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Energy Advances

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Cover
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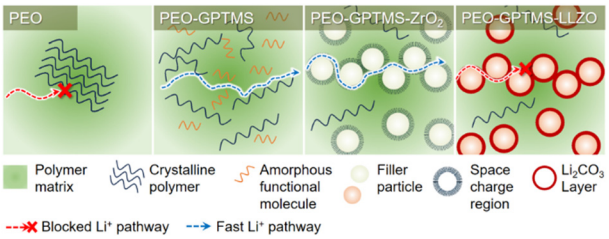
Inside cover
See Ghazaleh Gharib, Ali Koşar *et al.*, pp. 2439–2452. Image reproduced by permission of Zülal Muganlı, İsmail Bütün, Ghazaleh Gharib and Ali Koşar from *Energy Adv.*, 2024, **3**, 2439.

PAPERS

2428

Ion-conductive *vs.* non-ion-conductive ceramic fillers in silane-linked polyethylene oxide-based composite polymer electrolytes with high room-temperature ionic conductivity

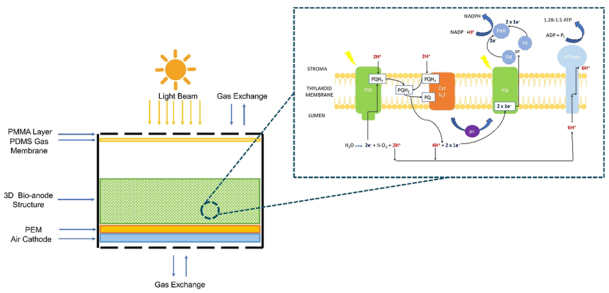
Eun Ju Jeon, Sharif Haidar, Laura Helmers, Arno Kwade and Georg Garnweitner*



2439

Electricity generation using a microbial 3D bio-anode embedded bio-photovoltaic cell in a microfluidic chamber

Zülal Muganlı, İsmail Bütün, Ghazaleh Gharib* and Ali Koşar*



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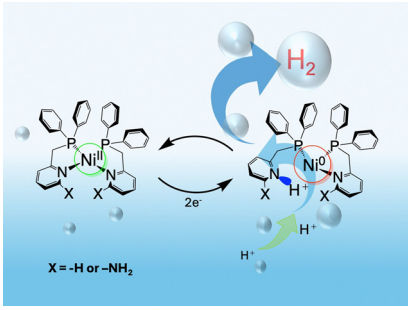
PAPERS

2453

Electrochemical hydrogen generation by a four-coordinate square-planar Ni(II) complex with an N_2P_2-type ligand

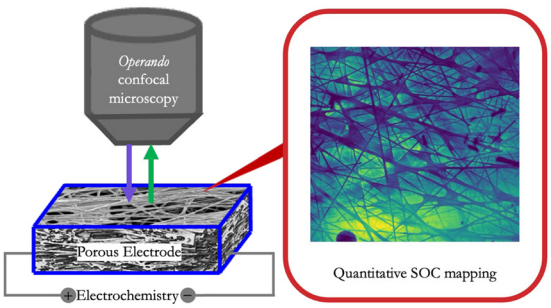
Hidenori Miyake, Satomi Hirasawa, Yurika Uno, Kenichi Nakao, Takuma Kato, Yuko Wasada-Tsutsui, Yoshikuni Hara, Tomohiro Ozawa, Tomohiko Inomata and Hideki Masuda*



2468

Quantitative local state of charge mapping by *operando* electrochemical fluorescence microscopy in porous electrodes

Anton M. Graf, Thomas Cochard, Kiana Amini, Michael S. Emanuel, Shmuel M. Rubinstein* and Michael J. Aziz*

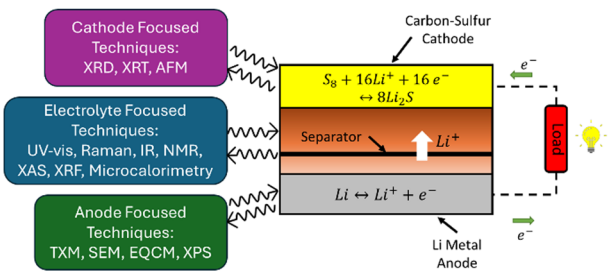


REVIEW

2479

Recent advances in *in situ/operando* characterization of lithium–sulfur batteries

Thomas J. Leckie, Stuart D. Robertson and Edward Brightman*



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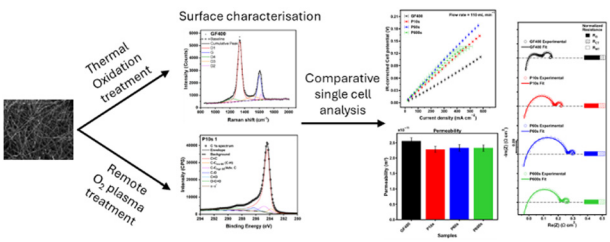
2503

Analysis of the impact of remote oxygen plasma treatment on the surface chemistry and electrochemical properties of graphite felt electrodes for redox flow batteries

