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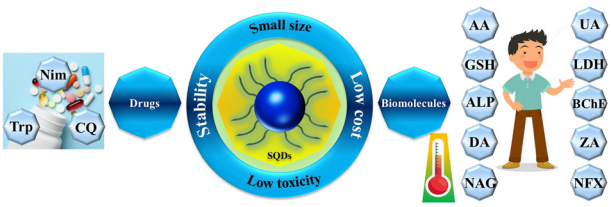

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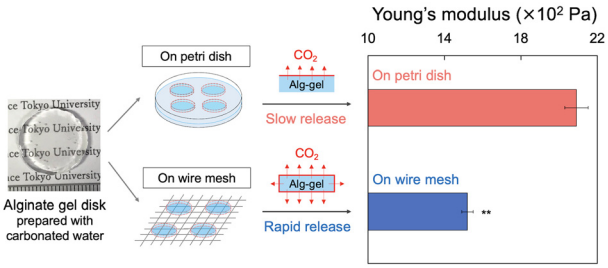
Ryota Teshima,* Shigehito Osawa, Kaoru Hirose, Yayoi Kawano, Akihiko Kikuchi, Takehisa Hanawa and Hidenori Otsuka

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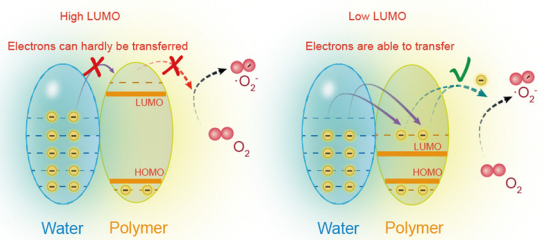
Ziming Wang, Xuanli Dong, Fu-Jie Lv and Wei Tang*

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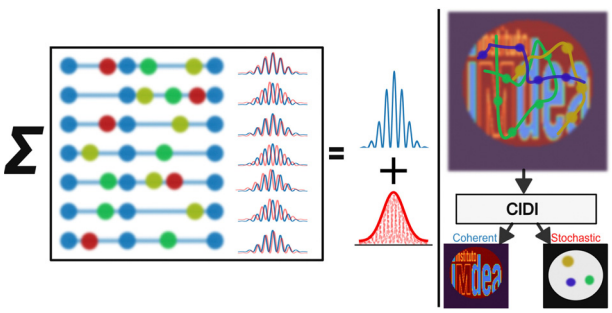
**Coherent X-ray imaging of stochastic dynamics**

Arnab Sarkar and Allan S. Johnson*

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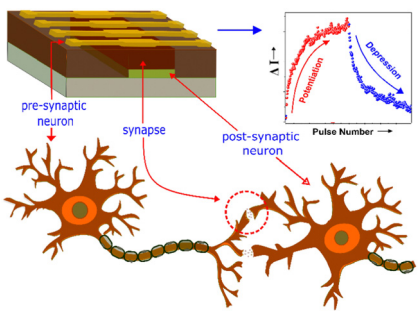
**Emulating synaptic plasticity with a poly[*N*-(3-(9*H*-carbazol-9-yl)propyl)methacrylamide] memristor**

Yadu Ram Panthi, Ambika Pandey, Adriana Šturcová, Drahomír Výprachtický, Stephen H. Foulger and Jiří Pfleger*



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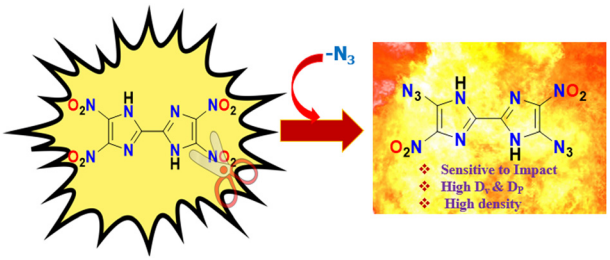


**One step synthesis of nitrogen-rich green primary explosives from secondary explosives: synthesis, characterization, and performance study**

Parasar Kumar, Vikas D. Ghule and Srinivas Dharavath*

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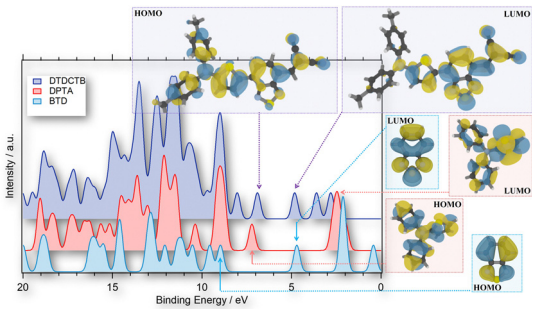


