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# Sustainable Energy & Fuels

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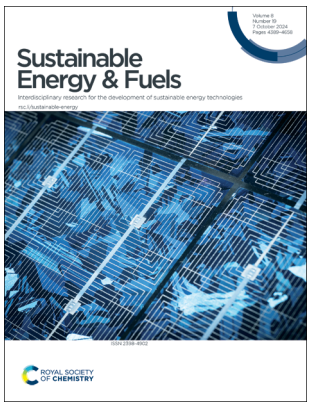
## IN THIS ISSUE

ISSN 2398-4902 CODEN SEFUA7 8(19) 4389–4658 (2024)

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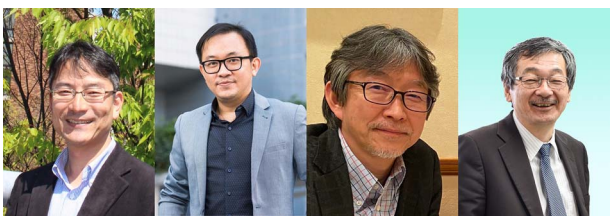
## EDITORIAL

4398

**Introduction to solar fuels and chemicals: photocatalytic water splitting and $CO_2$ reduction themed collection**

Ryu Abe, Yun Hau Ng, Osamu Ishitani and Kazunari Domen

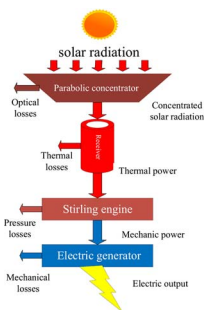


## REVIEWS

4399

**Characterization of a thermoelectric system based on a solar dish Stirling engine: a review**

Lingxuan Kong,* Zhibo Wu, Jiale Jiang, Jing Li and Ning Luo



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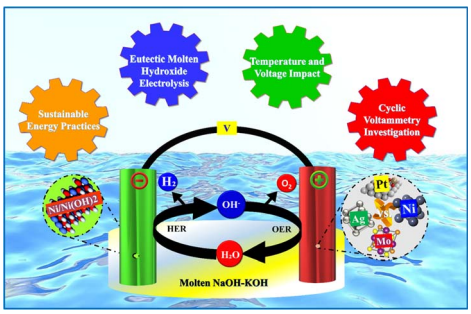
## REVIEWS

4429

**Critical insights into eutectic molten hydroxide electrolysis for sustainable green hydrogen production**

Farooq Sher,* Imane Ziani, Nawar K. Al-Shara, Alexander Chupin, Nađa Horo, Bohong Wang, Saba Rahman, Bilal Fareed and Monica R. Nemţanu

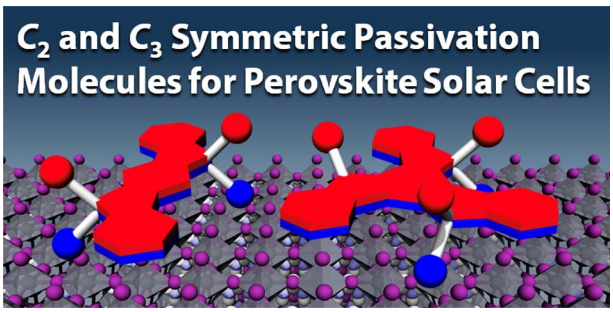



## PAPERS

4453

**Evolving bifacial molecule strategy for surface passivation of lead halide perovskite solar cells**

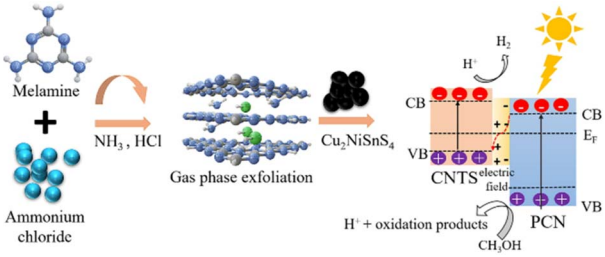
Nanaki Minoi, Fumitaka Ishiwari,* Takuya Omine, Kazuharu Murotani, Ryosuke Nishikubo and Akinori Saeki*




