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RSC Applied Interfaces

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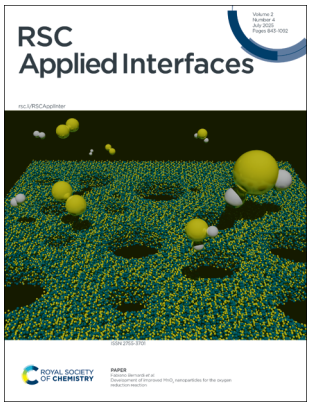

Cover
See Fabiano Bernardi *et al.*, pp. 922–930.
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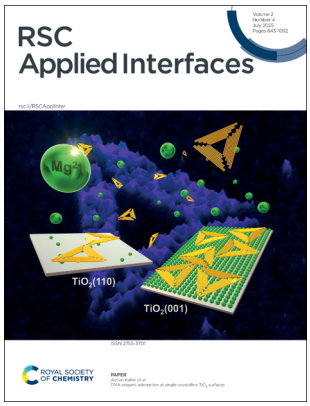

Inside cover
See Adrian Keller *et al.*, pp. 931–939.
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REVIEWS

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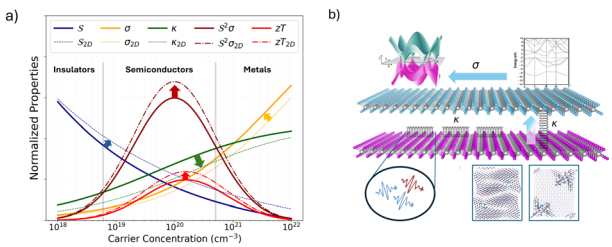
Advances in van der Waals thermoelectric materials: prospects and challenges

Marco Fronzi,* Paolo Mele, Amanda V. Ellis and Catherine Stampfl



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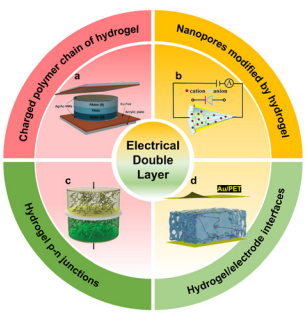
Ionic rectification *via* electrical double layer modulation at hydrogel interfaces

Yaowen Ouyang, Zhong Lin Wang and Di Wei*



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PERSPECTIVE

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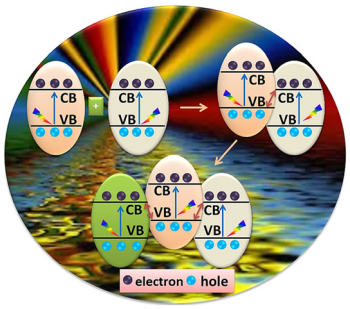
Modeling heterojunctions: a computational chemistry perspective

Mesfin Eshete and Giovanni Di Liberto*



COMMUNICATION

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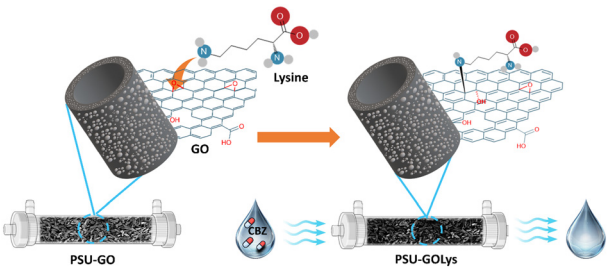
Functionalizing graphene oxide in polysulfone composite adsorption cartridges through in-flow, *in situ* treatment

Angela Pintus, Andrea Trifoglio, Sara Khaliha, Sebastiano Mantovani, Davide Paci, Alessandro Kovtun,* Letizia Bocchi and Manuela Melucci*



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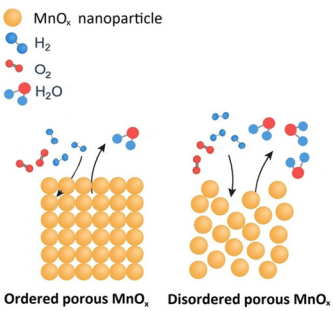
Development of improved MnO_x nanoparticles for the oxygen reduction reaction

