

Materials Advances

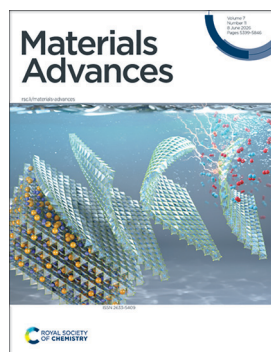
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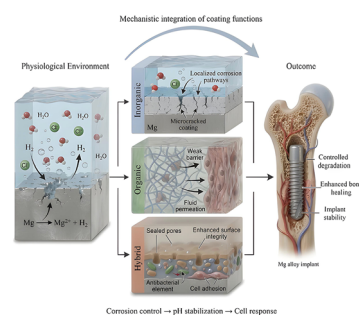
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REVIEWS

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From rapid corrosion to clinical use: coating technologies for magnesium-based orthopedic implants

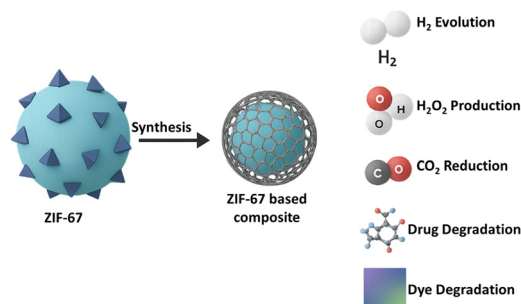
Nabil Kadhim Taieh,* Zainab Sabah Abbas, Mohammed Nabeel, Ying Li, Musaab K. Rasheed, Hassan Abdulrassoul Abdulhadi, Hanaa Soliman, Guangjun Gou, Xiaoli Xie and Xi Liu



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ZIF-67-based hybrid frameworks as high-performance photocatalysts for simultaneous energy conversion and pollutant degradation

Monalisa Samal, Dharitri Rath and Binita Nanda*



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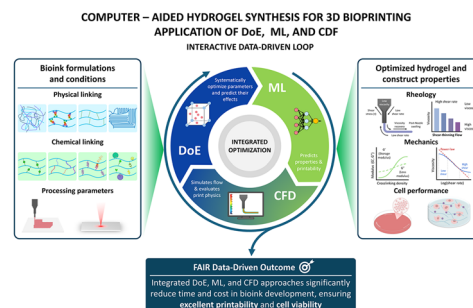
Fundamental questions
Elemental answers

REVIEWS

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Computer-aided hydrogel synthesis for 3D bioprinting: application of design of experiments (DoE), machine learning (ML), and computational fluid dynamics (CFD)

Minh Hien Nguyen,* Gia Huy Duong, Le Thao Vy Huynh, Hoang Cac Tien Le, Thi Yen Nhi Nguyen, Vinh-Dat Vuong and Thi Tan Pham*

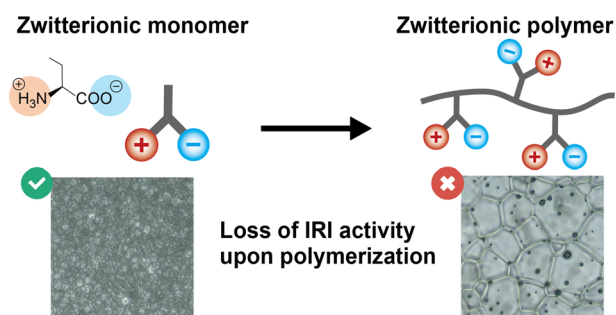


COMMUNICATION

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Effect of polymerization of zwitterionic monomers on their intrinsic antifreeze activity

Shuya Tanaka, Masanori Nagao,* Hayato Yoshitake, Hikaru Matsumoto, Yuji Higuchi and Yoshiko Miura

