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Sustainable Energy & Fuels

Interdisciplinary research for the development of sustainable energy technologies

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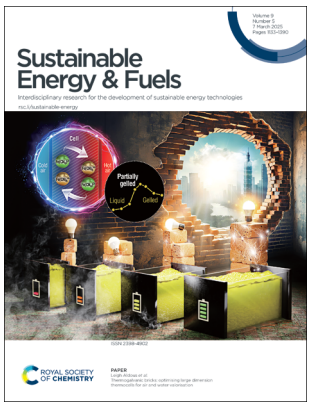

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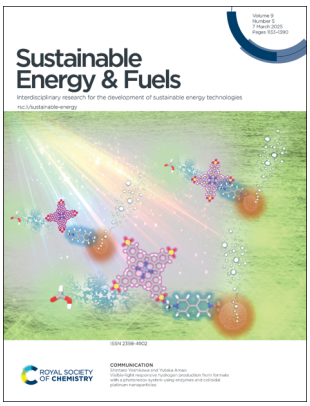
See Leigh Aldous *et al.*, pp. 1165–1172. Image reproduced by permission of Kaili Scientific Illustration Studio from *Sustainable Energy Fuels*, 2025, **9**, 1165.



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Sai Krishna Mulpuri, Bikash Sah* and Praveen Kumar

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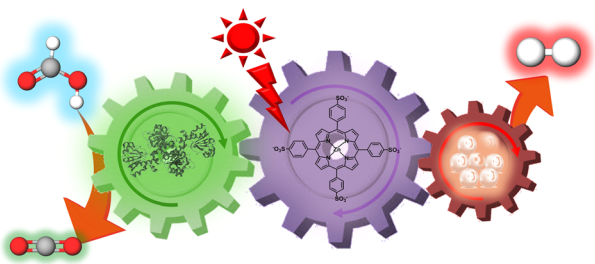
Visible-light responsive hydrogen production from formate with a photoredox system using enzymes and colloidal platinum nanoparticles

Shintaro Yoshikawa and Yutaka Amao*



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PAPERS

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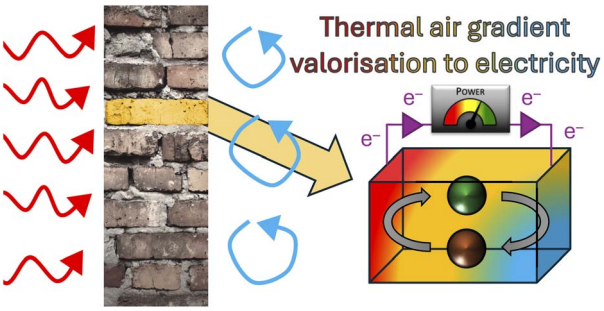
Thermogalvanic bricks: optimising large dimension thermocells for air and water valorisation

Rebecca Haughton-James, Sireenya Mesawang, Mark A. Buckingham, Robert Taylor, Patrick E. Phelan and Leigh Aldous*



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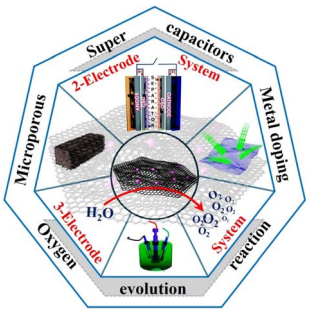
Elucidating the role of cobalt nanoparticles and Mn-phosphate in etched ZIF-67/phthalimide-NC and phthalimene oxide for supercapacitor and electrochemical oxygen evolution reaction applications

Tapan Dey, Nitish Kumar, Rahul Patil, Prakash Kumar Pathak, Sudip Bhattacharjee, Praveen Yadav, Asim Bhaumik, Rahul R. Salunkhe* and Saikat Dutta*



