

RSC Applied Interfaces

rsc.li/RSCApplInter

The Royal Society of Chemistry is the world's leading chemistry community. Through our high impact journals and publications we connect the world with the chemical sciences and invest the profits back into the chemistry community.

IN THIS ISSUE

N/A CODEN RAISCD 1(1) 1–208 (2024)



Cover

See Yoshiyuki Nonoguchi *et al.*, pp. 80–85.
Image reproduced by permission of Yoshiyuki Nonoguchi from *RSC Appl. Interfaces*, 2024, 1, 80.



Inside cover

See Rafik Naccache *et al.*, pp. 86–97.
Image reproduced by permission of Rafik Naccache from *RSC Appl. Interfaces*, 2024, 1, 86.

EDITORIAL

9

Introducing *RSC Applied Interfaces*

Federico Rosei

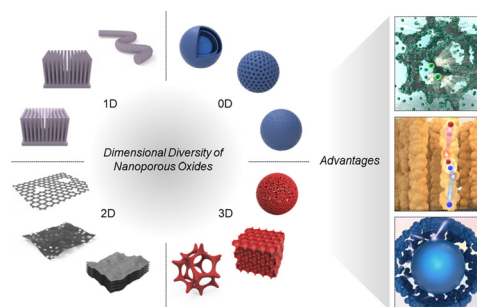


REVIEWS

11

Nanoporous oxide electrodes for energy conversion and storage devices

Jin Wook Yang, Hee Ryeong Kwon, Jin Ho Seo, Sangwoo Ryu* and Ho Won Jang*





GOLD
OPEN
ACCESS

RSC Applied Polymers

The application of polymers,
both natural and synthetic

Interdisciplinary and open access

rsc.li/RSCApplPolym

Fundamental questions
Elemental answers

Registered charity number: 207890

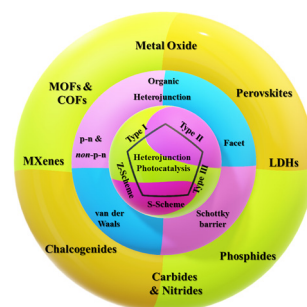


REVIEWS

43

Recent advances in semiconductor heterojunctions: a detailed review of the fundamentals of photocatalysis, charge transfer mechanism and materials

Aniket Balapure, Jayati Ray Dutta* and Ramakrishnan Ganesan*

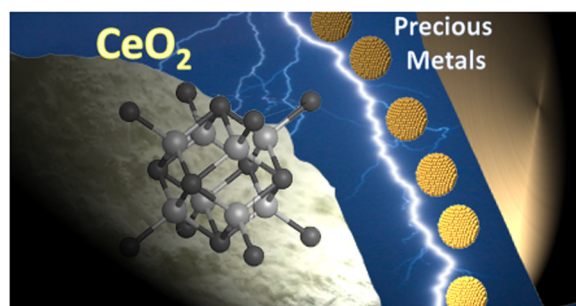


PERSPECTIVE

70

The role of ceria/precious metal interfaces in catalysis

Michele Melchionna* and Paolo Fornasiero*

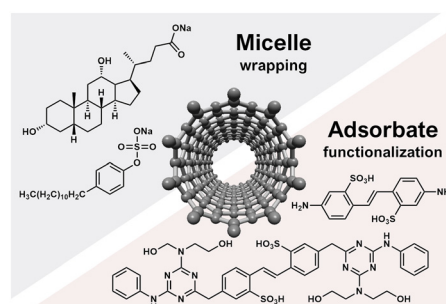


PAPERS

80

Dye adsorption-assisted colloidal dispersion of single-walled carbon nanotubes in polar solvents

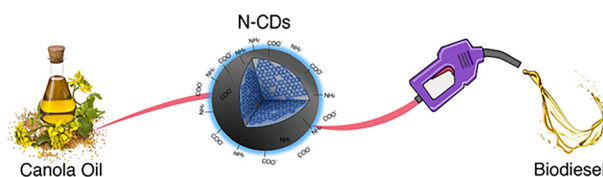
Akiho Horibe, Tomoko Murayama, Tsuyoshi Kawai and Yoshiyuki Nonoguchi*

