

# RSC Applied Interfaces

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## IN THIS ISSUE

N/A CODEN RAISCD 2(5) 1093–1494 (2025)

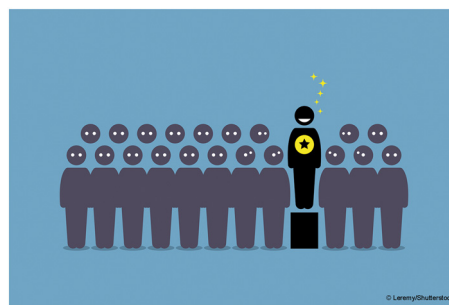


**Cover**  
See Chih-Hao Chang *et al.*,  
pp. 1199–1208.  
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Andrew Tunell from  
*RSC Appl. Interfaces*,  
2025, 2, 1199.

## EDITORIAL

1104

**Outstanding Reviewers for *RSC Applied Interfaces* in 2024**

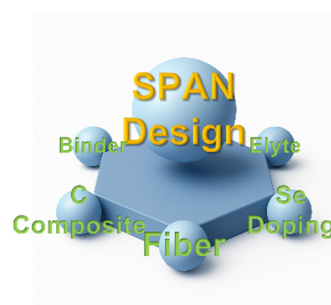


## REVIEWS

1105

**Recent advances in sulfurized polyacrylonitrile cathodes for lithium–sulfur batteries**

Ting-Hu Tsai and Yu-Sheng Su\*





# RSC Applied Polymers

The application of polymers,  
both natural and synthetic

Interdisciplinary and open access

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Fundamental questions  
Elemental answers

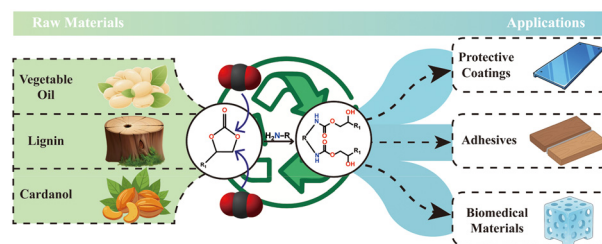


## REVIEWS

1123

### Non-isocyanate polyurethane from bio-based feedstocks and their interface applications

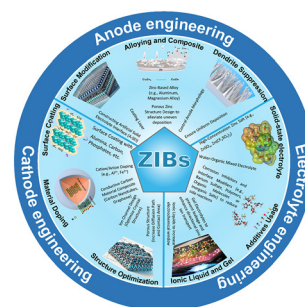
Zichen Ling, Liang Gu, Shuzhen Liu, Yuhan Su and Qixin Zhou\*



1143

### Zinc-ion batteries: pioneering the future of sustainable energy storage through advanced materials and mechanisms

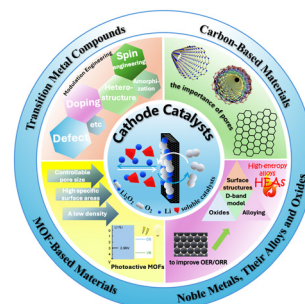
Zixuan Chen, Liang Zhang, Tianyu Yu, Huancheng Yang, Yao Lu,\* Xiaodan Wang,\* Rui Li,\* Zonglun Ye, Yue Wang, Pengwei Li, Bowen Zheng, Yukun Sun, Depeng Wang, Guoqiang Xu and Wenchao Gao\*



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### Progress in cathode catalysts for rechargeable aprotic lithium–oxygen batteries

Chen Liu\* and Huahuan Wang

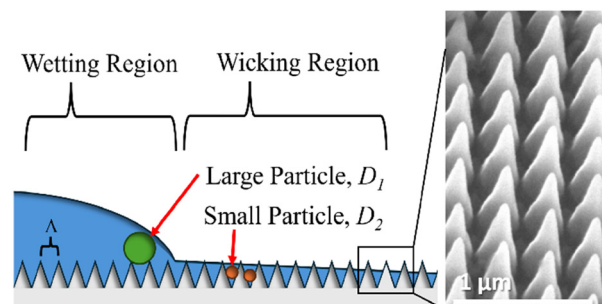


## PAPERS

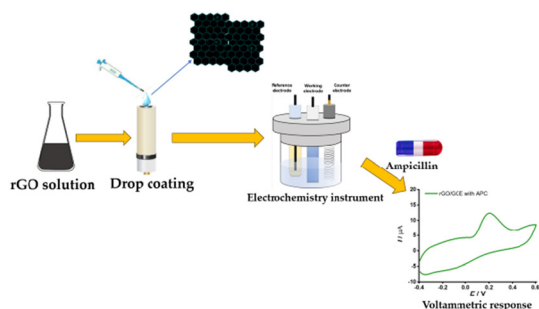
1199

### Nanoparticle dispersion and separation in superhydrophilic nanostructures

Andrew Tunell, Kun-Chieh Chien, Samuel Lee, Nirmalay Barua, Alexandra Paul, Sapun H. Parekh, Tanya Hutter and Chih-Hao Chang\*



