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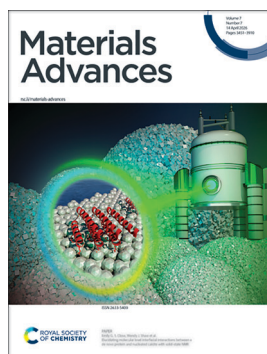
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ISSN 2633-5409 CODEN MAADC9 7(7) 3451-3910 (2026)



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See Craig J. Neal, Sudipta Seal *et al.*, pp. 3537–3544. Image reproduced by permission of Craig J. Neal from *Mater. Adv.*, 2026, 7, 3537.



### Inside cover

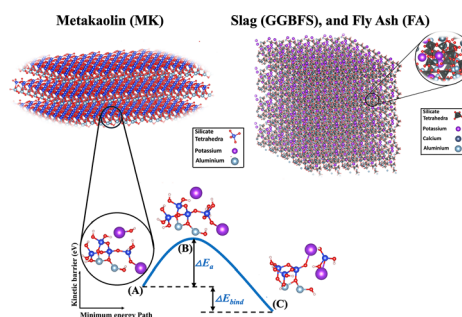
See Emily G. S. Close, Wendy J. Shaw *et al.*, pp. 3545–3558. Image reproduced by permission of Battelle Memorial Institute – Pacific Northwest National Laboratory from *Mater. Adv.*, 2026, 7, 3545.

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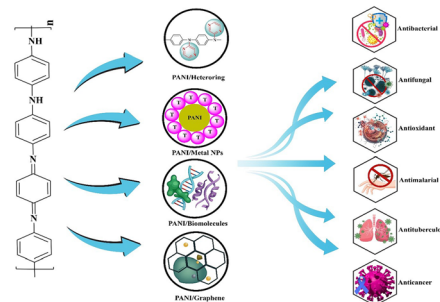
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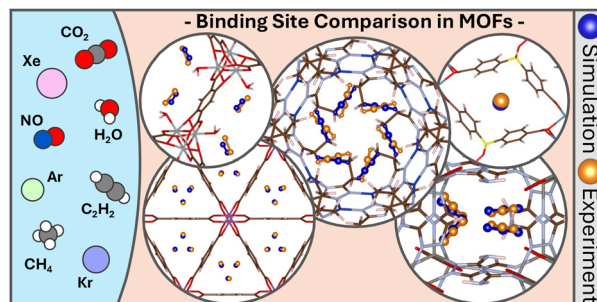


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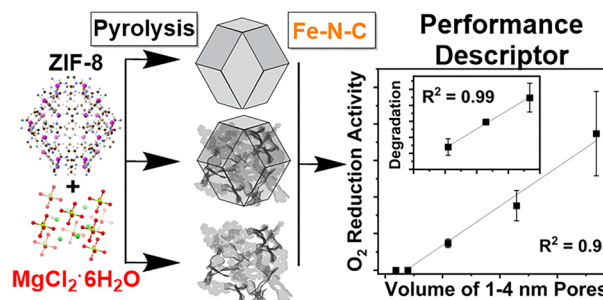
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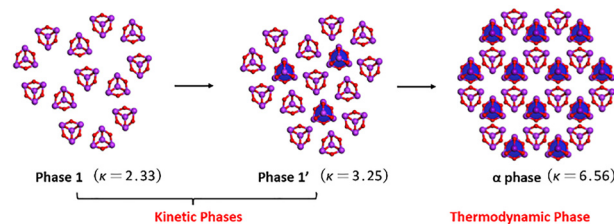
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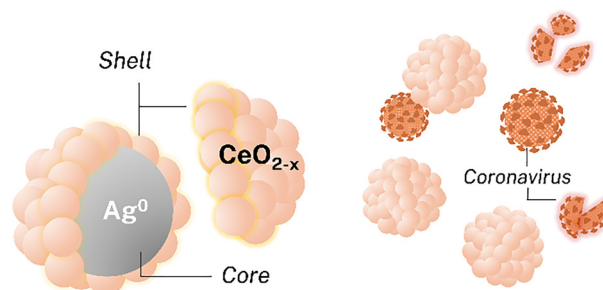