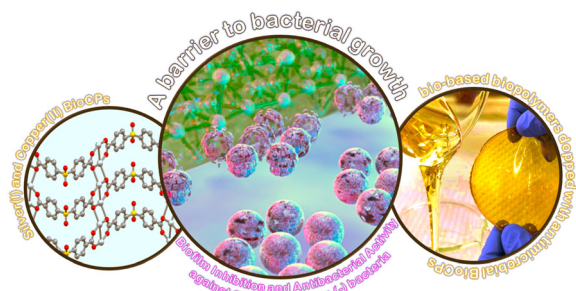


86

Nitrogen-doped carbon dots in transesterification reactions for biodiesel synthesis

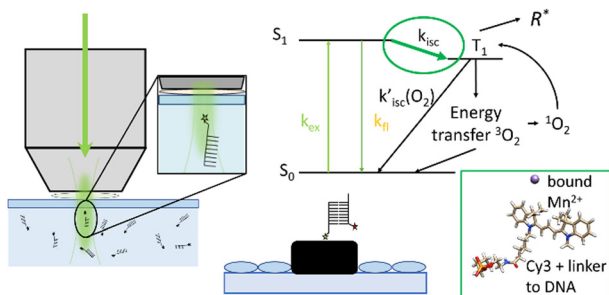
Tayline V. de Medeiros, Alexia Macina, João P. de Mesquita and Rafik Naccache*





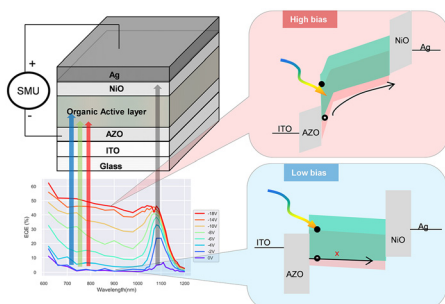
Sulfonyldibenzoate coordination polymers as bioactive dopants for polysaccharide films with antibacterial and antibiofilm properties

Tiago A. Fernandes, Filipa Macedo, Rafaela G. Cabral, Telma Guiu, Chris H. J. Franco, Paula Jorge, Ana Catarina Sousa, Vânia André, Nuno Cerca* and Alexander M. Kirillov*



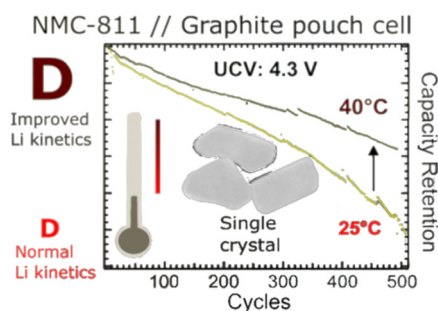
New buffer systems for photopainting of single biomolecules

Christoph Naderer, Heinrich Krobath, Dmitry Sivun, Georgii Gvindzhiliia, Thomas A. Klar and Jaroslav Jacak*



Bias switchable narrowband/broadband NIR organic photodetector fabricated with a scalable technique

Lai-Hung Lai,* Wei-Hsiang Lin, Chin-Chuan Hsieh and Maria Antonietta Loi



Understanding improved capacity retention at 4.3 V in modified single crystal Ni-rich NMC//graphite pouch cells at elevated temperature

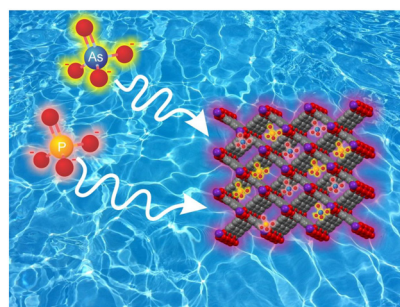
Galo J. Páez Fajardo, Meltiani Belekoukia, Satish Bolloju, Eleni Fiamengkou, Ashok S. Menon, Zachary Ruff, Zonghao Shen, Nickil Shah, Erik Björklund, Mateusz Jan Zuba, Tien-Lin Lee, Pardeep K. Thakur, Robert S. Weatherup, Ainara Aguadero, Melanie J. Loveridge, Clare P. Grey and Louis F. J. Piper*