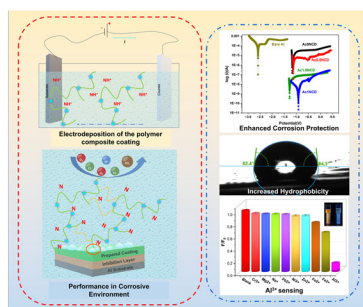
1209



### Green electrochemical sensing of ampicillin using reduced graphene oxide-modified electrodes

Dang Thi Ngoc Hoa, Nguyen Duc Hong, Pham Thang Long, Bui Le Thanh Nhan, Nguyen Ngoc Nam and Do Mai Nguyen\*

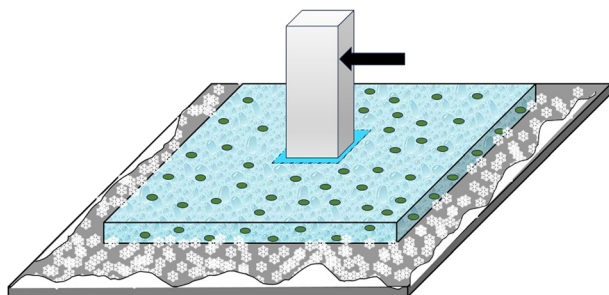
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### Cathodically electrodeposited nitrogen-doped carbon dot-acrylic nanocomposite coatings: a dual-function corrosion barrier and real-time corrosion sensor

Sushmit Sen, Amrita Chatterjee, Keshav Dev, Shakshi Bhardwaj and Pradip K. Maji\*

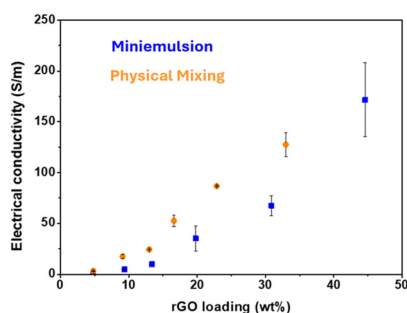
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### Encapsulating freezing point depressants in elastomeric coatings: effective and durable anti-icing and de-icing coatings

Harish Sivakumaran, Ratul Dasgupta\* and Guruswamy Kumaraswamy

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### Effect of high filler loading on polymer/(reduced) graphene oxide nanocomposite coatings

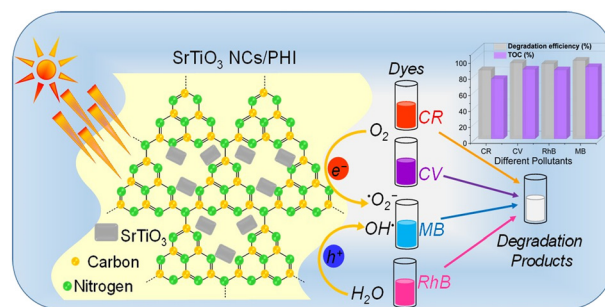
Bich Ngoc Tran, Yasemin Fadil, Yin Yao, Vipul Agarwal\* and Per B. Zetterlund\*



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### Nano-cubic SrTiO<sub>3</sub> on poly(heptazine imide) (PHI) composite for enhancing photodegradation efficiency

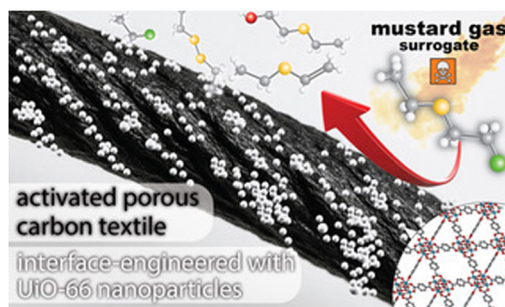
Phyu Phyu Cho, Phyu Phyu Mon, Mohit Kumar, Suryakala Duvvuri, Giridhar Madras, Guo-Ping Chang-Chien, Srinivaas Masimukku and Subrahmanyam Challapalli\*



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### Interface-engineered UiO-66 nanoparticles on porous carbon textiles for reactive protection against toxic 2-chloroethyl ethyl sulfide