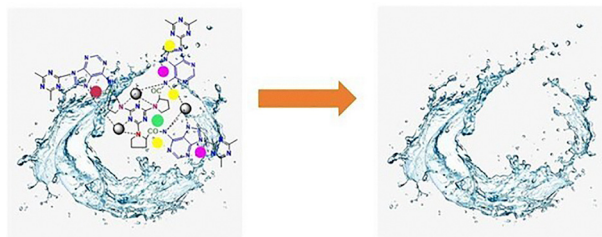


PAPERS

5487

Covalent triazine-capped Fe₃O₄ nanocomposites for efficient dye remediation: structural insights, adsorption mechanism, and recyclability

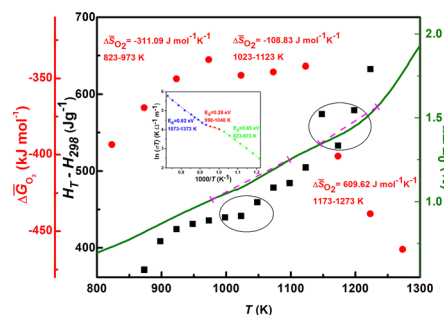
Shital R. Patel,* Isha R. Patel, Mehul S. Dave, Nilkanth J. Faldu and Tejas C. Sharma



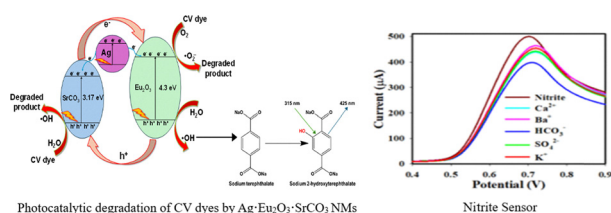
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Thermodynamic studies on entropy stabilized oxide (Co,Cu,Mg,Ni,Zn)O

Florina Teodorescu, Cornelia Marinescu, Ancuta Sofronia, Alina Botea-Petcu, Cristian Hornoiu, Mihail-Călin Licu, Florentina Maxim, David Bérardan, Nita Dragoe* and Speranta Tanasescu*



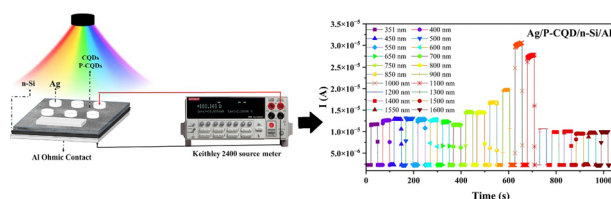
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Ternary Ag-Eu₂O₃-SrCO₃ nanomaterials for enhanced photocatalytic performance of CV dye and efficient nitrite sensor development

Shubrojit Dey, Md Abdus Subhan,* Umer Shahzad, Mohammad Al-Mamun, Didar Hossain, Maha G. Batterjee, Abul Kalam Azad, O. Madkhali, Khalid A. Alzahrani and Mohammed Muzibur Rahman*

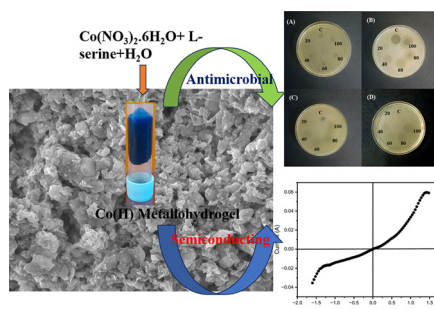
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Phosphorus-doped carbon quantum dots for broadband self-powered n-Si Schottky photodetectors with enhanced quantum efficiency and detectivity

Ali Akbar Hussaini, Mütahire Tok, Kurtuluş Yılmaz, Çisem Kirbiyık Kurukavak,* Mahmut Kuş, Beyza Terzi and Murat Yıldırım

