

Supplementary Information

Ni/Co phosphide nanoparticles embedded in N/P-doped carbon nanofibers towards enhanced hydrogen evolution

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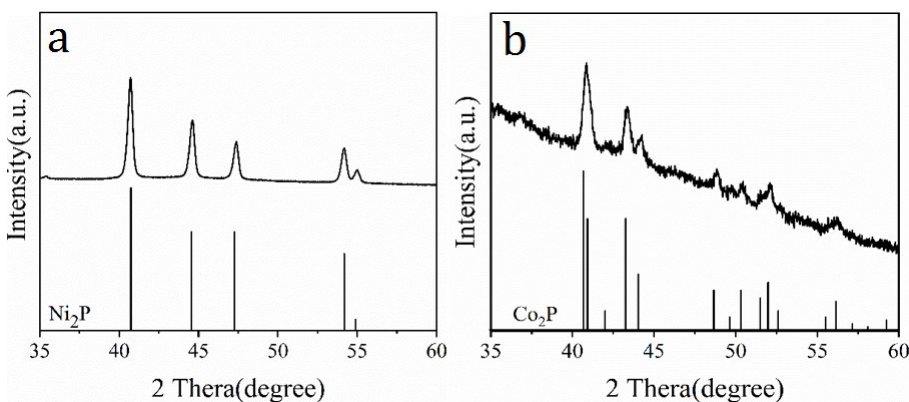


Fig. S1. XRD patterns of samples. (a), Ni₂P/NPNFs. (b), Co₂P/NPCNFs.

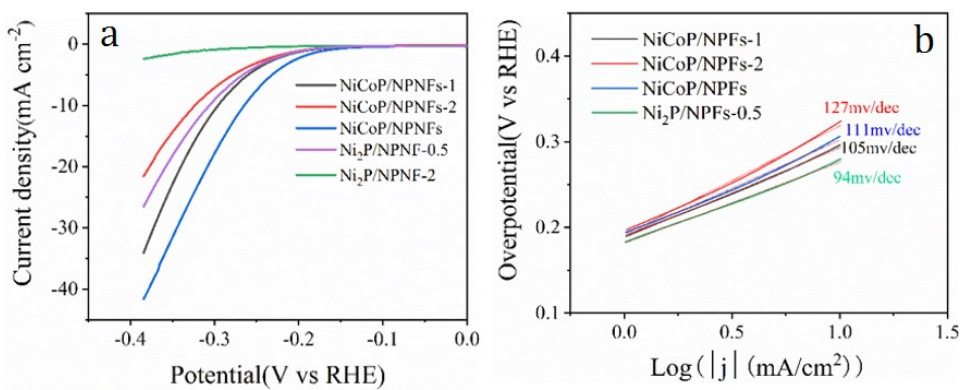


Fig. S2. (a) HER polarization curves of Ni₂P/NPFs-0.5, Ni₂P/NPFs-2, NiCoP/NPFs-1, NiCoP/NPFs-2, (b) Tafel plot derived from the HER polarization curves.