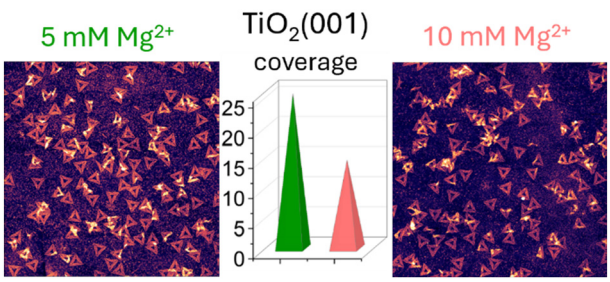
Marco A. H. Vogt, Alisson S. Thill, Carlos Escudero, Marcus V. Castegnaro and Fabiano Bernardi*



931

DNA origami adsorption at single-crystalline TiO_2 surfaces

Xiaodan Xu, Sandra Gołębiowska, Teresa de los Arcos, Guido Grundmeier and Adrian Keller*



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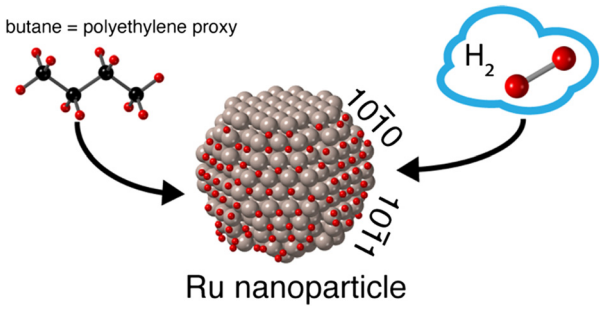

Computational insights into hydrogen interaction with the Ru (10$\bar{1}$1) and Ru (10$\bar{1}$0) surfaces: implications for alkane and polyolefin hydrogenolysis

Fabio Colasuonno, Sohaib Umer and Martina Lessio*

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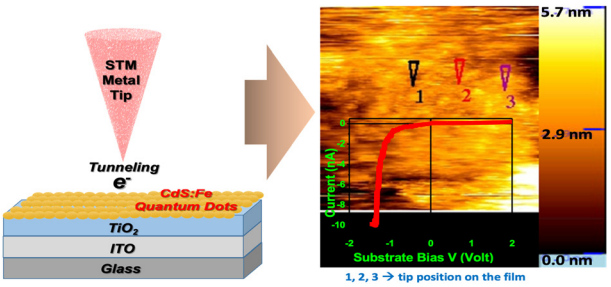

Physical properties of Fe-doped CdS quantum dots: single dot rectifying diode application

Piyali Maity, Ravi Kumar, S. N. Jha, D. Bhattacharyya, Sandip Chatterjee, Bhola Nath Pal and Anup Kumar Ghosh*

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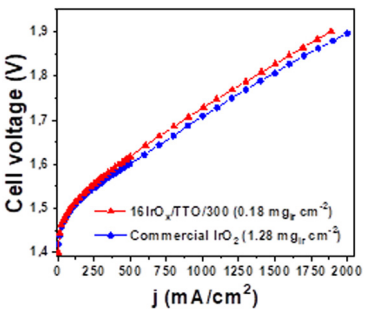

A comprehensive activity–stability correlation study of tantalum-doped tin oxide as a support for iridium oxide in low loading water electrolysis cell anodes

Ignacio Jiménez-Morales,* Jacques Rozière, Deborah Jones and Sara Cavaliere*

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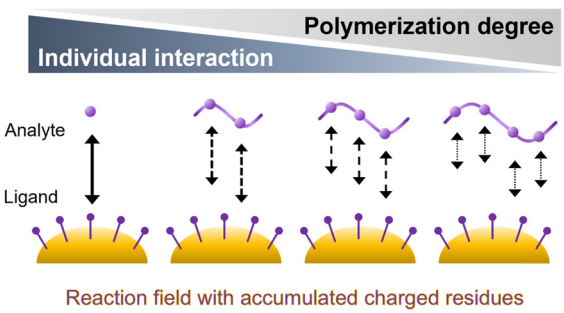