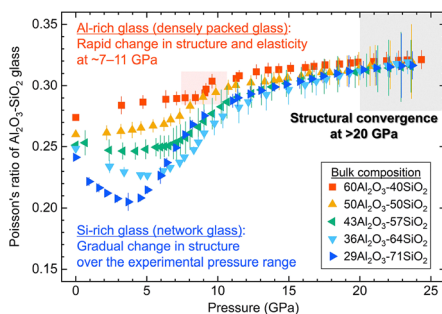
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Development of a supramolecular cobalt(II) metallohydrogel from L-serine-based low molecular weight gelator for dual antimicrobial and semiconducting applications

Sangita Some, Aiswarya Mohan, Rajlaxshmi Laha, Subhendu Dhibar,* Priya Kaith, Aditi Trivedi, Subham Bhattacharjee, Timothy O. Ajiboye, Lebea N. Nthunya, Ashok Bera, Asit Kumar Das, Sumit Kumar Panja, Somasri Dam,* Padmanabhan Predeep* and Bidyut Saha*

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Influence of pressure-induced structural change in Al₂O₃-SiO₂ glasses on the sound velocity and Poisson's ratio under pressure

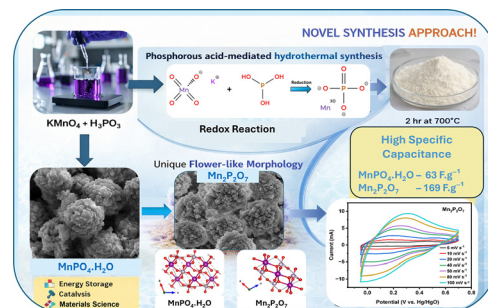
Itaru Ohira,* Yoshio Kono, Steeve Gréaux, Sayako Inoué, Nozomi M. Kondo, Sho Kakizawa, Yuji Higo, Noriyoshi Tsujino, Rostislav Hrubíak, Guoyin Shen and Atsunobu Masuno



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Phosphorous acid-mediated novel synthesis of $\text{MnPO}_4 \cdot \text{H}_2\text{O}$ and $\text{Mn}_2\text{P}_2\text{O}_7$ with a unique flower-like morphology: a new approach to manganese phosphate supercapacitors

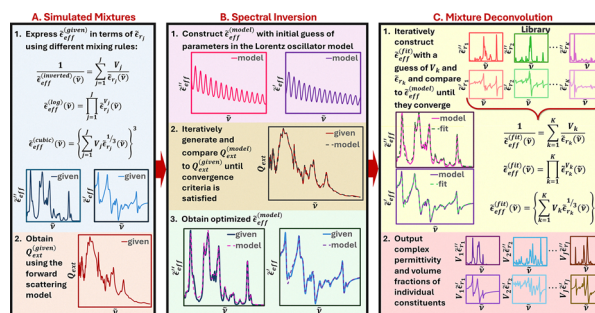
Prakash Bobde, Kajal Uphade, Sharath Kandambeth, Shikha Wadhwa and Ranjit Kumar*



5579

Topological diagnosis of polymer composites via inversion of nonlinear dielectric mixing rules

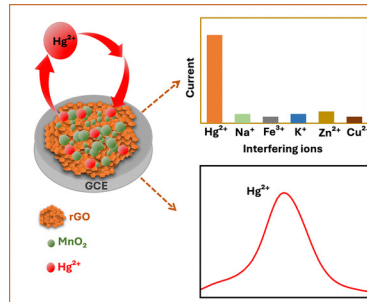
Proity Nayeeb Akbar



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High performance mercury sensing enabled by the synergistic effect of rGO– MnO_2 nanocomposites