L. Mauricio Murillo-Herrera,* Carlos J. Mingoes, J. Obrero-Pérez, Juan R. Sánchez-Valencia, Michael W. Thielke, Ángel Barranco and Ana B. Jorge Sobrido*



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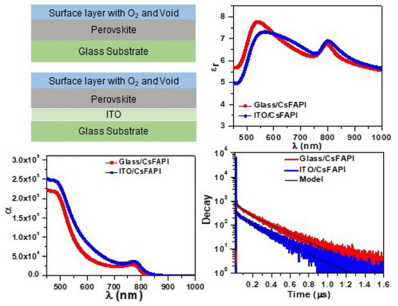
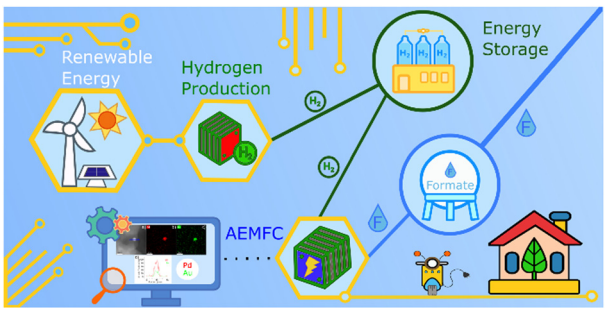
2512



Optical constants manipulation of formamidinium lead iodide perovskites: ellipsometric and spectroscopic twigging

Mohd Taukeer Khan, Muhammed P. U. Haris, Baraa Alhouri, Samrana Kazim and Shahzada Ahmad*

2520



Direct formate anion exchange membrane fuel cells with a PdAu bimetallic nanoparticle anode electrocatalyst obtained by metal vapor synthesis

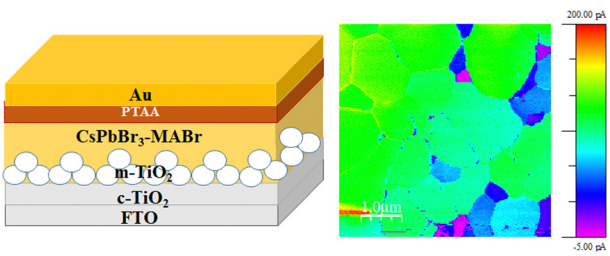
Carolina Castello, Tailor Peruzzolo,* Marco Bellini, Maria V. Pagliaro, Francesco Bartoli, Enrico Berretti, Lorenzo Poggini, Emanuela Pitzalis, Claudio Evangelisti* and Hamish A. Miller*

2530

Effect of process parameters on woody biomass fractionation in a methanol/water mixture in a semi-flow reactor

Yilin Yao, Eiji Minami* and Haruo Kawamoto

2543



Highly conductive flat grains of cesium lead bromide perovskites *via* additive engineering with methylammonium bromide

Chandra Shakher Pathak,* Deepak Aloysius, Satyajit Gupta,* Sabyasachi Mukhopadhyay and Eran Edri

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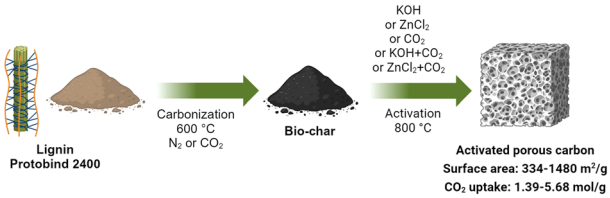
Sustainable synthesis of activated porous carbon from lignin for enhanced CO_2 capture: a comparative study of physicochemical activation routes

Himanshu Patel, Amar Mohanty and Manjusri Misra*



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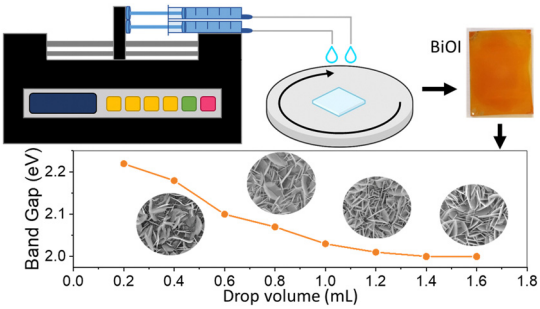
Development of an automated SILAR method for the sustainable fabrication of BiOI/TiO_2 photoanodes

Roberto Altieri, Fabian Schmitz, Manuel Schenker, Felix Boll, Luca Rebecchi, Pascal Schweitzer, Matteo Crisci, Ilka Kriegel, Bernd Smarsly, Derck Schlettwein, Francesco Lamberti, Teresa Gatti* and Mengjiao Wang*



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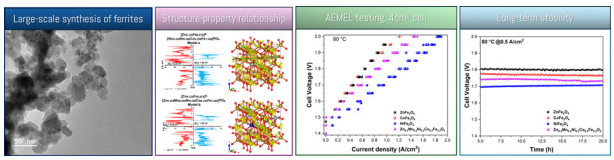
Anion exchange membrane water electrolysis over superparamagnetic ferrites