4461

**$Cu_2NiSnS_4$/g-$C_3N_4$ S-scheme photocatalysts: interfacial surface trap states *vs.* hydrogen production**

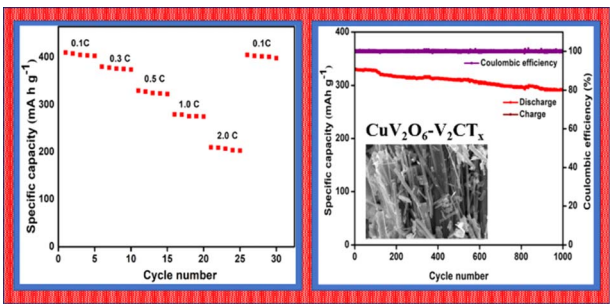
Rugma T. P., Rishi Krishna B. S., K. Priyanga Kangeyan, Neppolian Bernaurdshaw, Abdullah Saad AlArifi and Sandeep Kumar Lakhera*




4472

**A heterogeneous $CuV_2O_6$@2D-$V_2CT_x$ MXene nanohybrid as a cathode material for high-capacity and stable aqueous Zn-ion batteries**

Lena S, Senthilkumar Ramasamy, Saradh Prasad Rajendra, Mohamad S. AlSalhi, Rajamohan Rajaram and Subramania A.*



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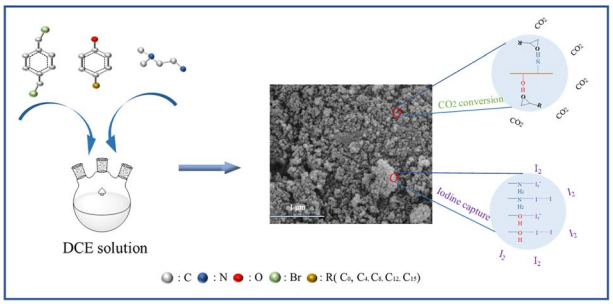
## PAPERS

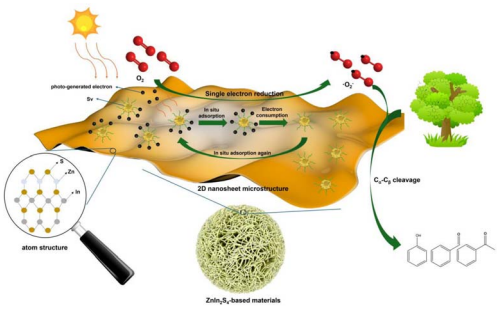
4484




**Synthesis of "all-in-one" hypercrosslinked organic polymers: experimental and kinetic models for $CO_2$ chemical fixation and iodine adsorption**

Xuanbo Liu, Yongjing Hao, Xiuli Yan, Yuhang Zhang, Xionglei Wang, Zheng Zhu, Jiajia Yang, Shuangshuo Li, Tao Chang* and Shenjun Qin*

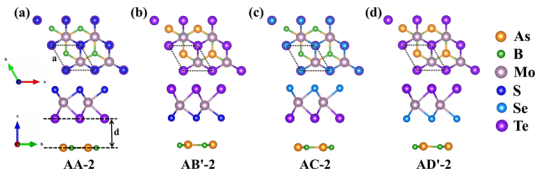
4496




**Sulfur vacancy induced radical generation in $ZnIn_2S_4$ for lignin photocatalytic $C_\alpha$–$C_\beta$ cleavage**

Jifang Zhang, Jinde Sun, Chengcheng Suo, Wei Li, Sha Luo, Bing Tian, Chunhui Ma* and Shouxin Liu*

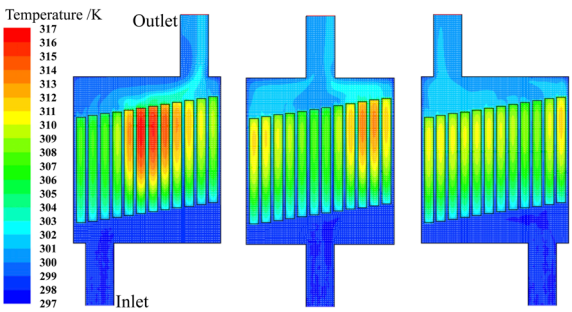
4507




**Two-dimensional h-BAs/MoXTe (X = S, Se) heterojunctions with high photocatalytic performance and high photoelectric conversion efficiency**