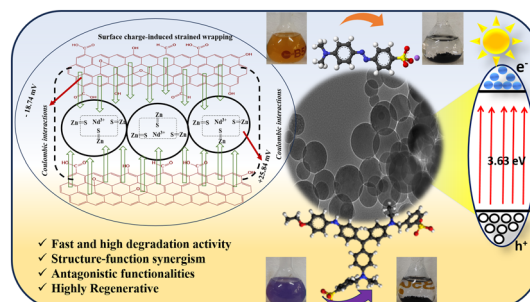
Dimitrios A. Giannakoudakis, Paola S. Pauletto, Marc Florent and Teresa J. Bandosz\*



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### A purposefully engineered bimetallic graphene oxide nanosphere composite for visible light-driven eradication of organic fluorescent dyes

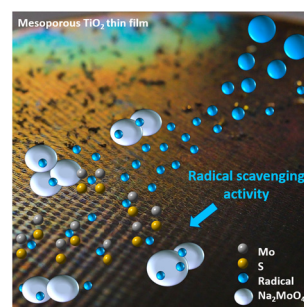
Krishan Kumar



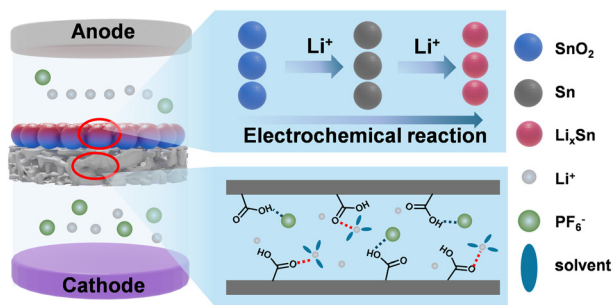
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### Non-cytotoxic molybdenum-based nanostructures as effective radical scavengers

Stefania Mura, Pietro Rasso, Usama Anwar, Davide De Forni, Barbara Poddesu, Franco Lori and Plinio Innocenzi\*



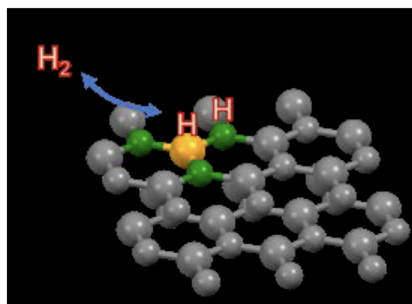
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### Hollow SnO<sub>2</sub> nanosphere-coated separators for dendrite-free lithium metal batteries

Yi Chen, Xingyan Zeng, Yufei Yang, Xuyang Wang, Hui Nie,\* Xingping Zhou and Xiaolin Xie

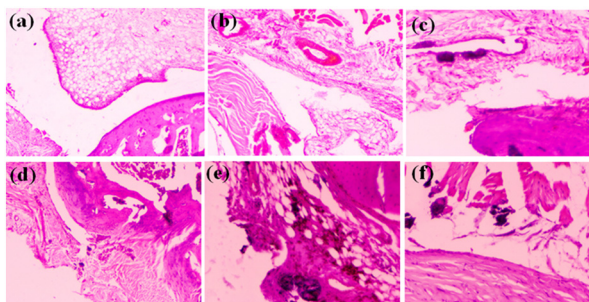
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### Controlling N speciation in solution synthesis of N-doped carbon materials

Mi Yeon Byun, Lili Liu, Daniel Mejia-Rodríguez, Eric D. Walter, Zihua Zhu, Niri Govind, Tom Autrey and Maria L. Sushko\*

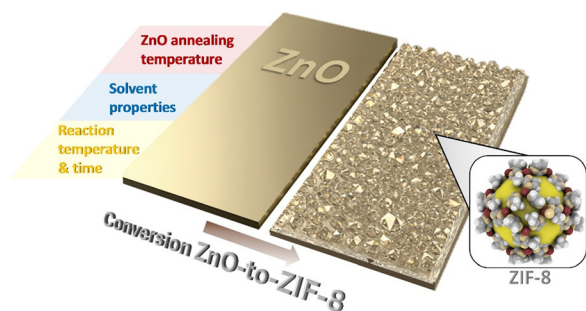
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### Interfacial response of Mg–Ca–Si–Zr nanoparticles for transformative orthopedic therapeutics

Priya Singh, Somesh Agrawal, Deepak Khare, Vinod Tiwari and Ashutosh Kumar Dubey\*

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### Optimizing ZIF-8 membrane growth on top of semiconductive Ga-doped ZnO sensitive layers

