

Sustainable Energy & Fuels

Interdisciplinary research for the development of sustainable energy technologies

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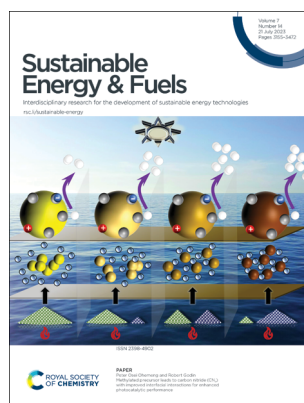
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Review on food waste valorisation for bioplastic production towards a circular economy: sustainable approaches and biodegradability assessment

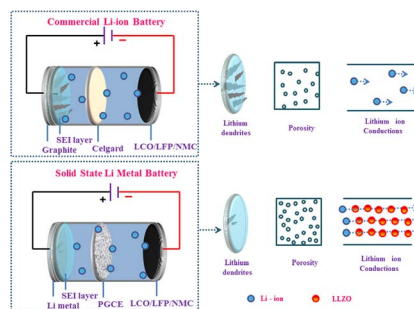
Rajesh Banu J and Godvin Sharmila V*



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Recent progress in polymer garnet composite electrolytes for solid-state lithium metal batteries

Arunkumar Rajamani,* Thamayanthi Panneerselvam, Sona Elsin Abraham, Ramaswamy Murugan and Sivaraman Sivaprakasam



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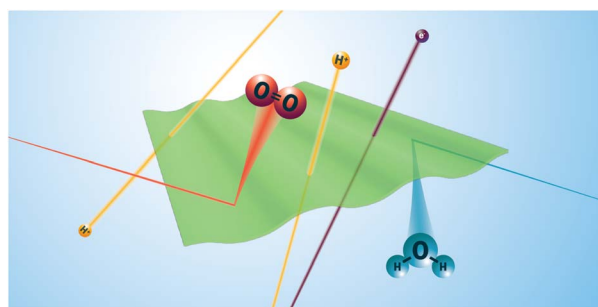


PERSPECTIVE

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Ultrathin electron and proton-conducting membranes for nanoscale integrated artificial photosystems

Heinz Frei

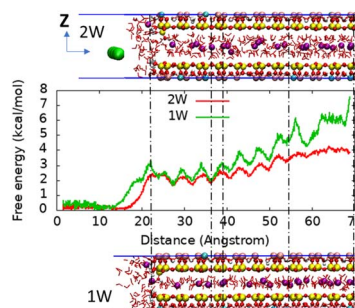


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Low hydrogen solubility in clay interlayers limits gas loss in hydrogen geological storage

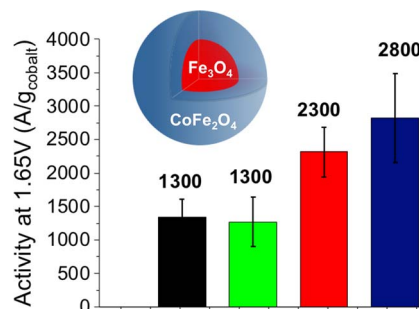
Tuan A. Ho,* Carlos F. Jove-Colon and Yifeng Wang



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Core-shell $\text{Fe}_3\text{O}_4@\text{CoFe}_2\text{O}_4$ nanoparticles as high-performance anode catalysts for enhanced oxygen evolution reaction

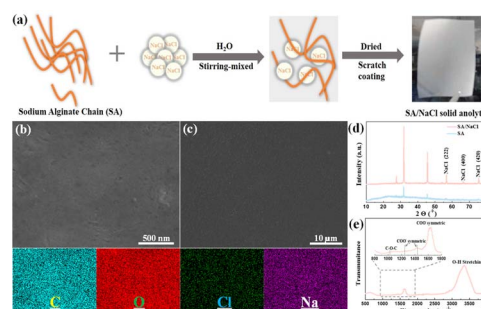
Lisa Royer, Iryna Makarchuk, Simon Hettler, Raul Arenal, Tristan Asset, Benjamin Rotonelli, Antoine Bonnefont, Elena Savinova and Benoit P. Pichon*