## PAPERS

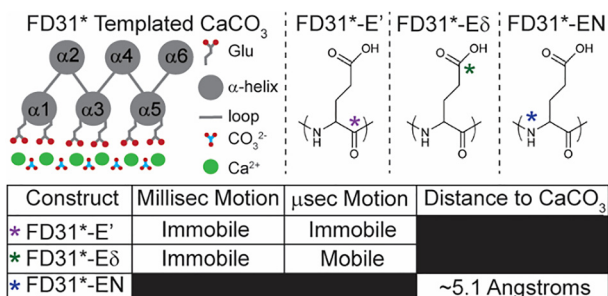
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### Production of assorted nanoparticle structures using silver–cerium redox chemistry for inactivation of coronavirus

Craig J. Neal,\* Muhammad Hassan Mehmood Kalyar, Elayaraja Kolanthai, Maria V. Bolen, Griffith D. Parks and Sudipta Seal\*



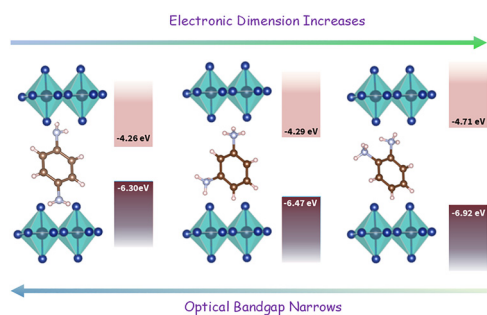
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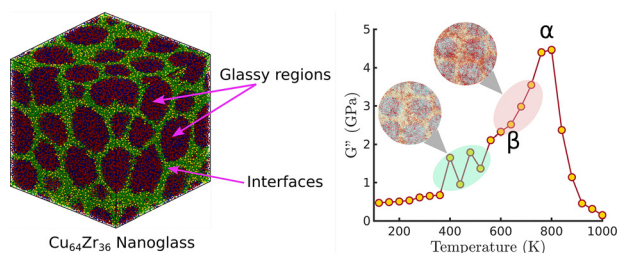
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### Optoelectronic modulation *via* isomerism-induced structural effects in low-dimensional bismuth halide perovskites

Bharath Bhaskarbhat, S. K. Mukaddar, Altaf Pasha, Jan Grzegorz Matecki, Suman Kalyan Sahoo, Srinivas Budagumpi and R Geetha Balakrishna\*

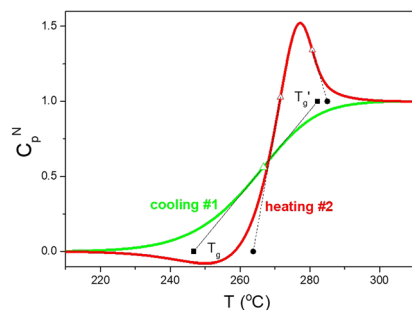
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Param Punj Singh, Dhyanesh Baskaran, Omar Adjaoud, Karsten Albe and Raghavan Ranganathan\*

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### The glass transition width and its dependence on fragility, nonexponentiality and nonlinearity

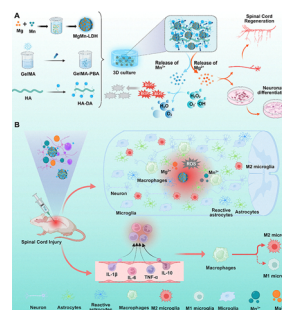
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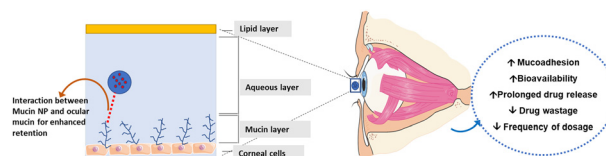
Lian Ren, Xiaobin Zhou, Longbao Feng and Guodong Sun\*



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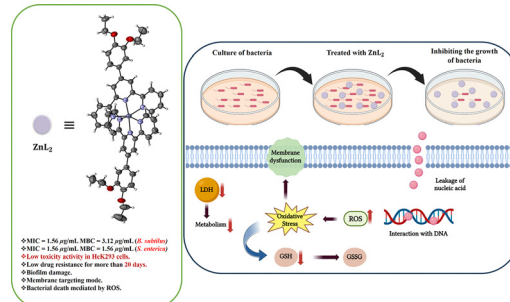
Wahida Binte Naz Aurthy, Nondita Datta, Siew Yee Wong, Xu Li, Asma Rahman, Md. Latiful Bari, Ishiaque Anwar and M. Tarik Arifat\*



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## Harnessing the zinc(II) bis-terpyridine complex to overcome drug resistance: mechanistic insights into antibacterial activity