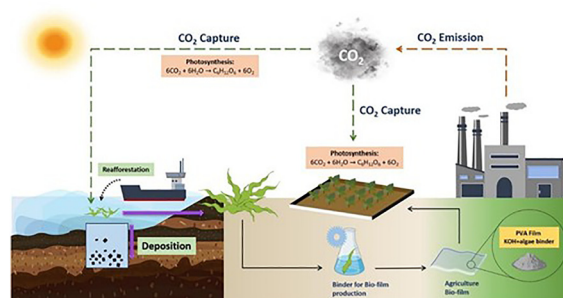
Md Emon Hasan Sourav, Md Tawabur Rahman,*
Md Nazmul Islam, Mohammad Abu Yousuf,*
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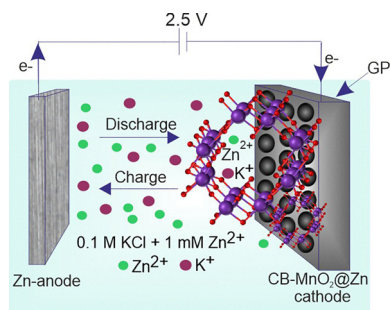
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Upcycling *Sargassum* biomass into biodegradable mulch films via sodium alginate and recycled polyvinyl alcohol

Aldair Etmaz Garcia, Mengyao Gao,* Jing-Xian Chen, Ying Wang* and Seth W. Snyder



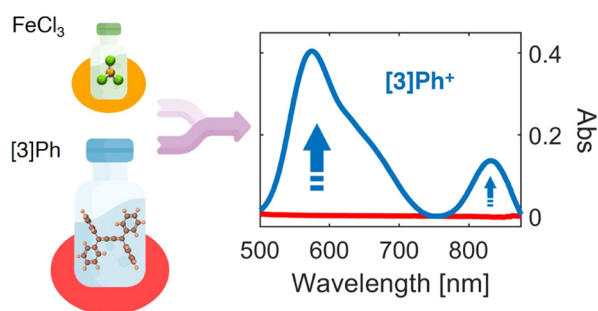
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A high-capacity 2.5 V aqueous K^+/Zn^{2+} mixed ions hybrid supercapacitor enabled by an electrochemically pre-intercalated α - MnO_2 /carbon black cathode

Raghupathy Rajesh and Annamalai Senthil Kumar*

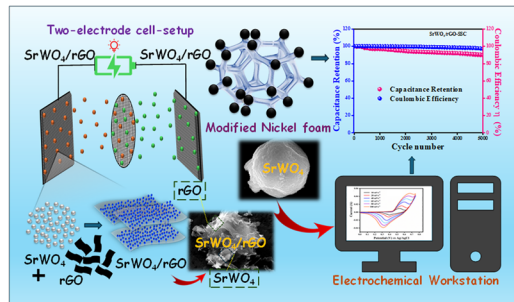
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Oxidation of sp - and sp^2 -hybridised molecular semiconductors with iron(III) chloride in organic media

Elda Sala, João Paulo V. Damasceno,* Stefano Pecoraro, Pietro Marabotti, Ivan K. Ilic, Valerio Galli, Simone Melesi, Pierfrancesco Sansò, Andrea Tuarivoli, Carlo S. Casari, Daniele Fazzi, Rik R. Tykwinski and Mario Caironi*

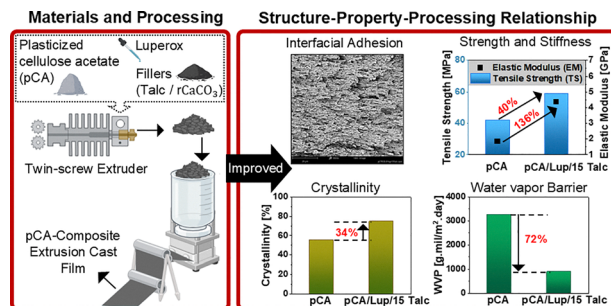
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Enhanced faradaic pseudo-capacitance in a reduced π -conjugated carbon network anchored with strontium tungstate nano-hybrids for high-energy supercapacitors

Sabarikaruthapandi Ramar, Sathish Kumar Ponnaiah, Bharathi Kannan Raja, Muthukumar Govindaraj and Arockia Selvi J*

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Design and engineering of novel extrusion-cast films from plasticized cellulose acetate filled with mineral fillers for flexible packaging applications