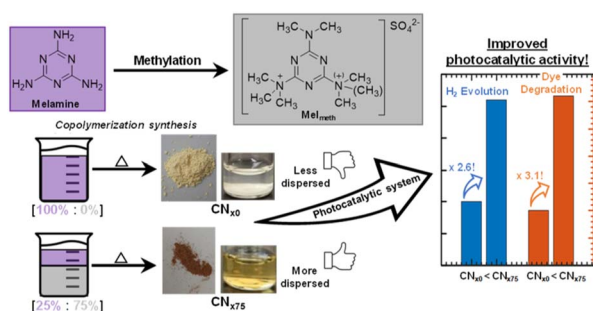
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An ultrahigh energy density Mg–air battery with organic acid–solid anolyte biphasic electrolytes

Min Liu, Qiang Zhang, Xueliang Wang, Jianxin Gao, Qianfeng Liu, Erdong Wang* and Zhenbo Wang*



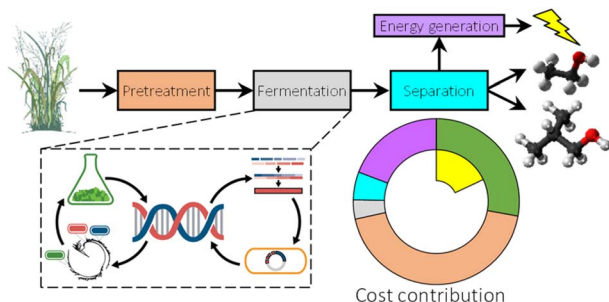
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Methylated precursor leads to carbon nitride (CN_x) with improved interfacial interactions for enhanced photocatalytic performance

Peter Osei Ohemeng and Robert Godin*

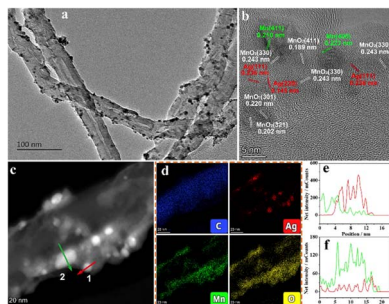
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High yield co-production of isobutanol and ethanol from switchgrass: experiments, and process synthesis and analysis

Arthur E. Pastore de Lima, Russell L. Wrobel, Brandon Paul, Larry C. Anthony, Trey K. Sato, Yaoping Zhang, Chris Todd Hittinger and Christos T. Maravelias*

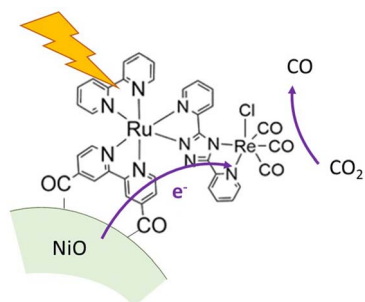
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Construction of MWNT supported ultra-small Ag@MnO₂ nanoparticles for the ORR and Al-air batteries

Yansong Zhang, Liankun Yin, Zhihong Luo,* Xiangqun Zhuge,* Peng Wei, Zhou Song and Kun Luo

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Ruthenium-rhenium and ruthenium-palladium supramolecular photocatalysts for photoelectrocatalytic CO₂ and H⁺ reduction

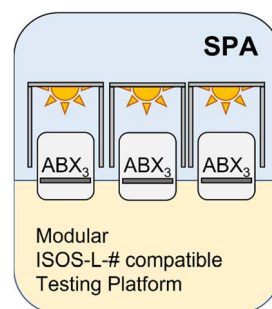
Joshua K. G. Karlsson, Florian J. R. Cerpentier, Ralte Lalrempuia, Martin V. Appleby, James D. Shipp, Dimitri Chekulaev, Owen Woodford, Julia A. Weinstein, Mary T. Pryce* and Elizabeth A. Gibson*



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Forty-two days in the SPA, building a stability parameter analyzer to probe degradation mechanisms in perovskite photovoltaic devices