**Gas phase electronic structure of the DTDCTB small-molecule donor for vacuum-processed organic photovoltaics compared to its constituent building blocks**

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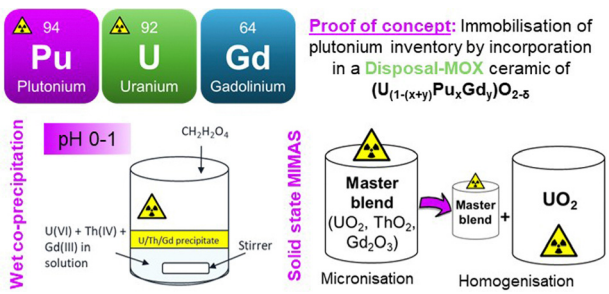


**A disposal-MOX concept for plutonium disposition**

Max R. Cole, Lewis R. Blackburn, Latham T. Haigh, Daniel J. Bailey, Luke T. Townsend, Kristina O. Kvashnina, Neil C. Hyatt and Claire L. Corkhill*

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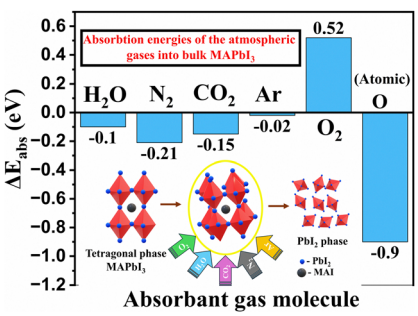


**Unravelling the environmental degradation mechanism of perovskite thin films**

Nalini V, Gergely N. Nagy, Ariful Rahaman, Sreeram K. Kalpathy, Tiju Thomas, Sumangala T. P.* and Mousumi Upadhyay Kahaly*



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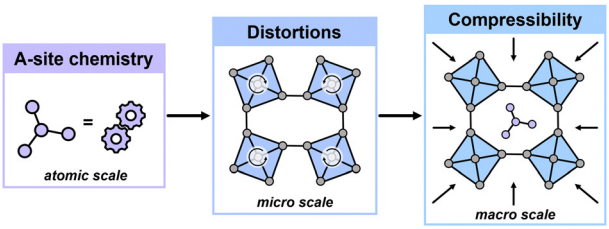
**Tuning the mechanical properties of molecular perovskites by controlling framework distortions *via* A-site substitution**

Silva M. Kronawitter, Shinjoo Park, Sebastian A. Hallweger, Emily Myatt, Jem Pitcairn, Matthew J. Cliffe, Dominik Daisenberger, Markus Drees and Gregor Kieslich*

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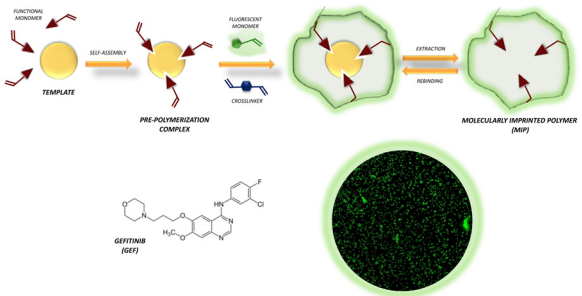
Marco Dattilo, Marisa Francesca Motta, Francesco Patitucci, Claudia Ferraro, Ortensia Ilaria Parisi* and Francesco Puoci

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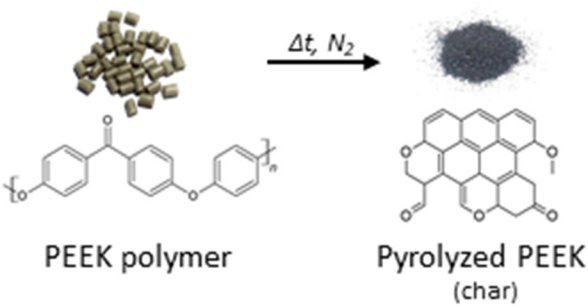
**Microporous carbonaceous adsorbent prepared from a pyrolyzed polymer**