Tiago Fernandes, Ramsundar Rani Mohan, Laura Donk, Wei Chen, Chiara Biz, Mauro Fianchini, Saeed Kamali, Siavash Mohammad Alizadeh, Anna Kitayev, Aviv Ashdot, Miles Page, Laura M. Salonen, Sebastian Kopp, Ervin Tal Gutelmacher, José Gracia, Marta Costa Figueiredo and Yury V. Kolen'ko*



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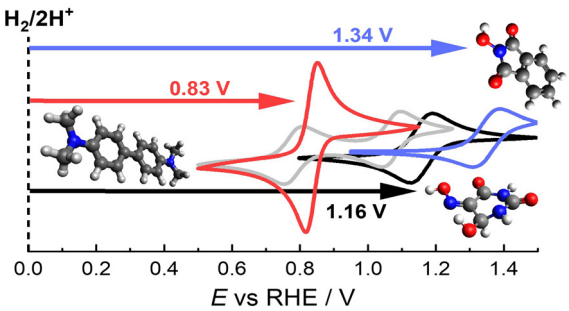
Electrochemical and spectroscopic characterisation of organic molecules with high positive redox potentials for energy storage in aqueous flow cells

Christopher G. Cannon, Peter A. A. Klusener, Nigel P. Brandon and Anthony R. J. Kucernak*



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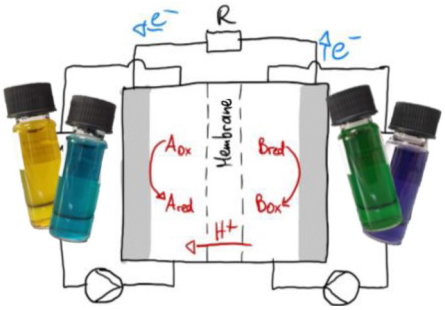

Open circuit voltage of an all-vanadium redox flow battery as a function of the state of charge obtained from UV-Vis spectroscopy

Jana Heiß and Maximilian Kohns*

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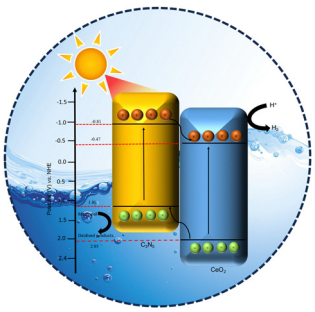

Construction of organic–inorganic hybrid composites derived from C_3N_5 incorporated with CeO_2 for enhanced photocatalytic hydrogen evolution

Ashil Augustin, Manova Santhosh Yesupatham, M. D. Dhileepan, Sanguk Son, Ezhakudiyan Ravindran, Bernaurdshaw Neppolian, Hyoung-il Kim* and Karthikeyan Sekar*

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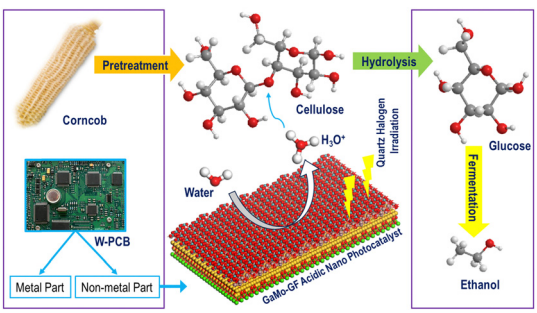

Sustainable fermentable sugar production using a glass fiber supported gallium–molybdenum photocatalyst towards bioethanol production: LCA analysis

Rajat Chakraborty,* Sourav Barman and Aritro Sarkar

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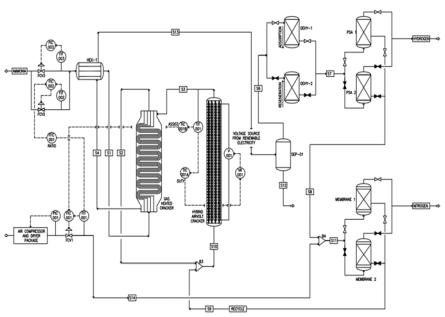

Novel carbon-free innovation in centralised ammonia cracking for a sustainable hydrogen economy: the hybrid air-volt ammonia cracker (HAVAC) process

Chidozie Eluwah and Paul S. Fennell

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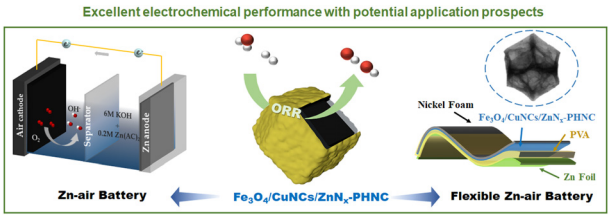
Multi-metal (Fe, Cu, and Zn) coordinated hollow porous dodecahedron nanocage catalyst for oxygen reduction in Zn–air batteries

Yanan Pan, Qi Yang, Xiaoying Liu, Fan Qiu, Junjie Chen, Mengdie Yang, Yang Fan, Haiou Song and Shupeng Zhang*



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