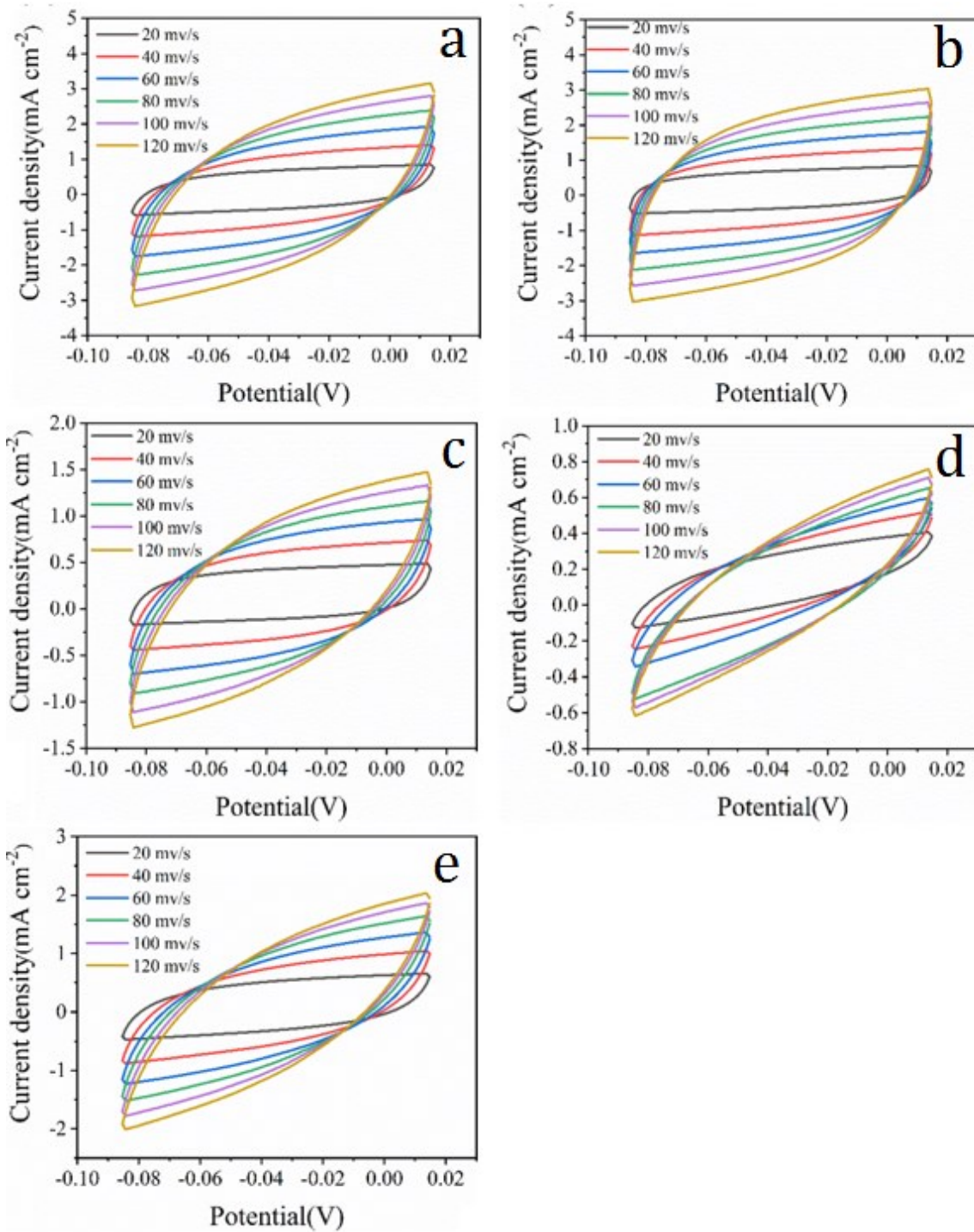


Fig. S3. Cyclic voltammograms plots of samples as electrodes with different scan rates. (a), Ni₂P/NPNFs. (b), Co₂P/NPNFs. (c), NiCoP/NPNFs. (d), NiCoP/NPNFs-1. (e), NiCoP/NPNFs-2.

In 0.5mol/L H₂SO₄, CV tests were conducted on different materials at scanning rates of 20, 40, 60, 80, 100 and 120mv/s, respectively. The test range was set at the stage where Faraday current was not generated. The corresponding electrochemical area was calculated according to the equation (1):

$$A \frac{\text{Sample}}{\text{ECSA}} = \frac{\text{specific capacitance}}{60\mu\text{F}/\text{cm}^2} \quad (1)$$

A

$$\text{ECSA (Ni}_2\text{P/NPNFs)} = 299.5\text{cm}^2$$

$$\text{ECSA (Co}_2\text{P/NPNFs)} = 123.5\text{cm}^2$$

$$\text{ECSA (NiCoP/NPNFs)} = 311.67\text{cm}^2$$

$$\text{ECSA (NiCoP/NPNFs-1)} = 151.83\text{cm}^2$$

$$\text{ECSA (NiCoP/NPNFs-2)} = 163.5\text{cm}^2$$