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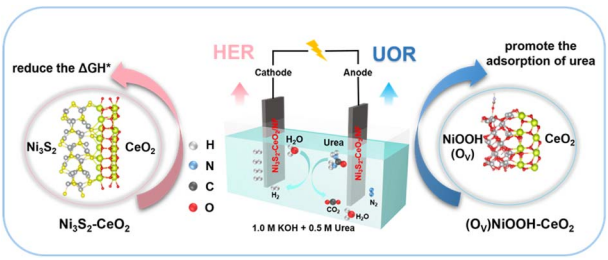
CeO_2-enhanced surface reconstruction of Ni_3S_2 nanosheets for improved urea-assisted water splitting performance

Jiale Shang, Tong Wei, Xiaoqing Yan, Zheng Fang, Leilei Du, Jichao Shi, Fozia Sultana,* Tongtong Li* and Renhong Li*



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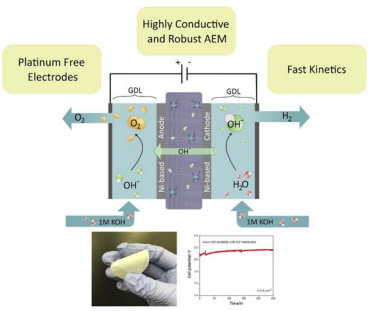
Hydroxyl-conductive 2D hexagonal boron nitrides for anion exchange membrane water electrolysis and sustainable hydrogen production

Jasneet Kaur,* Matthew Schweinbenz, Kane Ho, Adel Malekkhouyan, Kamal Ghotia, Franz Egert, Fatemeh Razmjooei,* Syed Asif Ansar and Hadis Zarrin*



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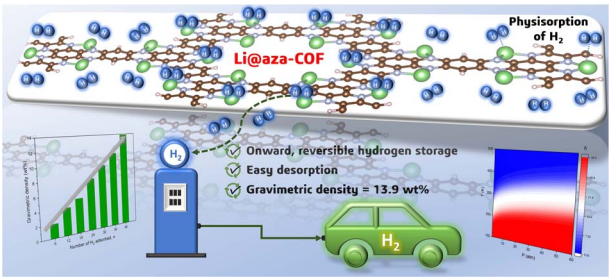

Li-doped 2D aza-fused covalent organic framework: a promising avenue for hydrogen storage

Preeti Beniwal and T. J. Dhilip Kumar*

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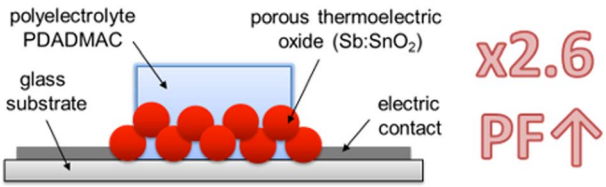

Poly(diallyldimethylammonium)-based solid electrolytes to significantly enhance the power factor of a thermoelectric oxide film (Sb-doped SnO_2)

M. Solis-de la Fuente, S. Castro-Ruiz, L. Márquez-García, P. Rullière, S. Fantini, R. Del Olmo, N. Casado and J. García-Cañadas*

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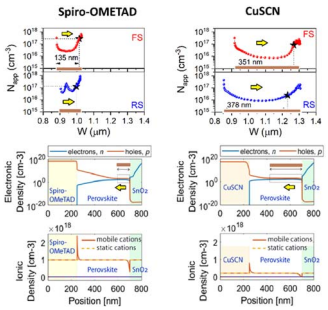

Impact of the hole transport layer on the space charge distribution and hysteresis in perovskite solar cells analysed by capacitance–voltage profiling

E. Regalado-Pérez,* Evelyn B. Díaz-Cruz and J. Villanueva-Cab*

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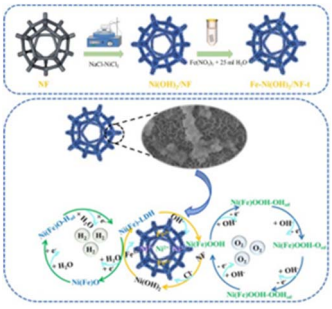

Low-temperature etch synthesis of Fe-doped $Ni(OH)_2$ for enhanced bifunctional water splitting