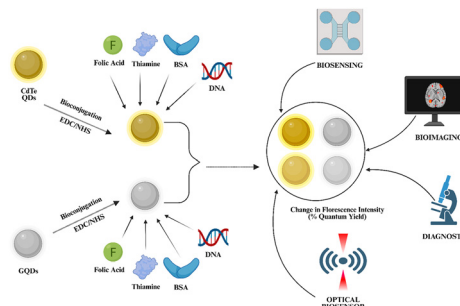
Fatemeh Jahangiri, Matias Menossi, Manjusri Misra* and Amar K. Mohanty*



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Ligand specific bioconjugation induced modulation of quantum yield in CdTe and graphene quantum dots

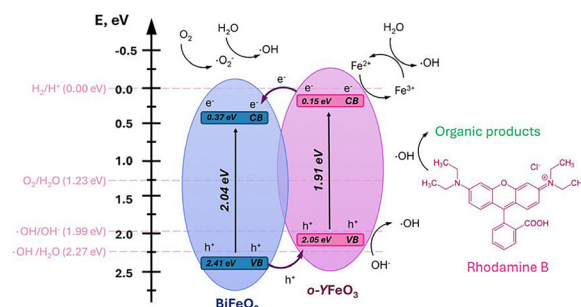
Akhil Khajuria, Jatinder Kaur, Hema K. Alajangi, Suraj Pratap Singh, Pritiman Pothal, Manpreet Singh, Mahima Thakur, Pavitra Ranawat,* Ravi Pratap Barnwal* and Gural Singh*



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Synthesis of a novel visible light-driven and magnetically separable photocatalyst based on a BiFeO₃-YFeO₃ type II heterojunction

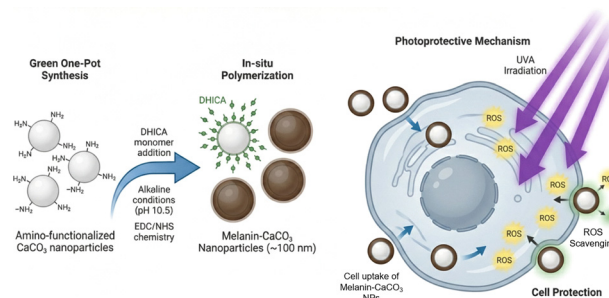
Sofia M. Tikhanova, Mikhail P. Volkov, Ivan V. Buryanenko, Valentin G. Semenov, Zhandos Orazov, Valentin Romanovski,* Vadim I. Popkov and Natalia A. Lomanova*



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Biocompatible melanin-functionalized CaCO₃ nanoparticles for cell protection against photoinduced oxidative stress

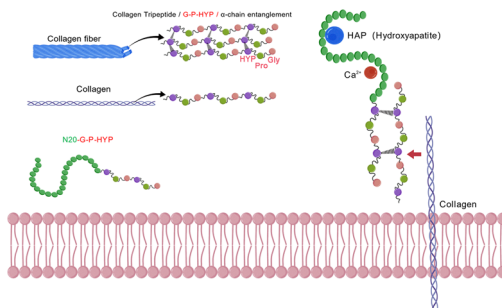
Giuseppe Vitiello,* Francesca Baldassarre, Chiara Boncristiani, Alessandro Pezzella, Giuseppina Luciani, Giuseppe Ciccarella and Viviana Vergaro*



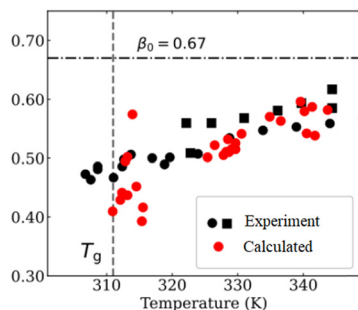
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Glycine-proline-hydroxyproline modification improves the affinity of the CEMP1 N-terminal 20-residue peptide to collagen