Jaroslav Lang,* Jan Bednárek, Michal Ritz, Martin Kormunda, Tomáš Zelenka, Michal Vaštyl, Anna Gavlová, Zdeňka Kolská and Marta Férová

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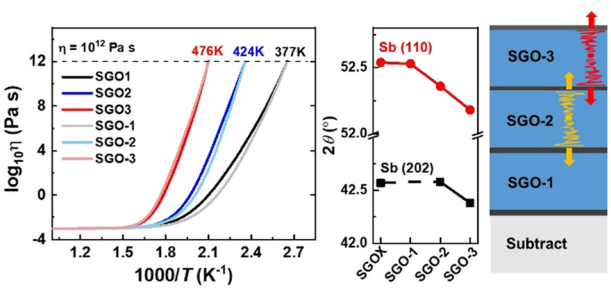
**Crystallization kinetics of stacked phase-change films for multi-level storage**

Yimin Chen,* Ce Fan, Nan Han, Kexing Peng, Chenjie Gu, Zijun Liu, Guoxiang Wang, Tiefeng Xu, Junqiang Wang and Xiang Shen*



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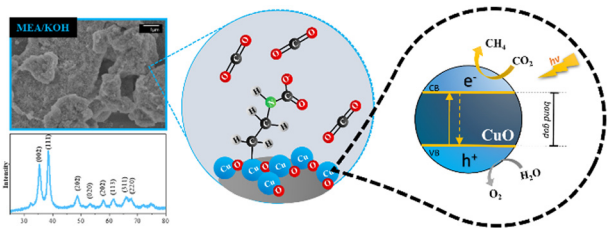


**Unveiling the influence of alkaline modifiers in CuO synthesis on its photocatalytic activity for $CO_2$ reduction**

Jéssica C. de Almeida, Thais Aparecida Rodrigues, Gelson T. S. T. da Silva, Caue Ribeiro* and Vagner R. de Mendonça*

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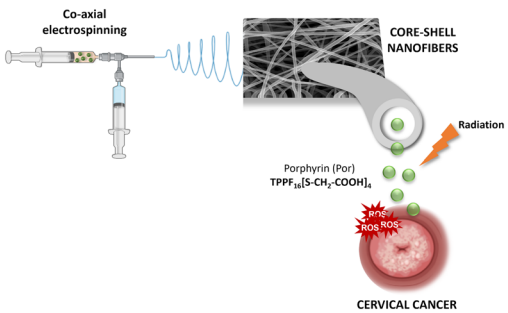


**Localized cancer photodynamic therapy approach based on core–shell electrospun nanofibers**

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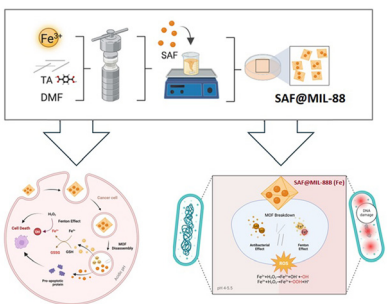


**Synthesis and characterization of safranal@ MIL-88B(Fe) nanostructures and their preliminary anticancer and antibacterial characteristics**

Alia Alkaabi, Khansa Ahsan, Nayla Munawar, Abdelouahid Samadi, Hesham El-Maghraby, Amr Amin and Yaser Greish*

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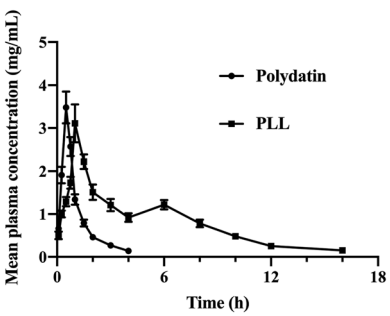


**Advancing diabetes treatment: novel formulation of polydatin long-circulating liposomes and their glucose-regulating impact on hyperlipidemia-induced type 2 diabetic mice**

Kepei Zhang, Junlan Chen, Faisal Raza, Hajra Zafar, Ye Xu, Ran Li, Kamran Hidayat Ullah and Shigao Zhou*