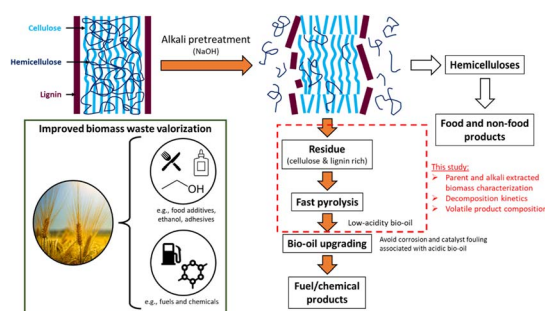
Sean P. Dunfield,^{*} Amy E. Louks, Jay Waxse, Robert Tirawat, Steve Robbins, Joseph J. Berry and Matthew O. Reese^{*}



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Thermochemical behavior of alkali pretreated biomass – a thermogravimetric and Py-GC/FID study

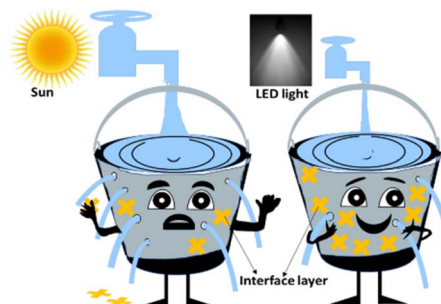
Candice Ellison,^{*} Manuel Garcia-Perez, Charles A. Mullen and Madhav P. Yadav



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Effect of PEIE and polylysine as interfacial layers on the performance of air-processed organic solar cells under both indoor and 1 sun conditions

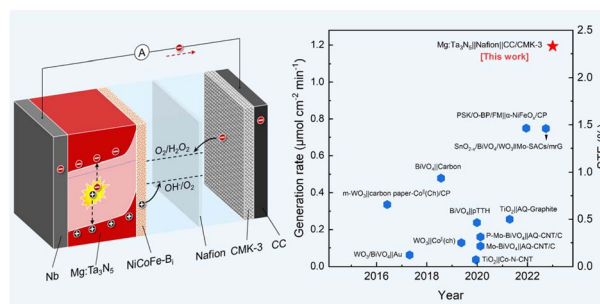
Hamed Javanbakht Lomeri, Giuseppina Polino, Suresh Podapangi, Thomas M. Brown^{*} and Francesca Brunetti^{*}



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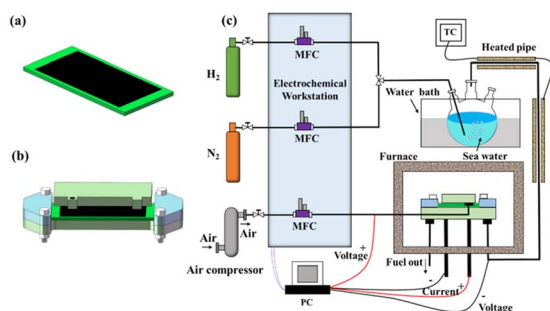
Bias-free photoelectrochemical H₂O₂ production with a solar-to-fuel conversion efficiency of 2.33%

Dan Zhu, Chao Feng, Zeyu Fan, Beibei Zhang, Xin Luo and Yanbo Li^{*}



PAPERS

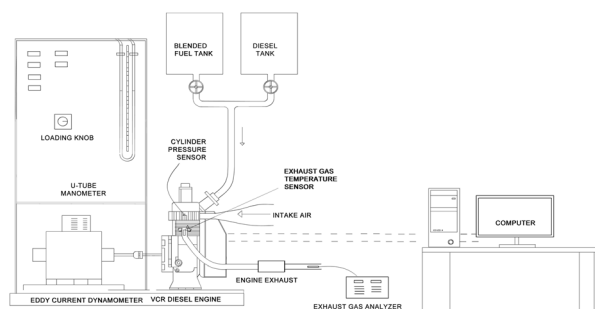
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Effect of the steam/hydrogen ratio on the performance of flat-tube solid oxide electrolysis cells for seawater

Hu Pan, Anqi Wu,* Siu Fai Au, Yiping Yang, Zihan Song, Zhao Liu, Xiwu Gong* and Wanbing Guan