Yanmei Xin, Xiaoru Dou, Qiling Yan, Ruiting Zhang, Shuaishuai Li,* Guoan Huang* and Zhonghai Zhang*

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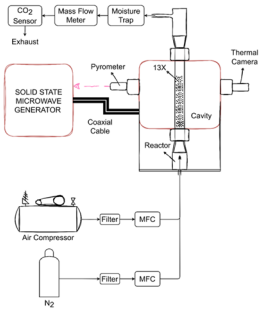
1247

An experimental study on microwave-assisted direct air capture of CO_2 under fluidized bed conditions

Mustafa Erguvan,* Rahim Boylu, Matheus Strobel and Shahriar Amini*



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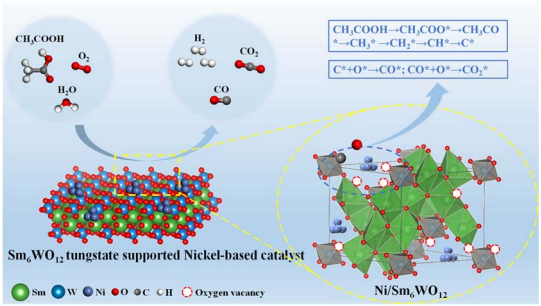
Sm_6WO_{12} tungstate supported nickel-based catalysts with enhanced resistance to coking and oxidation in auto-thermal reforming of acetic acid

Xuemei Xie, Yingchun Xu, Mao Gan, Ying Su, Jinbo Liu and Lihong Huang*



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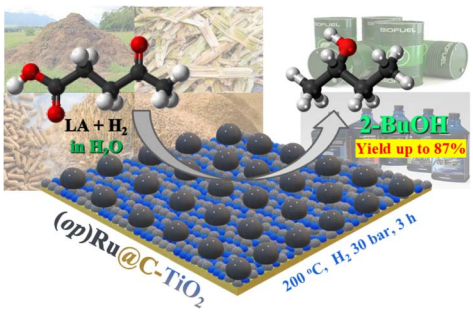
Thermocatalytic synthesis of 2-butanol from biomass-derived levulinic acid using carbon-doped titania-supported ruthenium

Atina Sabila Azzahra, Rodiansono,* Iryanti Fatyasari Nata, Kiky Corneliasari Sembiring, Indri Badria Adilina and Ahmad Afandi



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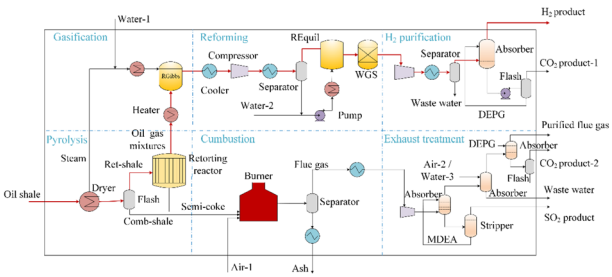
Complete hydrogen production from oil shale with carbon capture

Pu Zheng, Xiaoxiang Wang, Dandan Li, Zhongmin Wu, Weijia Huang, Yun Li, Jie Zhang and Xiaohui Chen*



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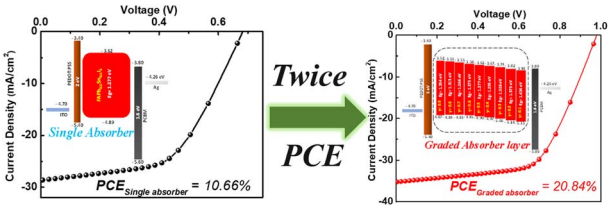

Theoretical estimation to double the performance of perovskite solar cells using a graded absorber layer