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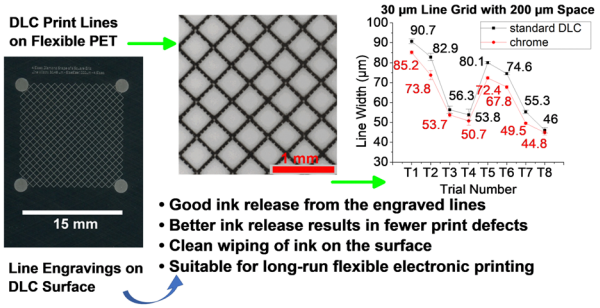
**DLC-engineered flat gravure surface: enabling sustainable fabrication to replace chrome for printing conductive line electrodes in flexible electronics**

Chandramohan Seetharamiahsrinivasaraju,* Ronit Shetty, Donald K. Cohen, Priyanka Sharma* and James R. Springstead

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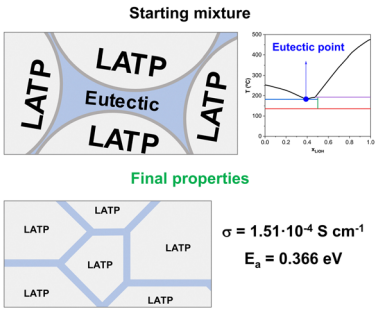
**Hydroflux-assisted cold sintering: eutectic mixtures for boosting ionic conductivity in LATP solid-state electrolytes**

Andrés Mormeneo-Segarra, Sergio Ferrer-Nicomedes, Nuria Vicente-Agut* and Antonio Barba-Juan

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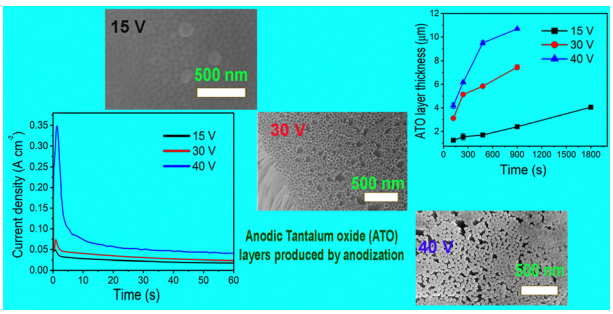
**Understanding the morphological evolution of anodic tantalum oxide nanostructures in acidic medium**

Biswaranjan D. Mohapatra,* Kinga Pawlik, Izabela Darowska, Łukasz Gondek, Marcin Pisarek and Grzegorz D. Sulka*

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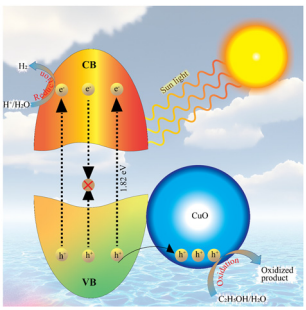
**Insights into the development and performance of $CuO/CuFe_2S_xO_{4-x}$ catalysts: an effective approach for renewable hydrogen generation**

Ejaz Hussain,* Muhammad Jalil, Muhammad Zeeshan Abid, Javeria Mansab, Raed H. Althomali, Shuxin Wang, Abdul Rauf and Khezina Rafiq*



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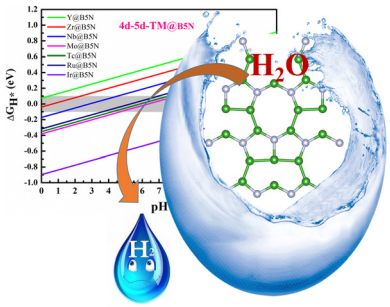


**Single-atom transition metals doping two-dimensional $B_XN$ materials ($X$ = 2, 3, 5) with promising electrocatalytic activity for efficient hydrogen production in the entire pH range**

Yuhua Wei, Feng Gao,* Hong Liu, Wei Qi, Sichao Du, Hao Xie and Duo Xiao

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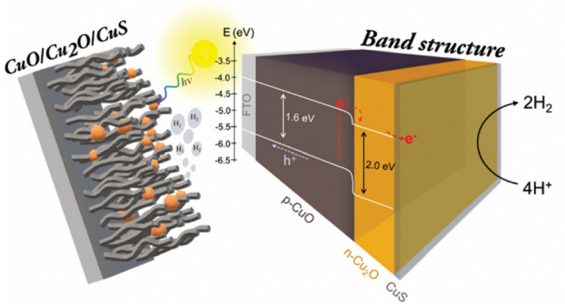


**Enhanced photoelectrochemical water splitting using nanostructured films: p-CuO sensitized with polyhedral n-$Cu_2O$ particles and CuS as photocathode**

