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Poly(4-vinylpyridine) as a platform for robust CO₂ electroreduction

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Abstract

The development of efficient *and* robust catalysts is critical for the viability of the electrocatalytic conversion of CO₂ into useful chemicals. Herein, we discover a new class of metal-polymer electrocatalysts with incorporated mechanisms of their stabilization which is based on a poly(4-vinyl pyridine). We attribute the outstanding catalytic properties of the new hybrid material to new intrinsic mechanisms of the metal stabilization offered by the N-heteroaromatic polymer. More generally, our study offers a new simple strategy to design and prepare robust CO₂ reduction electrocatalysts.