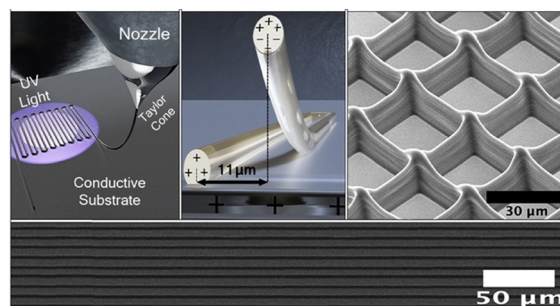
Sourav Sutradhar, Saurabh Gupta, Parnashabari Sarkar, Dipankar Das, Kamaldeep Paul\* and Biswa Nath Ghosh\*



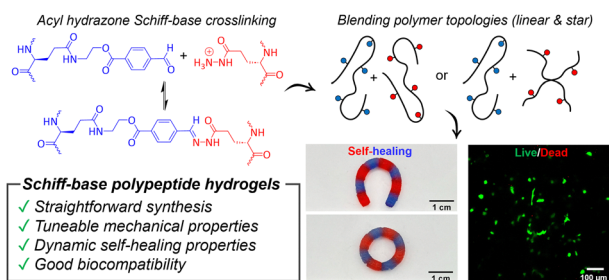
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## Delayed crosslinking enables ultra-high-resolution melt electrowriting of responsive liquid crystal elastomers

Mehrzad Javadzadeh, María Fernández-Melero, Jesús del Barrio and Carlos Sánchez-Somolinos\*



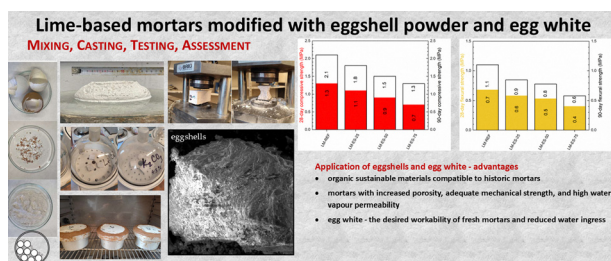
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## The influence of polymer topology and side chain functionality on the Schiff-base reactivity of biocompatible polypeptide hydrogels

Robert D. Murphy,\* Franz Lobianco, Viviane Chiaradia, Josué M. Galindo, Tom Hodgkinson and Andreas Heise

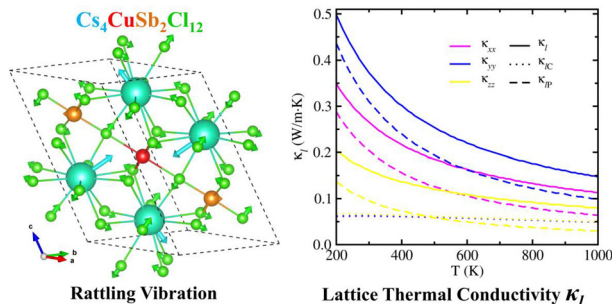
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## Experimental assessment of lime-based mortars modified with eggshell powder and egg white – towards development of materials for repair of historic buildings

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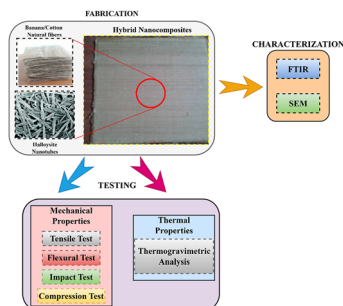
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## Theoretical insights into lattice dynamics and thermal transport properties of lead-free quadruple halide perovskite $\text{Cs}_4\text{CuSb}_2\text{Cl}_{12}$

Un-Sok Pak,\* Dok-Song Che Gal, Song-Myong Jang and Un-Gi Jong\*

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## Effect of halloysite nanotube addition on mechanical and thermal performance of banana/cotton hybrid natural fiber-reinforced polymer nanocomposites

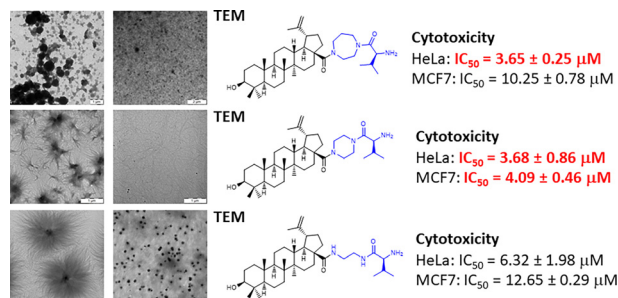
G. Umachitra, P. S. Sampath, A. Karthik, M. S. Senthilkumar, K. Ramachandran, L. Rajeshkumar\* and M. Sathishkumar\*