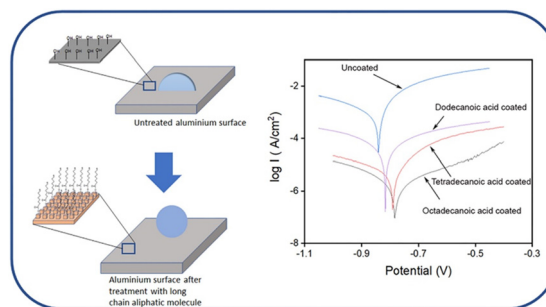
Kevin Dedecker,\* Benjamin Paret, Lionel Presmanes,\* Benjamin Duployer, Antoine Barnabé, Philippe Menini, David Farrusseng, Mikhael Bechelany, Martin Drobek\* and Anne Julbe



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### Accessing the corrosion resistance for metallic surfaces using long-chain fatty acids

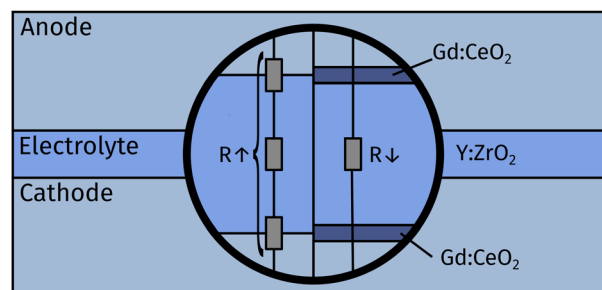
Sapan Kumar Pandit, Kushal Yadav, Poonam Chauhan and Aditya Kumar\*



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### Preparation and interfacial engineering of sputtered electrolytes for thin film oxygen ion batteries

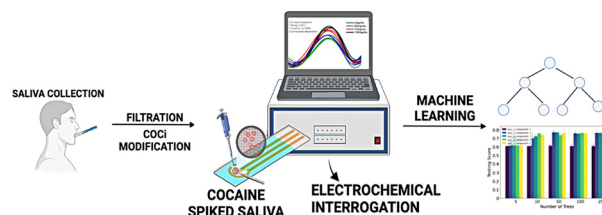
Alexander Schmid,\* Tobias M. Huber, Florian Karbus, Maximilian Weiss, Andreas Limbeck and Jürgen Fleig



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### Target analyte assisted sensitive electrochemical detection of cocaine on screen printed electrodes

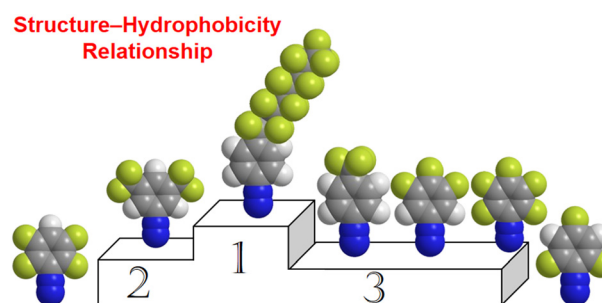
Ana Gomez Cardoso, Hoda Mozaffari, Syed Rahin Ahmed, Herlys Viltres, Greter A. Ortega, Seshasai Srinivasan\* and Amin Reza Rajabzadeh\*



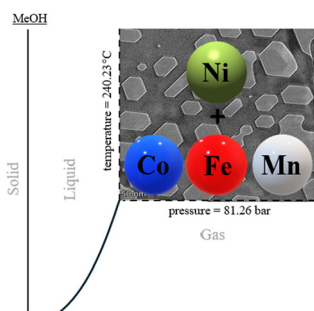
1395

### Investigation of the chemical structure of fluorinated diazonium salts on the electrografting behavior and thin film properties

Rébecca Bazin, Jocelyne Leroy, Mélanie François and Bruno Josselme\*



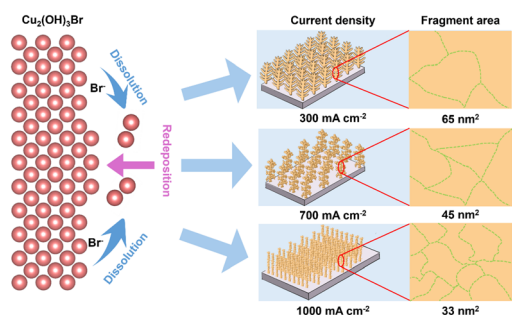
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### Supercritical preparation of doped (111) faceted nickel oxide for the oxygen evolution reaction