Hugo Leandro Sousa Santos and Lucia Helena Mascaro*

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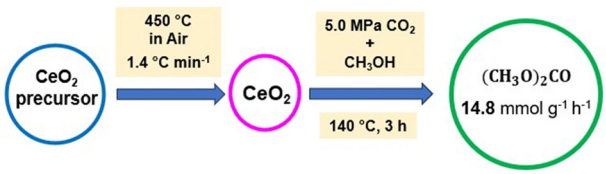


**Porous ceria materials for efficient direct conversion of carbon dioxide and methanol to dimethyl carbonate**

Zhuxian Yang, Justin Tay Zheng, Xinhuan Lu, Monica Mengdie Lin, Dongming Cai, Yankun Wang, Wen-Yueh Yu,* Yanqiu Zhu and Yongde Xia*

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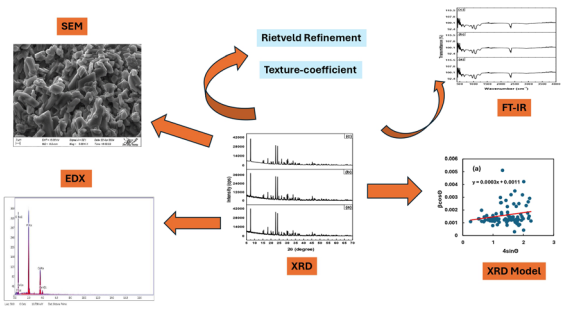


**Sustainable synthesis and characterization of nano-triple superphosphate from solid marine wastes**

Md. Kawcher Alam, Md. Sahadat Hossain, Mohammad Saimon Islam, Newaz Mohammed Bahadur and Samina Ahmed*



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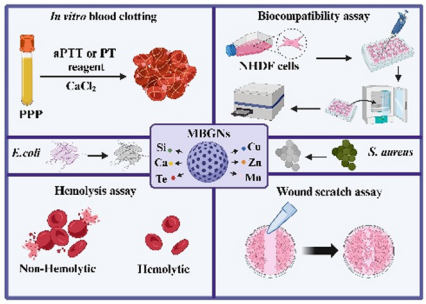
**The effect of mesoporous bioactive glass nanoparticles incorporating various metallic ions (Cu, Zn, Mn, Te) on wound healing**

Sara Pourshahrestani,* Ehsan Zeimaran, Christina Janko, Christoph Alexiou, Andrea Kerpes, Adrian Würz, Marcus Fischer, Hana Kaňková, Martin Hartmann and Aldo R. Boccaccini*

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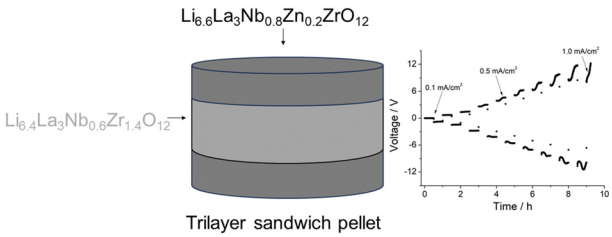
**Experimental and computational study of Zn doping in $Li_{5+x}La_3Nb_{2-x}Zr_xO_{12}$ garnet solid state electrolytes**

Bo Dong,* Bassey Oboho, Linhao Li, Xiao Tao, Pengcheng Zhu, Mark P. Stockham, Chuan Li, Roger Smith, Yongliang Li, Yulong Ding, Pooja Goddard* and Peter R. Slater*

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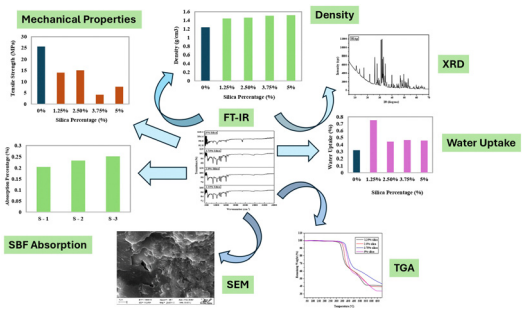
**Fabrication of composite scaffolds using hydroxyapatite, epoxy resin and silica for load-bearing applications**

Md. Kawcher Alam, Md. Sahadat Hossain, Newaz Mohammed Bahadur and Samina Ahmed*