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See Antonios Kelarakis *et al.*, pp. 2594–2601. Image reproduced by permission of Antonios Kelarakis from *Nanoscale Adv.*, 2024, **6**, 2594.

Inside cover
See Anshu Pandey *et al.*, pp. 2602–2610. Image reproduced by permission of Anshu Pandey from *Nanoscale Adv.*, 2024, **6**, 2602.

REVIEW

2539

Bioinspired graphene-based metal oxide nanocomposites for photocatalytic and electrochemical performances: an updated review

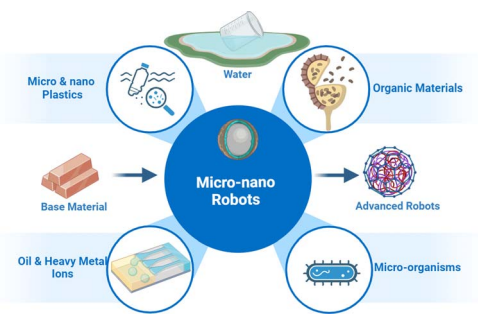
Ajay K. Potbhare, S. K. Tarik Aziz, Mohd. Monis Ayyub, Aniket Kahate, Rohit Madankar, Sneha Wankar, Arnab Dutta, Ahmed Abdala, Sami H. Mohmood,* Rameshwar Adhikari* and Ratiram G. Chaudhary*

MINIREVIEW

2569

Nano revolution: pioneering the future of water reclamation with micro-/nano-robots

Subham Preetam*



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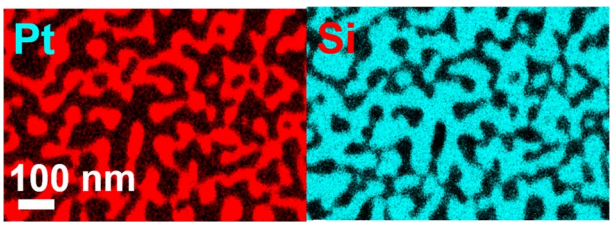
COMMUNICATIONS

2582

Sub-50 nm patterning of alloy thin films *via* nanophase separation for hydrogen gas sensing

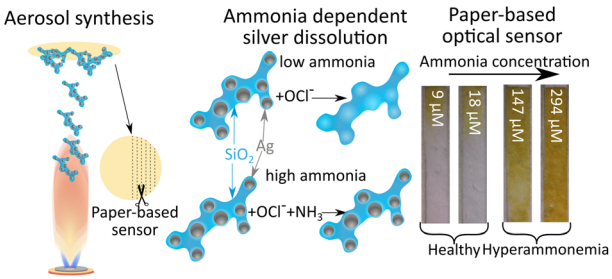
Sherjeel Mahmood Baig, Satoshi Ishii and Hideki Abe*



2586

Paper-based colorimetric hyperammonemia sensing by controlled oxidation of plasmonic silver nanoparticles

Padryk Merkl and Georgios A. Sotiriou*



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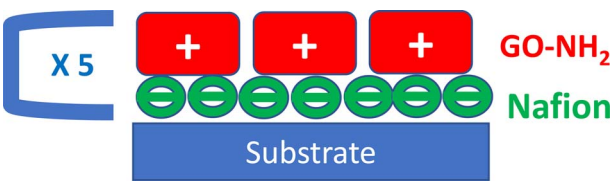
2594

Antimicrobial coatings based on amine-terminated graphene oxide and Nafion with remarkable thermal resistance

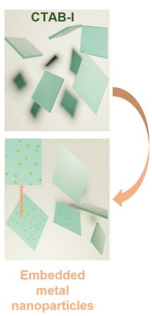
Mohammed Suleman Beg, Ella Nicole Gibbons, Spyridon Gavalas, Mark A. Holden, Marta Krysmann and Antonios Kelarakis*



2602

Embedding plasmonic nanoparticles in soft crystals: an approach exploiting CTAB–I structures

Navyashree Vasudeva, Annie Jayasing, Kishorkumar Sindogi, Isha Yadav, T. N. Guru Row, Sheetal K. Jain and Anshu Pandey*