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### Nano-assembly and cytotoxicity of the L-valine–polyamine conjugates of betulinic acid

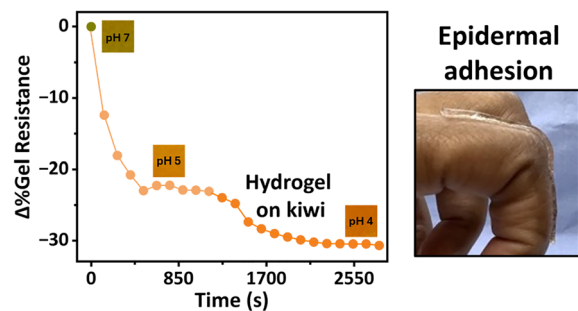
Martina Wimmerová, Miroslav Šlouf, Marie Kvasnicová, Lucie Rárová, David Šaman and Zdeněk Wimmer\*



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### Towards a wearable format for transducing responsive swelling in hydrogels

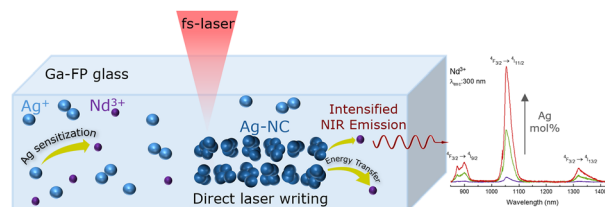
Rinki Singh,\* Dinakaran Thirumalai, Tanya Levingstone and Aoife Morrin\*



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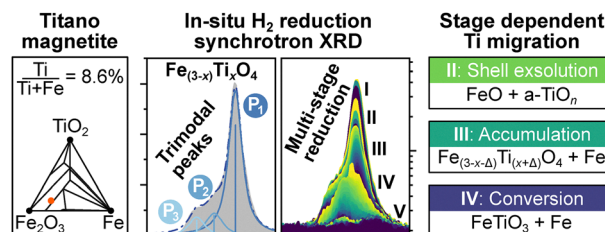
Vinicius D. Jesus,\* Leonnam G. Merizio, Gustavo Galleani, Guillaume Raffy, Mathis Carpentier, Yannick Petit,\* Thierry Cardinal and Andrea S. S. de Camargo\*



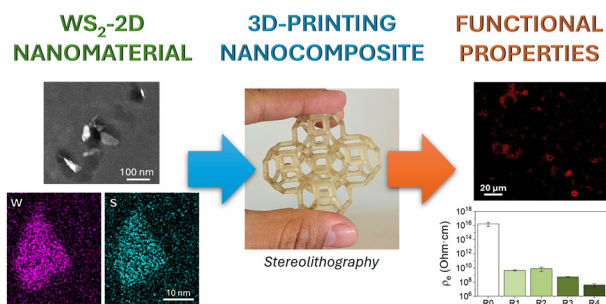
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### In situ synchrotron X-ray diffraction studies of the high-temperature hydrogen reduction of New Zealand titanomagnetite ironsand

Morgan Lowther,\* Bridget Ingham, Martin J. Ryan, Sigit Prabowo, Mohammad Nusheh, Raymond J. Longbottom, Bavinesh Maisuria, Sarah Spencer, Brian J. Monaghan, Mark H. Reid and Chris W. Bumby



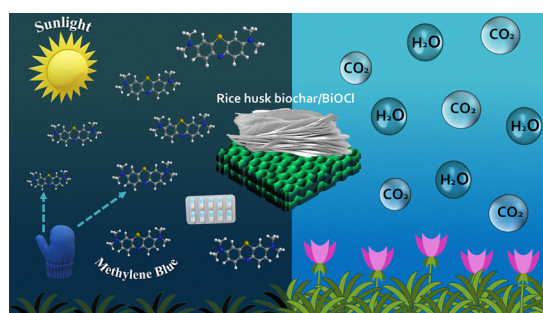
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### Additive manufacturing of semiconductive polymer nanocomposites loaded with tungsten disulfide nanosheets

Luisa M. Valencia Liñán, Alberto Sanz de León,\* Sergio I. Molina and Miriam Herrera