Yuxiang Sun,* Yanqian Zhao, Li Xu* and Weibin Sun*



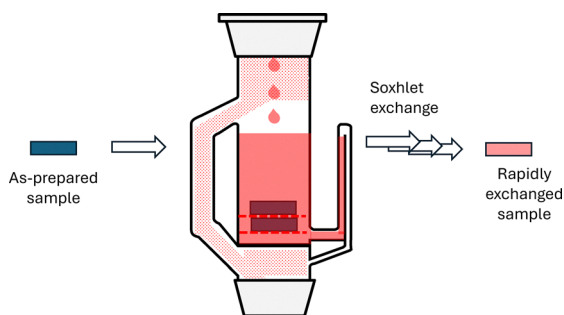
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Relationship between enthalpy fluctuation and nonexponential relaxation in glass-forming liquids

Wataru Takeda and Pierre Lucas*

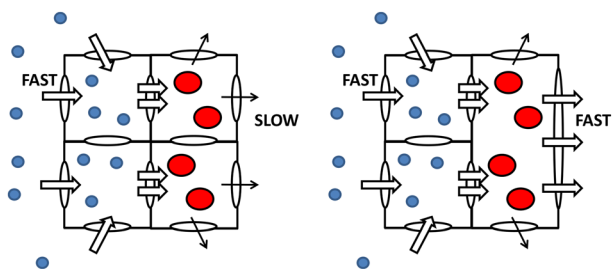
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Accelerated aerogel development via Soxhlet extraction and freeze-drying

Felix Leven, Mavin Geyer, Elisabeth Huth, Corina Andronescu and Rainer Ostermann*

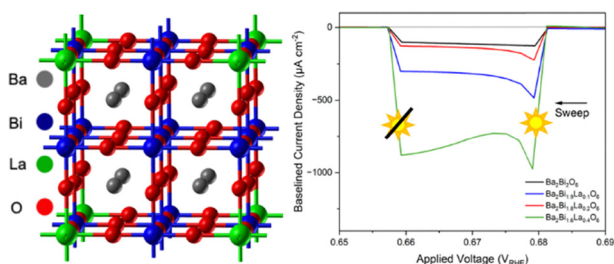
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Hierarchically structured mixed-linker HKUST-1 metal-organic frameworks as catalysts: one-pot synthesis of quinazolines

Anna Nowacka and Francesc X. Llabrés i Xamena*

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Solution-processed La-substituted Ba₂Bi₂O₆ photocathodes with enhanced photoelectrochemical activity: a combined experimental and computational study

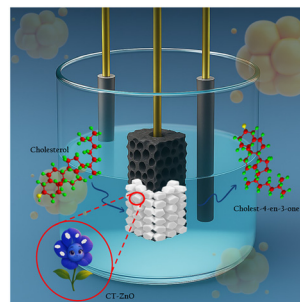
Bradley Francis Lewis, Giuseppe Mallia, Tianhao Lan, Evan Tillotson, Minzhi Chen, Hongbo Zhang, Jamie Southouse, Sarah J. Haigh, Nicholas M. Harrison, Ji-Seon Kim and Salvador Eslava*



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Clitoria ternatea-mediated ZnO nanoparticles for enzyme-free photoelectrochemical cholesterol detection

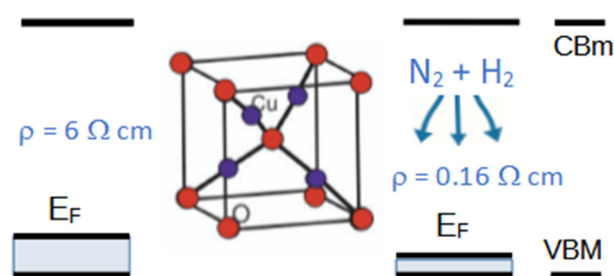
Sushmitha S, Lavanya Rao, Mahesha P. Nayak, Shreeganesh Subraya Hegde and Badekai Ramachandra Bhat*



