Green Energy & Environment

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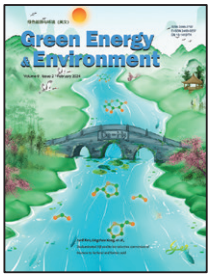


Front Cover

Dealuminated Hβ zeolite for selective conversion of fructose to furfural and formic acid

Rui Li , Qixuan Lin, Junli Ren, Xiaobao Yang, Yingxiong Wang, Lingzhao Kong**

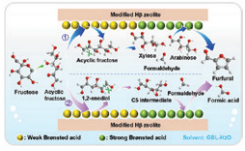
CONTENTS

Green Energy & Environment

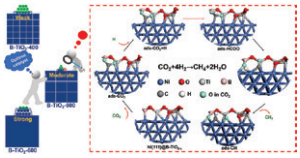
A systematic review for the first time focusing on multiple applications of porous framework materials containing MOFs, COFs and HOFs in green energy & environment related fields for carbon neutrality.

Research papers

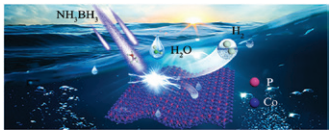
Citric acid-modified Hb zeolite possessed suitable textural structure and high Brønsted acid amount was employed for fructose-to-furfural transformation, correspondingly to 76.2% furfural and 83.0% formic acid.



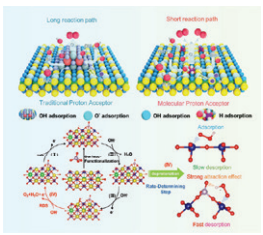
This work shows how changing the surface environment of the anatase TiO_2 (B–TiO_2) can be used to modulate the SMSI. The moderate TiOx overlayer makes the Ni metal highly dispersed on the high specific surface area of support, resulting in a substantially enhanced CO_2 methanation rate.



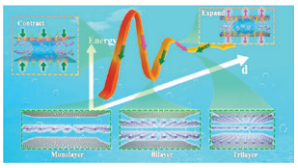
Cobalt phosphide nanosheets are synthesized by a facile salt-assisted along with low-temperature phosphidation strategy for simultaneously modulating its morphology and electronic structure, and function as hydrogen evolution photocatalysts.



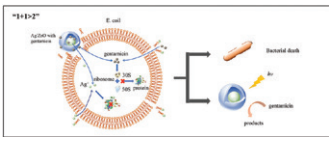
This work provides a new molecular-level strategy to develop highly efficient OER electrocatalysts for industrial applications.



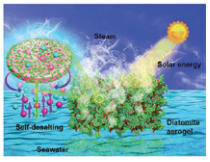
The nanochannel stables at a few quantized discrete spacing states when it is within 1.4 nm. This is attributed to water molecules becoming laminated structures, and the stable states are corresponding to the monolayer, bilayer and trilayer water configurations, respectively.



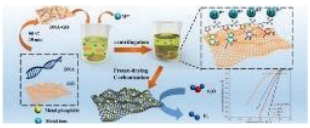
The 1+1>2 synergistic sterilization system reduces the dosage of antibiotics to delay drug resistance, and the subsequent photodegradation avoids environmental pollution problems.



Natural-diatomite aerogel evaporator is prepared by assembling polyaniline covered diatomite into the polyvinyl alcohol treated melamine foam for highly efficient solar steam generation.



An integrated chemical and biological process for producing 100% lignocellulose-based nylons PA56P and PA46P was developed by melt polymerzation of 3-propyladipic acid derived from lignin and 1,5-pentenediamine/1,4-butanediamine derived from carbohydrate sugars.



Route of the comprehensive reutilization of all components in MOR. The two paths were jointly explored for the coproduction of high-value-added chemicals through MOF material adsorption combined with the saccharification fermentation process from MOR.