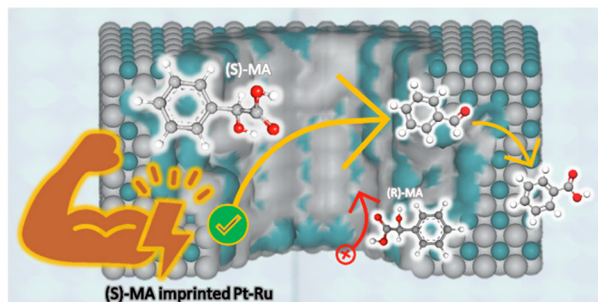
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### Rice husk biochar-boosted BiOCl nanoplates: a sunlight-responsive route to wastewater detoxification and pathway insights for methylene blue degradation

Lovneet Kaur, Palkaran Sethi and Soumen Basu\*

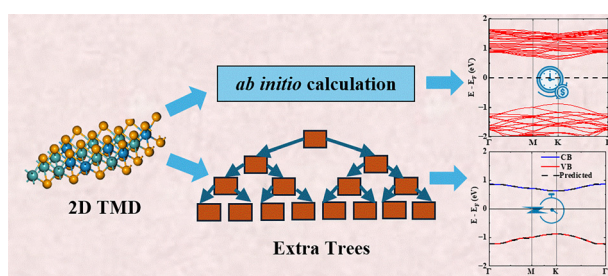
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### Highly stable chiral bimetallic mesoporous platinum–ruthenium electrodes for enantioselective recognition

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### Machine learning-enabled prediction of the electronic band-edge shapes and properties of 2D transition metal dichalcogenide alloys

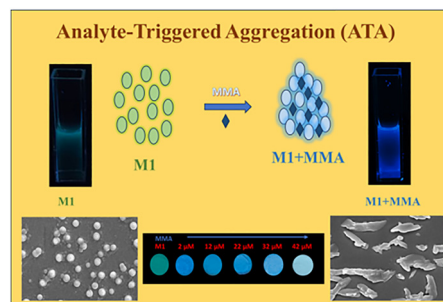
Tarvir Anjum Aditto, Vivek Chowdhury, Hafiz Imtiaz\* and Ahmed Zubair\*



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### Smartphone-assisted urinary methylmalonic acid sensing using an imidazole-based probe via the analyte-triggered aggregation mechanism

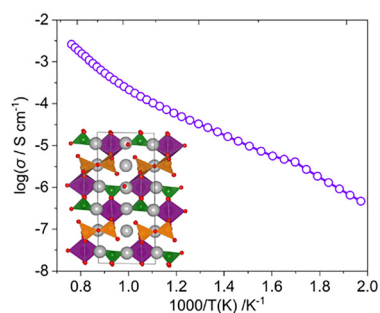
Bharat Kaushik, Ajeet Singh, Annu Agarwal, Nancy Punia and Inamur Rahaman Laskar\*



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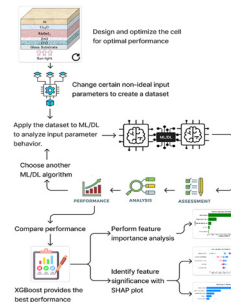
Oliver J. Wagstaff,\* Archie D. Collins, John S. O. Evans and Ivana Radosavljević Evans



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### Investigating the impact of non-ideal conditions on the performance of an $\text{RbGeI}_3$ perovskite solar cell through a combination of SCAPS-1D, machine learning and deep learning approaches

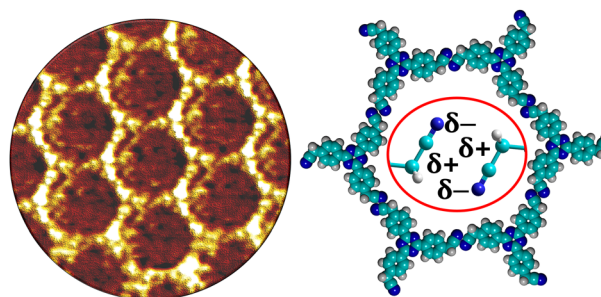
Tanvir Mahtab Khan,\* Md. Atik Shams, Most. Marzia Khatun, Tahmid Ahamed, Manjuara Akter, Shajedul Hasan Arman, Mirza Md. Shakil, Hafiz Al Asad and Sheikh Rashel Al Ahmed\*