147

Al(III)-based MOF for the selective adsorption of phosphate and arsenate from aqueous solutions

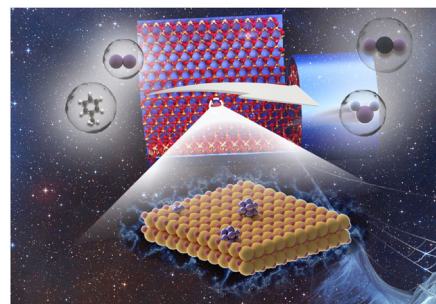
Juan L. Obeso, Herlys Viltres, Catalina V. Flores, Valeria B. López-Cervantes, Camilo Serrano-Fuentes, Amin Reza Rajabzadeh, Seshasai Srinivasan, Ricardo A. Peralta,* Ilich A. Ibarra* and Carolina Leyva*



155

Engineering Pt nanoclusters on CeO₂ surface with abundant point defects by *in situ* confined-domain encapsulation strategy for the catalytic elimination of VOCs

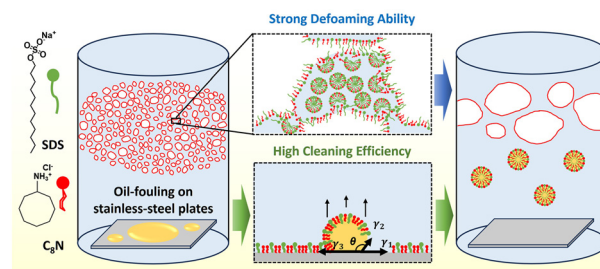
Siyi Ma, Fang Dong, Weiliang Han, Weigao Han and Zhicheng Tang*



173

Highly efficient oil-fouling and foam removal achieved by surfactant mixed systems

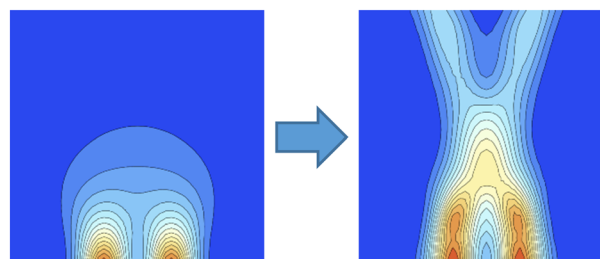
Zeyu Zhao, Tengda Wang, Jiling Yue, Yaxun Fan* and Yilin Wang*

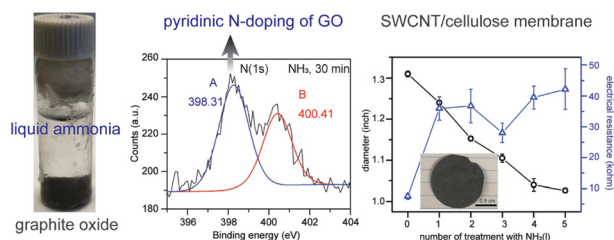


183

Developing 3D computational models to capture the spatial, temporal and thermal behavior as laser beams propagate through photo-thermally responsive gels

Victor V. Yashin, Fariha Mahmood, Kalaichelvi Saravanamuttu and Anna C. Balazs*





Interactions between liquid ammonia and graphitic materials

Cheng-Wei Lin, Zhiyin Yang, Ailun Huang, Xueying Chang, Chenxiang Wang, Fan Yang, Chen Wei, Markus Thiel, Yuto Katsuyama, Lihua Jin, David Jassby and Richard B. Kaner*

