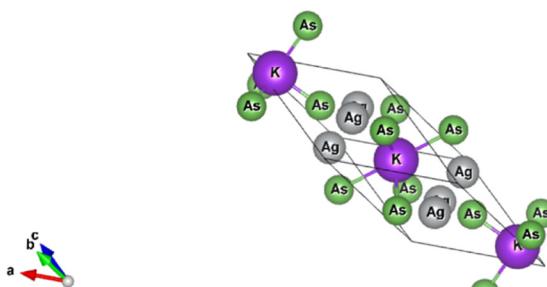
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**Ti<sub>2</sub>O<sub>3</sub> film electrode for water treatment via electrochemical chlorine evolution**

Yishu Zhang, Caroline Kirk\* and Neil Robertson\*

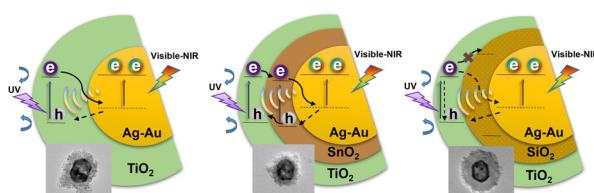
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**New findings on a Zintl phased K<sub>3</sub>Ag<sub>3</sub>As<sub>2</sub> ternary semiconductor compound for photovoltaic applications by first-principles methods**

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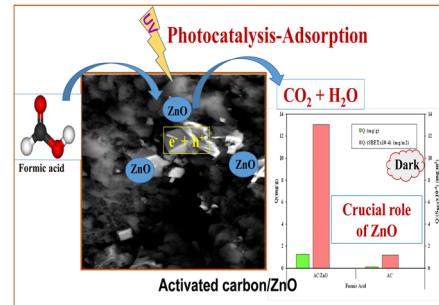


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**Synergy between activated carbon and ZnO: a powerful combination for selective adsorption and photocatalytic degradation**

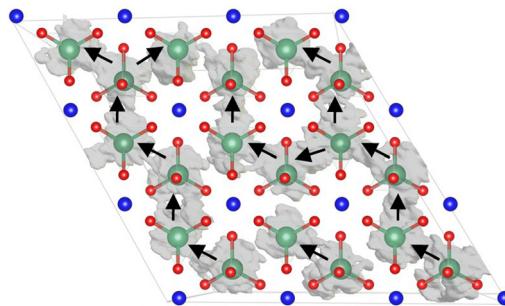
Wided Salah, Wahid Djeridi, Ammar Houas and Leila Elsellami\*



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**Oxide ion dynamics in hexagonal perovskite mixed conductor  $\text{Ba}_7\text{Nb}_4\text{MoO}_{20}$ : a comprehensive *ab initio* molecular dynamics study**

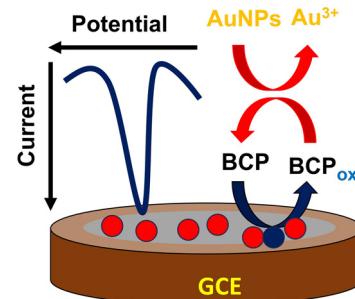
Bettina Schwaighofer, Markus Appel, Miguel Angel Gonzalez\* and Ivana Radosavljevic Evans\*



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**Red gum-capped gold nanoparticles for electrochemical sensing of bromocresol purple in water**

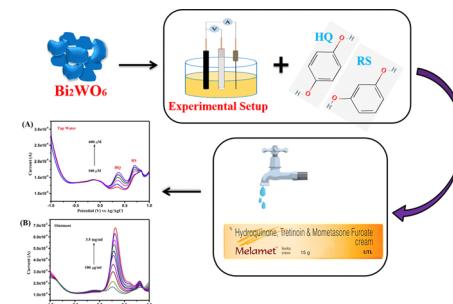
Moustafa Zahran,\* Magdi Abdel Azzem and Mona El-Attar



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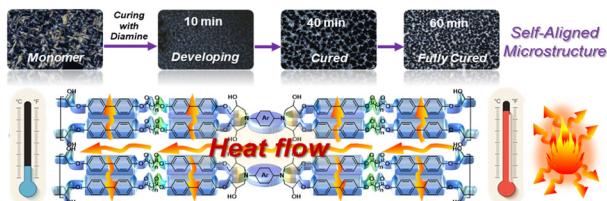
**Bismuth tungstate nanocomposites for simultaneous detection of hydroquinone and resorcinol**

Thatchanamoorthy Thenrajan, Madasamy Madhu malar, Sangeetha Kumaravel, Rajendran Rajaram, Subrata Kundu\* and Jeyaraj Wilson\*



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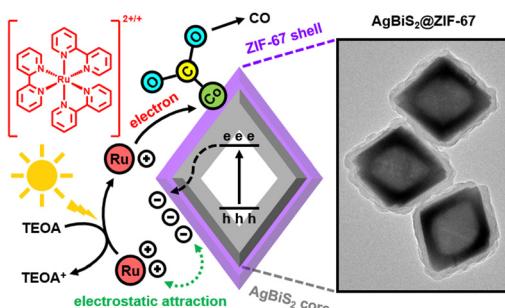
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## Enhancement of thermal conducting properties in epoxy thermoset systems using an aligned liquid-crystalline mesophase

Thi En Trinh and Hyeonuk Yeo\*

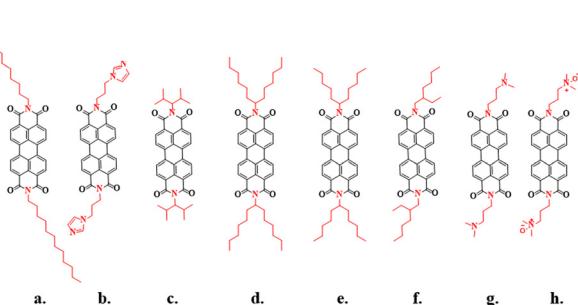
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## Enhanced light driven $\text{CO}_2$ conversion based on silver bismuth sulfide hollow octahedrons coated with amorphous metal–organic frameworks

Meng-De Dai, Qian Zhang, Hao Dong and Ya-Wen Zhang\*

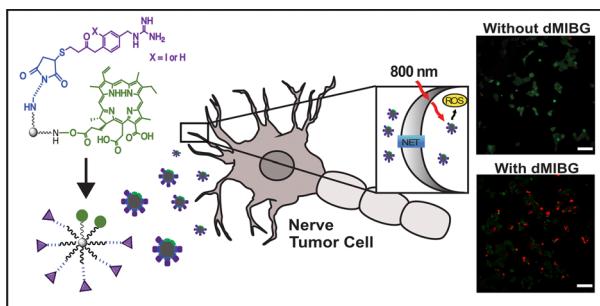
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## Synthesis and characterization of O-PDI for futuristic optoelectronic and rectifier applications

Akash and J. P. Tiwari\*

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Natalie S. Potter, Zhen Wang, Evan C. Bornowski, Scott D. Swanson, John P. Wolfe, Alan McLean\* and Raoul Kopelman



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D. M. Hoat\* and J. Guerrero-Sanchez