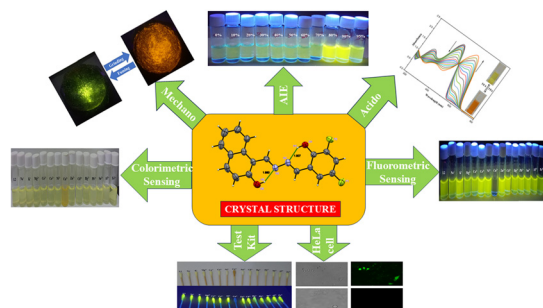
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### Dipole-assisted nanoporous networks on surfaces

Huanjing Luo, Andrea Minoia, Vipin Mishra, Dariane Fadoras, Filippo Giovanni Fabozzi, Roberto Lazzaroni, Stefan Hecht, Kunal S. Mali\* and Steven De Feyter\*



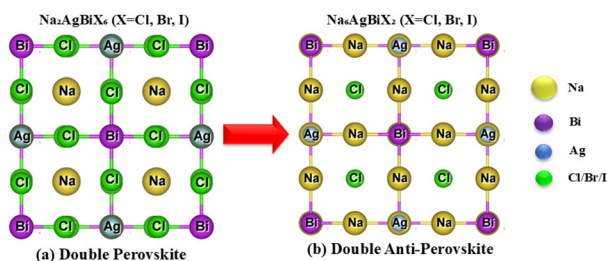
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### Design and synthesis of an AIE-active naphthaldehyde hydrazone-based ligand: mechanochromic, acidochromic, and sensing studies

Ram Kumar Mandal, Pankaj Haloi, Abhinav Jain, Sourav Sutradhar, Jebiti Haribabu, Diego Quezada, Daniel Moraga and Pranjit Barman\*

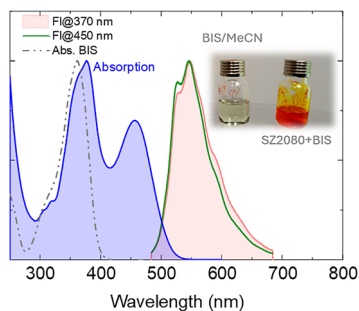
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### Computational exploration of the diverse functional properties of double antiperovskite materials $\text{Na}_6\text{AgBiX}_2$ ( $X = \text{Cl}, \text{Br}, \text{I}$ )

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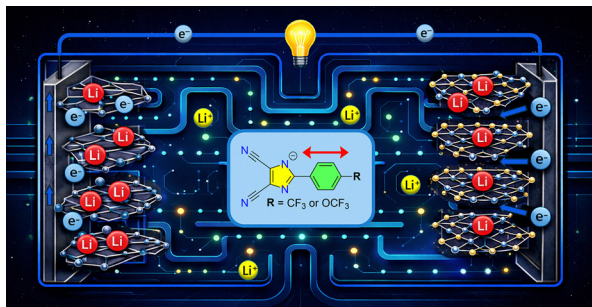
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### Donor–acceptor complexes between photoinitiators and hybrid organic–inorganic SZZ2080™ photoresist

Marius Navickas,\* Dimitra Ladika, Edvinas Orentas, Martynas Talaikis, Gediminas Niaura, Mantas Grigalavičius, Mantas Gaidys, Ricardo J. Fernández-Terán,\* Mangirdas Malinauskas and Mikas Vengris

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### Tailoring lithium dicyanoimidazolid: structure–property relationships

Daniel Pokorný, Tomáš Syrový, Milan Klikar, Patrik Pařík, Zuzana Burešová, Lenka Řeháčková and Filip Bureš\*

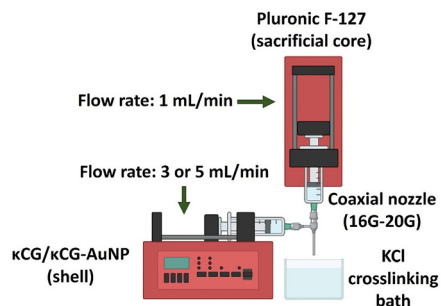


## PAPERS

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### Rheology and coaxial extrusion of acellular and cell-laden hollow conduits of pristine kappa carrageenan and gold–kappa carrageenan nanocomposite hydrogels

Sanchari Swarupa, Mata Subhashita, Nikita Chauhan, Jitendra Bahadur, Sharad Gupta and Prachi Thareja\*



## CORRECTION

3907

### Correction: Bismuth selenide topological insulator materials for green energy devices: prospects and applications

Razieh Khaki, Mahmood Moradi,\* Gholam Hossein Bordbar, Hana Kazemi, Saeid Davatolhagh and Meysam Pazoki\*