Yuliang Mao* and Zhiwei Zhang

4519




**Study on the impact of battery pack arrangement on temperature uniformity distribution**

ZhongXing Ji and Chao Zhang*



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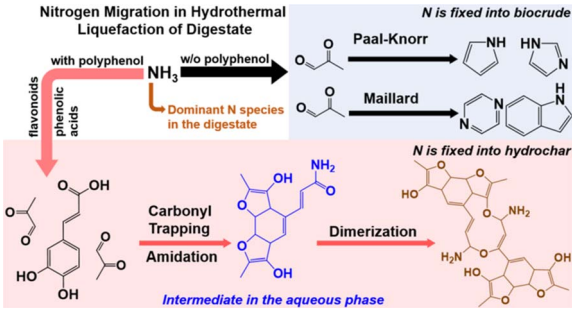
PAPERS

4533

**Hydrothermal coliquefaction of anaerobic digestate with polyphenolic extracts from agricultural byproducts producing nearly nitrogen-free biocrude oil**

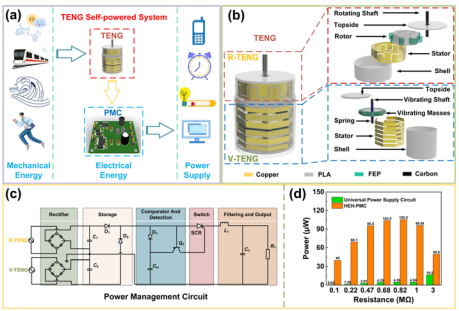
Hanifrahmawan Sudibyo,* Budhijanto Budhijanto, Crispin Celis, Aqiela Mahannada, Ahmad Suparmin, Joko Wintoko, Dwi Joko Prasetyo and Muslih Anwar




4550

**Intermittent control switch characteristics of triboelectric electric hybrid energy harvesting devices and power management circuits**

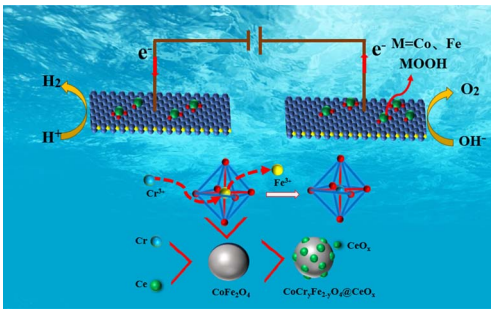
Xin Yu, Mingxing Cui, Wendong Qi, Xinrui Li, Yuhang Xing, Xiaolei Lu, Shitong Yang, Jing Zhao* and Changhong Jiang*




4561

**Cr-doped $CoFe_2O_4$ nanorod array modified by oxygen vacancy-rich cerium oxide as an efficient bifunctional total water splitting catalyst**

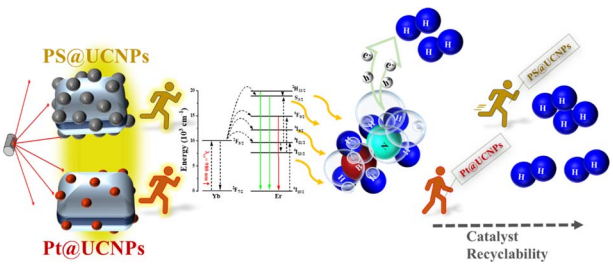
Yulin Duan, Zhengang Guo,* Hua-nan Zhang, Tingting Wang and Jifan Zhang




4575

**Near-infrared driven photocatalytic hydrogen production from ammonia borane hydrolysis using heterostructure-upconverted nanoparticles**

Bushra Maryam, Muhammad Asim,* Hamna Qayyum, Lun Pan, Ji-Jun Zou* and Xianhua Liu*