Monisha Nayak, Abu Jahid Akhtar and Sudip K. Saha*

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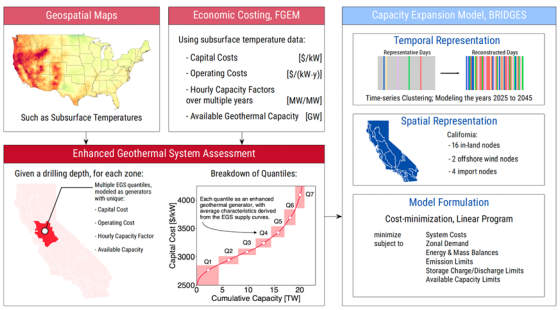

The value of enhanced geothermal systems for the energy transition in California

Mohammad J. Aljubran,* Dimitri M. Saad, Mo Sodwatana, Adam R. Brandt and Roland N. Horne

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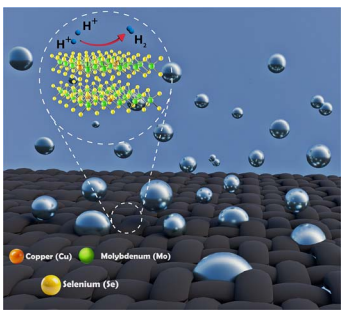

Triggering the phase transition of molybdenum di-selenide ($MoSe_2$) 1T@2H by introducing copper (Cu^+): experimental insights and DFT analysis for the hydrogen evolution reaction

Gautham Kumar G, P. Balaji Bhargav,* C. Balaji and Shobana Priyanka D

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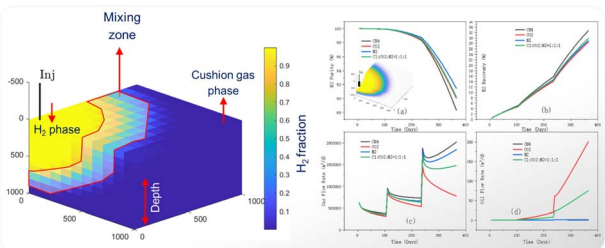

A sensitivity study of hydrogen mixing with cushion gases for effective storage in porous media

Junhan Lu, Nasiru Salahu Muhammed, Jude A. Okolie and Emmanuel I. Epelle*

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PAPERS

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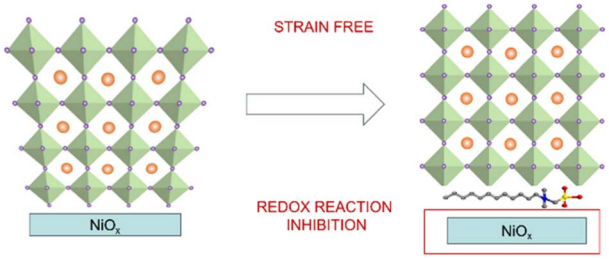
Surface engineering to mitigate compressive stress and detrimental reactions in NiO_x-based inverted perovskite solar cells

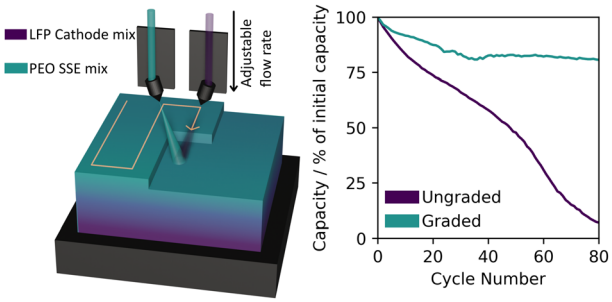
Zijin Qiao, Hongye Dong, Guibin Shen, Xiangning Xu, Wang Yao and Cheng Mu*



1379

Enhancing solid-state battery performance with spray-deposited gradient composite cathodes

Matt P. Tudball, Will J. Dawson, Joshua H. Cruddos, Francesco Iacoviello, Andrew R. T. Morrison, Alexander J. E. Rettie and Thomas S. Miller*



CORRECTION

1387

Correction: Photocatalytic CO_2 reduction to methanol integrated with the oxidative coupling of thiols for S–X (X = S, C) bond formation over an $Fe_3O_4/BiVO_4$ composite

Nitish Saini, Sandhya Saini, Santanu Majumder,* Kyra Sedransk Campbell and Suman L. Jain*