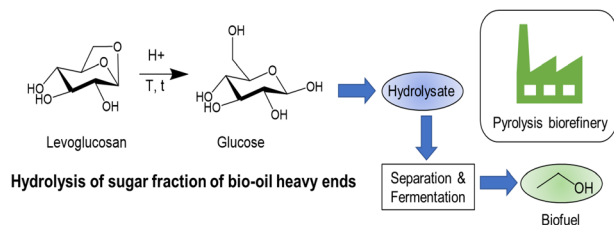
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Determination of the sustainability index along with energy–exergy–emission–economic analysis of a VCR diesel engine fuelled with diesel–bioethanol– Al_2O_3 nanoparticles

Taraprasad Mohapatra, Sudhansu S. Mishra* and Sudhansu S. Sahoo

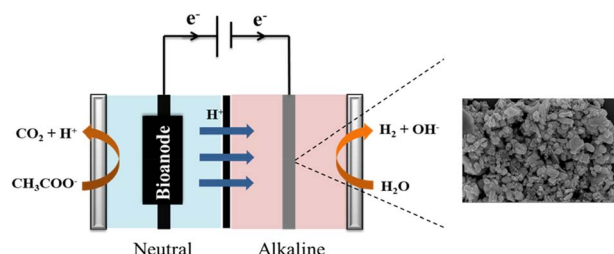
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Hydrolysis of anhydrosugars derived from pyrolysis of lignocellulosic biomass for integration in a biorefinery

Arpa Ghosh, Jessica L. Brown, Ryan G. Smith and Robert C. Brown*

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N-doped Mo_2C particles as a cathode catalyst of asymmetric neutral-alkaline microbial electrolysis cells for hydrogen production

Chaoming Rao, Zhifeng Zhao, Zhenhai Wen,* Qiuhua Xu, Kai Chen, Haiyan Chen and Suqin Ci*

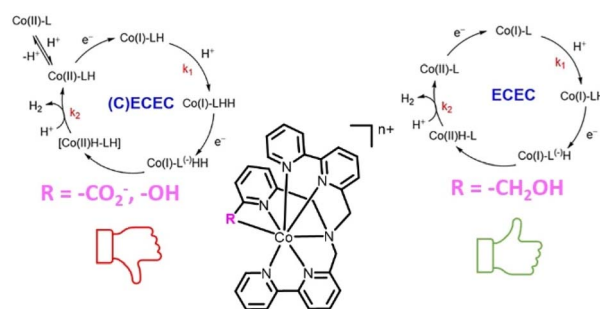


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Electro- and photochemical H₂ generation by Co(II) polypyridyl-based catalysts bearing *ortho*-substituted pyridines

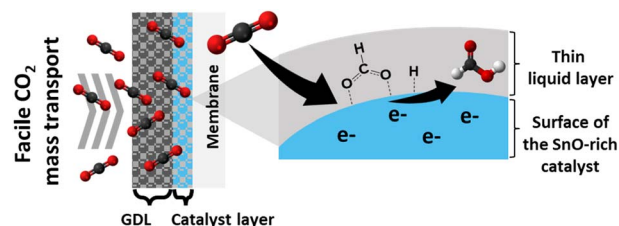
Fiorella Lucarini, Jennifer Fize, Adina Morozan, Federico Droghetti, Euro Solari, Rosario Scopelliti, Marco Marazzi,* Mirco Natali,* Mariachiara Pastore,* Vincent Artero* and Albert Ruggi*



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Tuning the oxidation state of SnO_x and mass transport to enhance catholyte-free CO₂-to-formate electrolysis

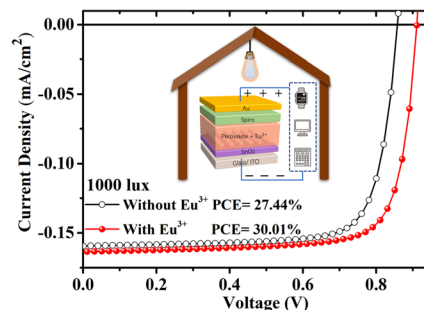
Taewoo Kim, Vivek Shastry Devalla, Sean P. Dunfield, Jack R. Palmer, Sara Dorr, Moses Kodur, Apoorva Gupta and David P. Fenning*



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30% efficient triple-cation perovskite solar cells under indoor illumination enabled by rare earth EuCl₃ doping