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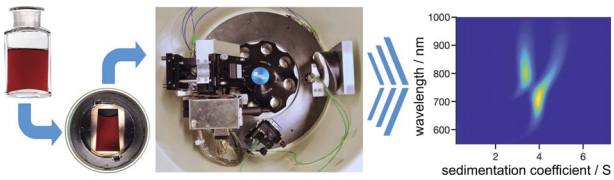
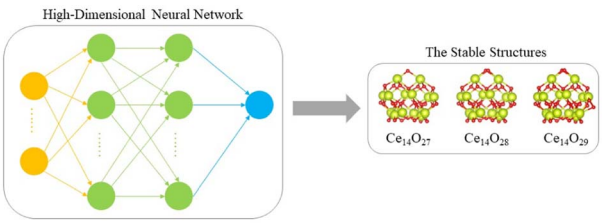


Development of an advanced multiwavelength emission detector for the analytical ultracentrifuge

Vanessa Lautenbach, Georgy Onishchukov, Simon E. Wawra, Uwe Frank, Lukas Hartmann, Wolfgang Peukert and Johannes Walter*

2623



Exploring the stable structures of cerium oxide nanoclusters using high-dimensional neural network potential

Huabing Cai, Qinghua Ren* and Yi Gao*

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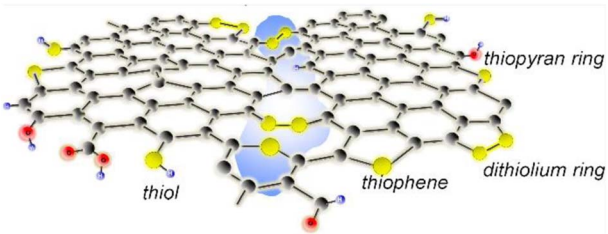

Defect healing and doping of CVD graphene by thermal sulfurization

Giuseppe Valerio Bianco,* Alberto Sacchetti, Antonella Milella, Maria Michela Giangregorio, Stefano Dicorato and Giovanni Bruno

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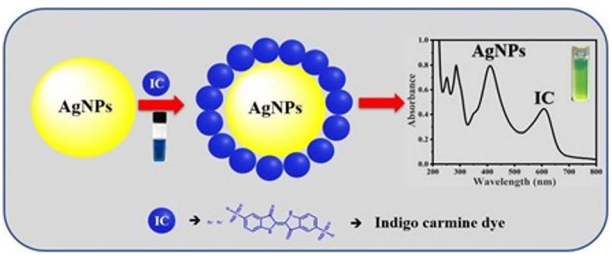

Anomalous spectral shift of localized surface plasmon resonance

Saikiran Kosame, Mukkath Joseph Josline, Jae-Hyun Lee and Heongkyu Ju*

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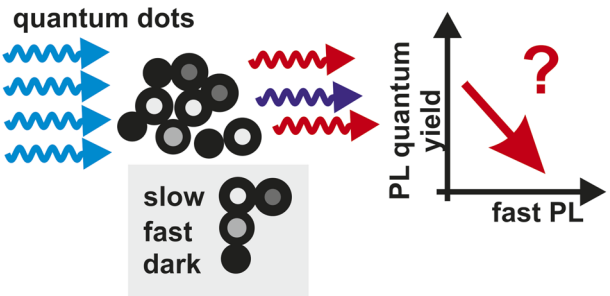
Why do Si quantum dots with stronger fast emission have lower external photoluminescence quantum yield?

Tomáš Popelář, Filip Matějka, Jakub Kopenec, Giacomo Morselli, Paola Ceroni and Kateřina Kůsová*



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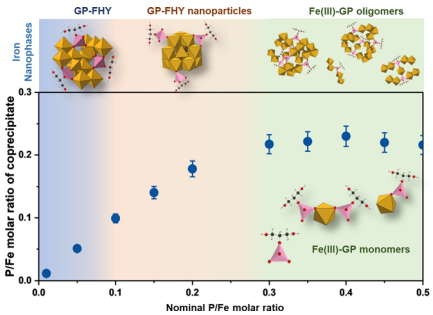
Impact of organic phosphates on the structure and composition of short-range ordered iron nanophases

Zhengzheng Chen,* Jeffrey Paulo H. Perez,* Glen J. Smales, Roberts Blukis, Brian R. Pauw, Jessica A. Stammeier, Jörg Radnik, Andrew J. Smith and Liane G. Benning