Amino acid interactions dependent on the polymerization of charged residues and surface properties of monolayers

Akira Nomoto, Kentaro Shiraki and Tsukuru Minamiki*

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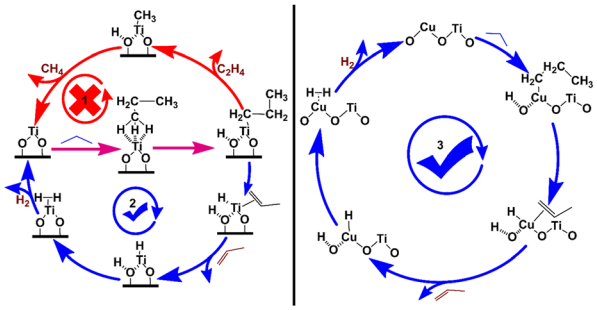
Effect of synergy on selective low-temperature dehydrogenation of propane to propylene over a defect-induced copper titanium catalyst

Himanshu Raghav, Tuhin Suvra Khan, A. V. Sri Jyotsna, Piyush Gupta, Shailendra Tripathi and Bipul Sarkar*



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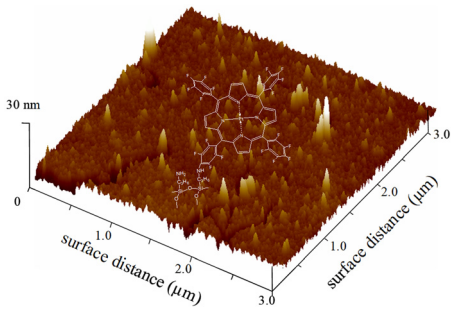
Functionalization of siliceous materials, part 4: immobilization of fluorinated dyes for optical chemical sensor applications

Saskia Czihal, Frank Bauer, Marko Bertmer, Axel Kahnt, Sergej Naumov, Matthias Lau* and Dirk Enke*



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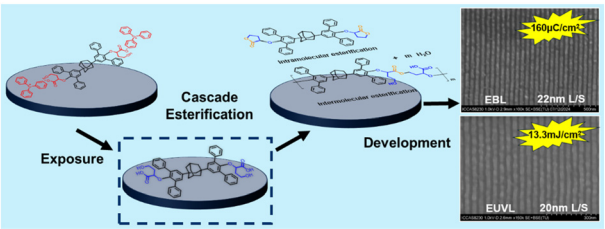
Increasing the sensitivity of a non-chemically amplified molecular resist by cascade esterification

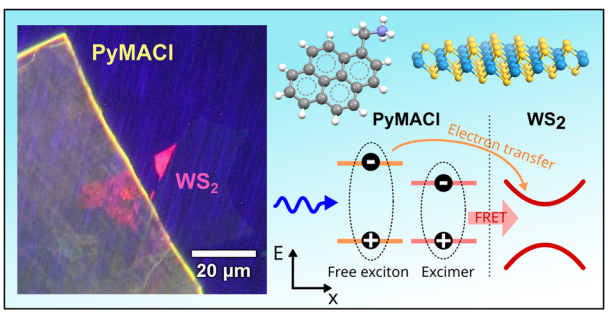
Huining Wang, Jinping Chen,* Yi Zeng, Tianjun Yu, Shuangqing Wang, Xudong Guo, Rui Hu, Jun Zhao, Yanqing Wu, Guoqiang Yang* and Yi Li*



1020

Electronic coupling and photoluminescence anisotropy in van-der-Waals-stacks of tungsten disulphide with molecular single crystals

Mohammed Adel Aly, Dominik Muth, Bettina Wagner, Martin Koch,* Johanna Heine* and Marina Gerhard*



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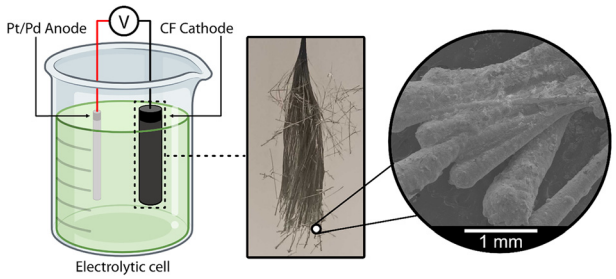