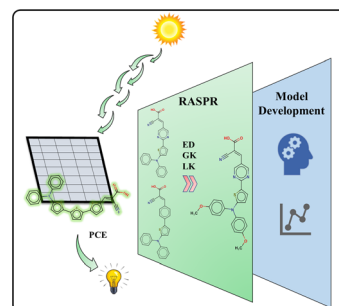
Jie Xu, Sathy Harshavardhan Reddy, Luigi Angelo Castriotta, Suresh Kumar Podapangi, Marco Luce, Antonio Cricenti, Aldo Di Carlo and Thomas M. Brown*



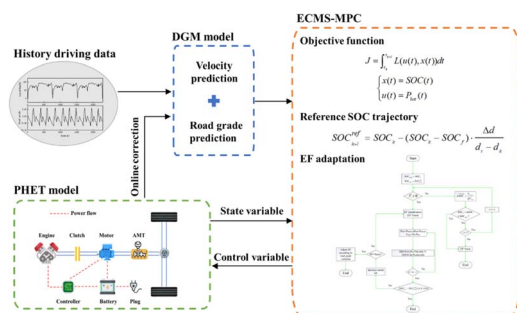
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Machine learning-based q-RASPR modeling of power conversion efficiency of organic dyes in dye-sensitized solar cells

Souvik Pore, Arkaprava Banerjee and Kunal Roy*



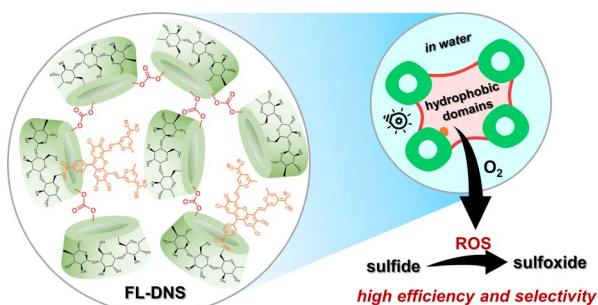
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MPC-based energy management with short-term driving condition prediction for a plug-in hybrid electric truck

Hua Chai, Xuan Zhao, Peilong Shi,* Qiang Yu, Qi Han and Zichen Zheng

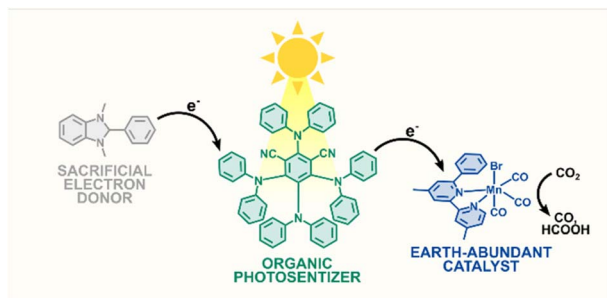
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A TADF-based purely organic heterogeneous photocatalyst with hydrophobic domains for efficient oxidation of sulfide into sulfoxide in water

Gaobo Hong, Yingnan Wu, Jing An, Wenlong Chen, Fengling Song* and Xiaojun Peng

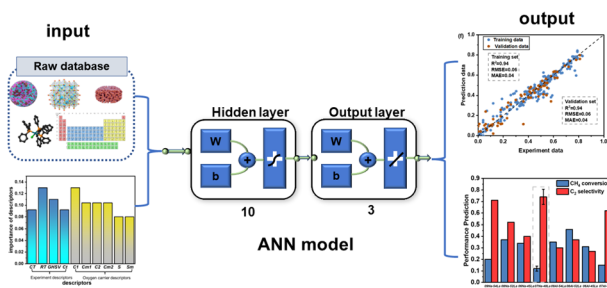
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Visible-light driven photocatalytic CO₂ reduction promoted by organic photosensitizers and a Mn(I) catalyst

Elena Bassan, Rei Inoue, David Fabry, Francesco Calogero, Simone Potenti, Andrea Gualandi, Pier Giorgio Cozzi, Kei Kamogawa, Paola Ceroni,* Yusuke Tamaki* and Osamu Ishitani*

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A machine learning approach for predicting the performance of oxygen carriers in chemical looping oxidative coupling of methane

Dewang Zeng, Yiwen Song, Mengmeng Wang, Yingjie Lu, Zehua Chen and Rui Xiao*