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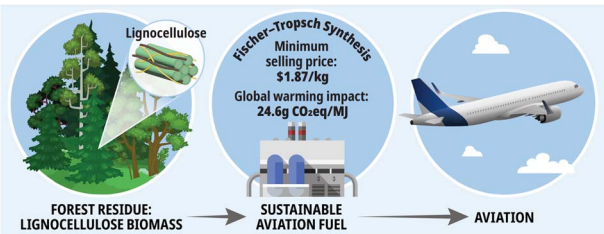
PAPERS

4588

**Unlocking the value of food waste: sustainable production of ethylene glycol over low-cost Ni–W catalysts supported on glucose-derived carbons**

Lucília Sousa Ribeiro,* Rafael Gomes Morais, José Joaquim de Melo Órfão and Manuel Fernando Ribeiro Pereira

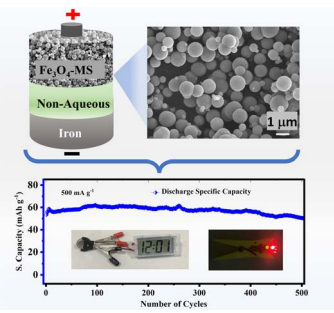
4602




**Techno-economic and environmental impacts assessments of sustainable aviation fuel production from forest residues**

J. P. Ahire,* R. Bergman, T. Runge, S. H. Mousavi-Avval, D. Bhattacharyya, T. Brown and J. Wang

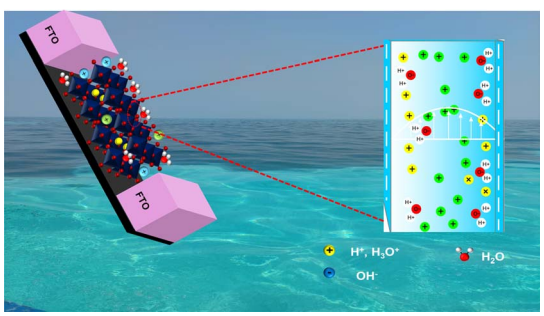
4617




**Ultrafast charging/discharging and highly stable non-aqueous iron-ion batteries using iron oxide ($Fe_3O_4$) microspheres as an efficient cathode material**

Jitendra Kumar Yadav, Bharti Rani, Priyanka Saini, Anant Prakash Pandey and Ambesh Dixit*

4628




**Moisture-induced ionovoltaic electricity generation using lead free 2-dimensional $Cs_3SbBiBr_9$ perovskite**

Ashna K. Pramod and Sudip K. Batabyal*



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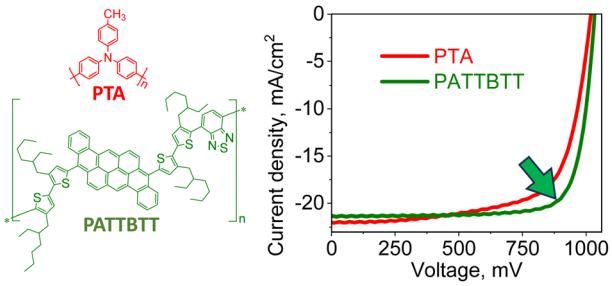
PAPERS

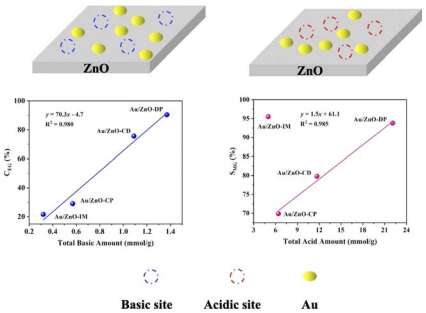
4638

**A new type of pyranthrene-based copolymer as a promising hole-transport material for perovskite solar cells**

Azat F. Akbulatov,* Ekaterina A. Khakina, Nikita A. Emelianov, Olga A. Kraevaya, Lyubov A. Frolova and Pavel A. Troshin




4646

**Oxidative esterification of ethylene glycol in methanol to methyl glycolate over Au/ZnO catalysts: effect of preparation methods**

Xueyang Ren, Jie Zheng, Jinxian Zhao,* Yanhong Quan and Jun Ren*