Carbon fibres as electrodes for the recovery of nickel from industrial wastewater

Annu Pandey, Anton Bjurström, Björn K. Birdsong, Ronald Arvidsson, Paya Rabii Dezfoli, Kåre Tjus, Sofia Andrée, Stefan Sädbom, Anders Björk* and Richard T. Olsson*

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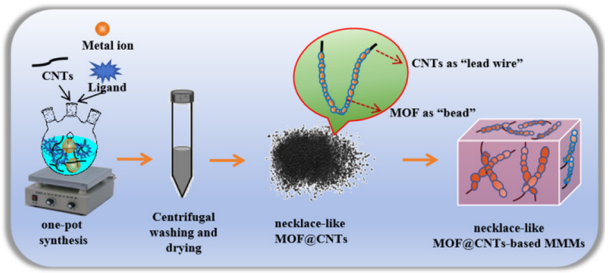

One-pot synthesis of necklace-like MOF@CNTs: a universal strategy for enhancing molecular separation performance in mixed-matrix membranes

Xuemeng Jia,* Zhenting Song, Qiaomei Li, Jiacheng Huang, Xiaowen Zhai, Lei Tian, Jinlou Li, Zhihua Qiao, Yuhui Luo* and Dongen Zhang

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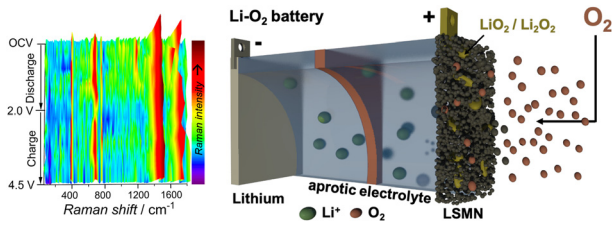

The role of Ni substitution in manganite perovskite Li–O_2 battery

Sandra Sajeev, Mewin Vincent, Piotr Garbacz, Marcin Strawski, Chunyu Zhu, Yoshitaka Aoki and Damian Kowalski*

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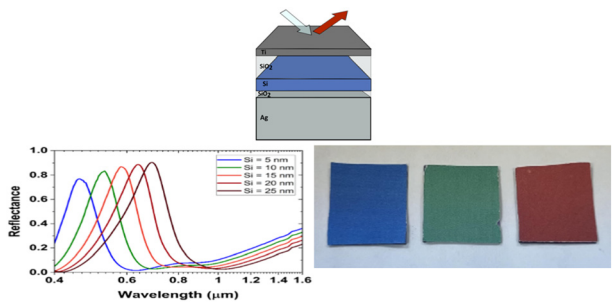

Asymmetric nanocavity: from color-selective reflector to broadband near-infrared absorber

Kirtan P. Dixit* and Don A. Gregory

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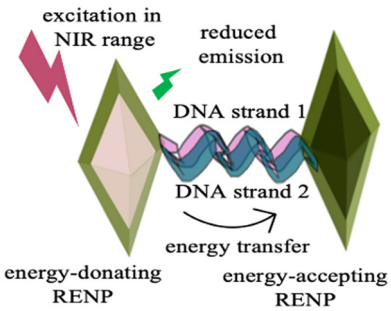
DNA-guided interparticle energy transfer between rare earth doped nanoparticles

Mingrui Guo, Vivienne Tam, Fiorenzo Vetrone* and Marta Cerruti*



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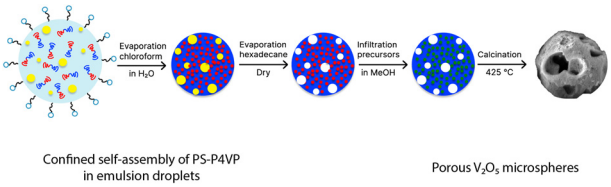
Vanadium pentoxide mesoporous cathodes for Li-ion batteries

Andrea Palumbo, Ullrich Steiner, Andrea Dodero* and Ilja Gunkel