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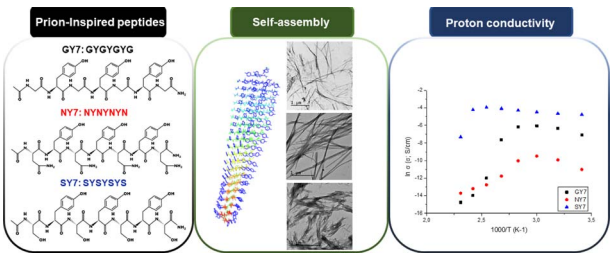
Harnessing prion-inspired amyloid self-assembly for sustainable and biocompatible proton conductivity

Susanna Navarro,* Andreu Andrio, Marta Diaz-Caballero, Salvador Ventura and Vicente Compañ*



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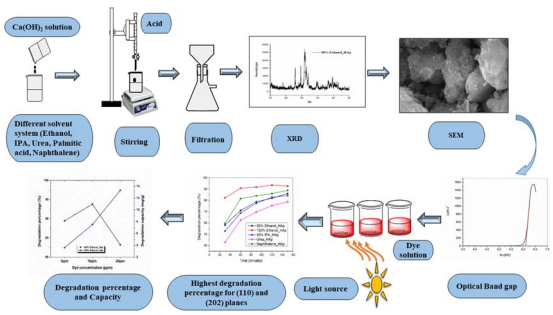
Different solvents and organic modifiers for the control of crystallographic parameters in nano-crystallite hydroxyapatite for amplification of photocatalytic activity

Md. Kawsar, Md. Sahadat Hossain, Sumaya Tabassum, Newaz Mohammed Bahadur and Samina Ahmed*



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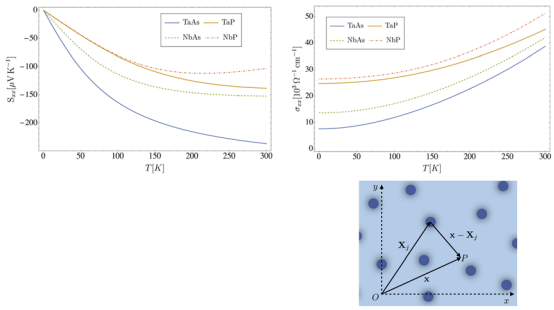
2701



Thermoelectric transport in Weyl semimetals under a uniform concentration of torsional dislocations

Daniel A. Bonilla and Enrique Muñoz*

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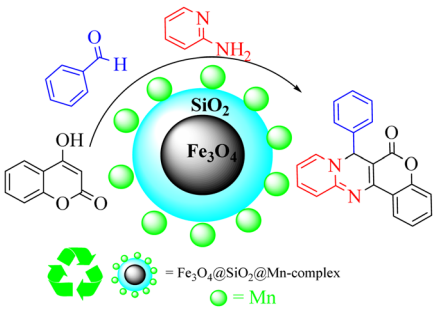

An immobilized Schiff base–Mn complex as a hybrid magnetic nanocatalyst for green synthesis of biologically active [4,3-*d*]pyrido[1,2-*a*]pyrimidin-6-ones

Mohammad Ali Bodaghifard,* Seied Ali Pourmousavi, Najmieh Ahadi and Payam Zeynali

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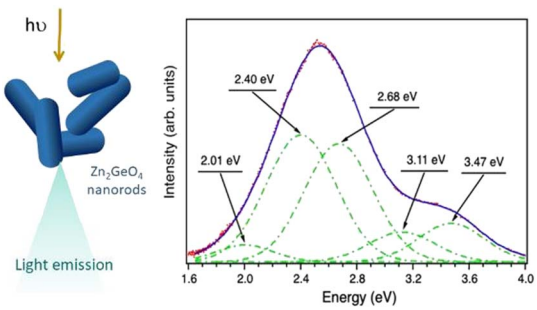

Controllable synthesis and morphology-dependent light emission efficiency of Zn_2GeO_4 nanophosphors

Miguel Tinoco,* José Miguel Lendínez, José M. González-Calbet, Bianchi Méndez, Julio Ramírez-Castellanos and Pedro Hidalgo*

CORRECTION

2728

Correction: Influence of the carbazole moiety in self-assembling molecules as selective contacts in perovskite solar cells: interfacial charge transfer kinetics and solar-to-energy efficiency effects

Dora A. González, Carlos E. Puerto Galvis, Wenhui Li, Maria Méndez, Ece Aktas, Eugenia Martínez-Ferrero and Emilio Palomares

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