

HF-FREE FACILE AND RAPID SYNTHESIS OF MXENES RELATED MATERIALS AND THEIR EFFICIENT ENERGY CONVERSION AND STORAGE APPLICATIONS

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MXene possess widespread applications in electrochemical energy storage and bio-imaging due to its high robustness and non-toxicity. However, traditional toxic synthetic routes require the use of highly toxic hydrofluoric (HF) acid to synthesize MXenes which raises considerable safety and environmental concerns. To overcome this problem, a HF-free electrochemical method is developed to synthesize MXenes. The resulting MXenes exhibits stable and highly efficient energy storage, offering promising applications towards fast-approaching raised energy crisis and demands.

NOVEL FEATURES

- * Adopts a safe and environmentally friendly approach to synthesize MXenes
- * Possesses high etching efficiency and short preparation time