Elliot Brim, Darius Hayes, Konstantin Kimone Rücker, Dereje Hailu Taffa, Omeshwari Bisen, Marcel Risch, Shaun Alia, Julian Lorenz, Corinna Harms, Michael Wark and Ryan M. Richards\*

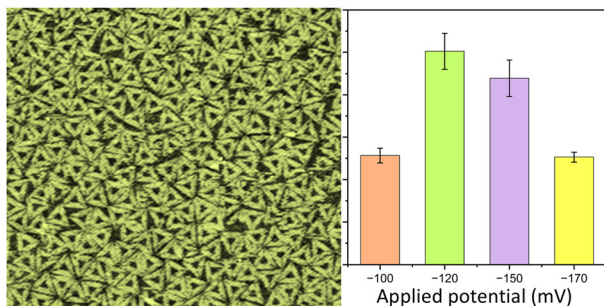
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### High-throughput CO-to-acetate electroconversion using current-dependent reconstructed Cu grain boundaries

Peng Qiu, Mengjiao Li, Wenxuan Li, Ziyun Wang\* and Yuanjie Pang\*

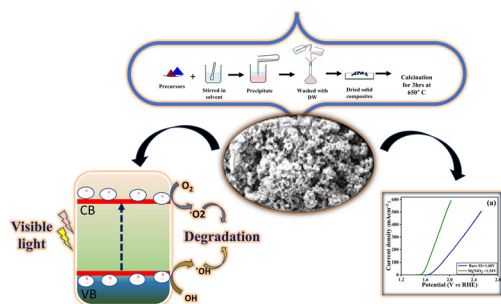
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### Surface potential-dependent assembly of DNA origami lattices at SiO<sub>2</sub> surfaces

Adekunle Omoboye, Bhanu Kiran Pothineni, Guido Grundmeier, Zhe She and Adrian Keller\*

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### Mechanistic insights into the photocatalytic and electrocatalytic activities of MgNiO<sub>2</sub>: role of reactive oxygen species and oxygen vacancies

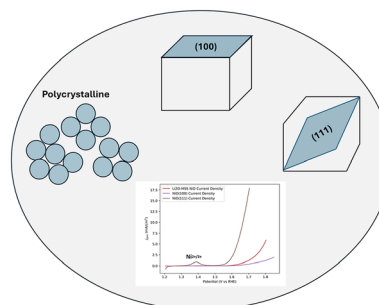
Sandhyawasini Kumari, Amrita Tripathy, Vishalakshi Gurumurthy DileepKumar,\* Afaq Ahmad Khan, Ashoka Siddaramanna, John Kiwi, Mysore Sridhar Santosh,\* Sami Rtimi,\* Khushwant Singh and Sai Smaran S. B.



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### Molten salt synthesis of increased (100)-facet and polycrystalline nickel oxide nanoparticles for the oxygen evolution reaction: impact of facet and crystallinity on electrocatalysis

Darius W. Hayes, Elliot Brim, Konstantin Rücker, Dereje Hailu Taffa, Omeshwari Bisen, Marcel Risch, Shaun M. Alia, Jullian Lorenz, Corinna Harms, Michael Wark and Ryan M. Richards\*



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### Impact of phosphazene-based compounds in an electrolyte additive mixture for enhanced safety and performance of NMC811||Si-graphite cell chemistry

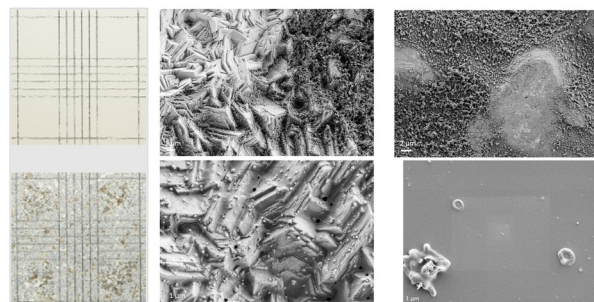
Bahareh Alsadat Sadeghi, Christian Wölke, Mykhailo Shevchuk, Marian Stan, Jaroslav Minar, Matthias Weiling, Susanna Krämer, Masoud Baghernejad, Sascha Nowak, Gerd-Volker Rösenthaler, Mariano Grünebaum, Martin Winter and Isidora Cekic-Laskovic\*



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### Paint adhesion on titanium and zirconium oxide conversion coated galvanised steel

Laura-Marleen Baumgartner,\* Andreas Erbe and Michael Rohwerder



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### Phosphate conversion process on Al-Si-coated steel: characterization and impact on the heat-treatment performance

Robin Dohr,\* Dorothea Mattissen, Michael Stang and Uwe Ruschewitz\*