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Extra-low resistivity in N and H doped Cu₂O thin films grown by room temperature RF sputtering

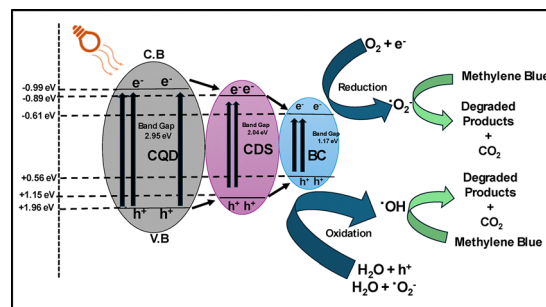
A. Di Trollo,* P. M. Latino, B. Paci, A. Generosi, A. Cricenti, M. Luce, D. Becerrill, A. Di Carlo, S. Ali, F. Filippone and A. Amore Bonapasta



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Waste-to-work photocatalysis: orange-peel-derived CQD@CdS/biochar hybrids enabling efficient visible-light-driven dye mineralisation and mechanistic elucidation

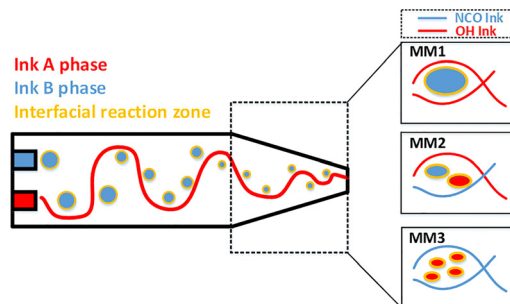
Akash M. Nair, Palkaran Sethi, Jasminder Singh* and Soumen Basu*



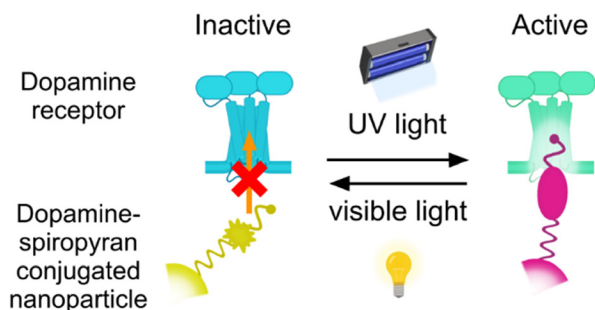
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The influence of rheology on 3D printing with heterogeneous reactive polyurethane reagents

Yuyang Wu, Zuoxin Zhou, Xuesong Lu, Amy Stimpson, Agustin Forchetti Casarino, Wayne Hayes, Christopher Tuck, Ricky D. Wildman* and Derek Irvine*



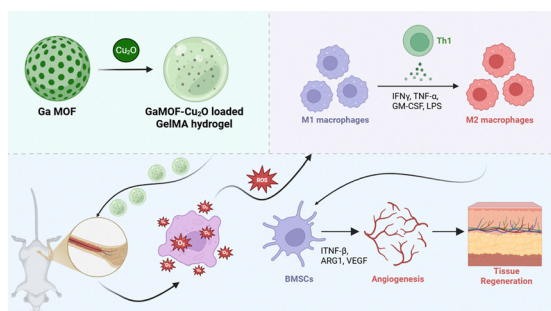
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On-demand dopamine receptor activation *via* photoresponsive nanoparticle-dopamine conjugates in differentiated SH-SY5Y and transfected HEK293 cells

Hajar Alghamdi, Sunil Rajput, Noah A. Russell, Shailesh N. Mistry, Charles A. Laughton, Giuseppe Mantovani, Pavel Gershkovich, Keith Spriggs and Mischa Zelzer*

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A multifunctional GaMOF–Cu₂O-integrated GelMA hydrogel for synergistic antibacterial activity and tissue regeneration

Hai Zhu, Yue Gao, Yu Sun, Huan Liu, Xiaoming Tang* and Feng Ji*

