

# Morphological and Reactive Optimization of g-C<sub>3</sub>N<sub>4</sub> Derived Co,N-Codoped Carbon Nanotubes for Hydrogen Evolution Reaction

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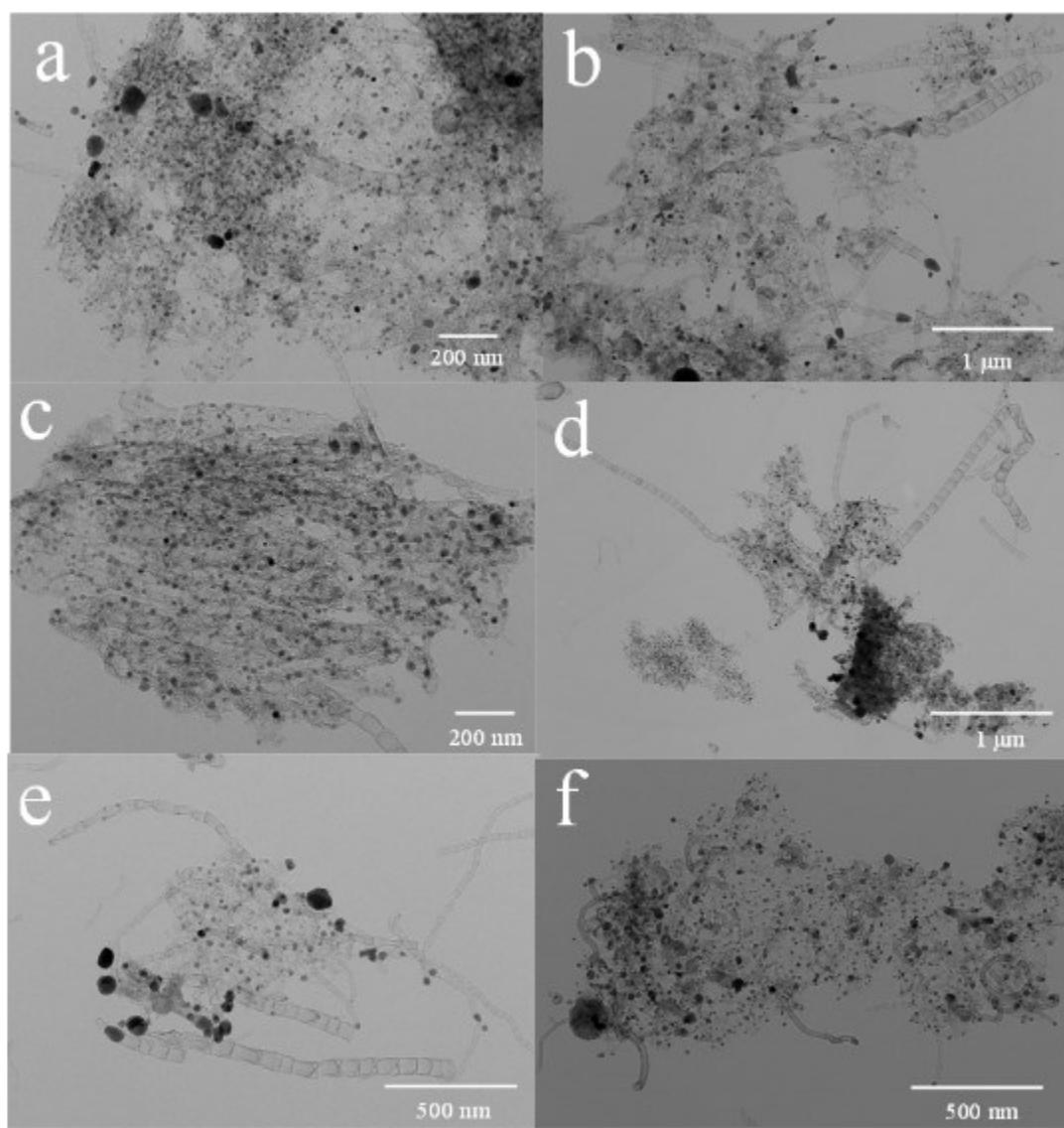
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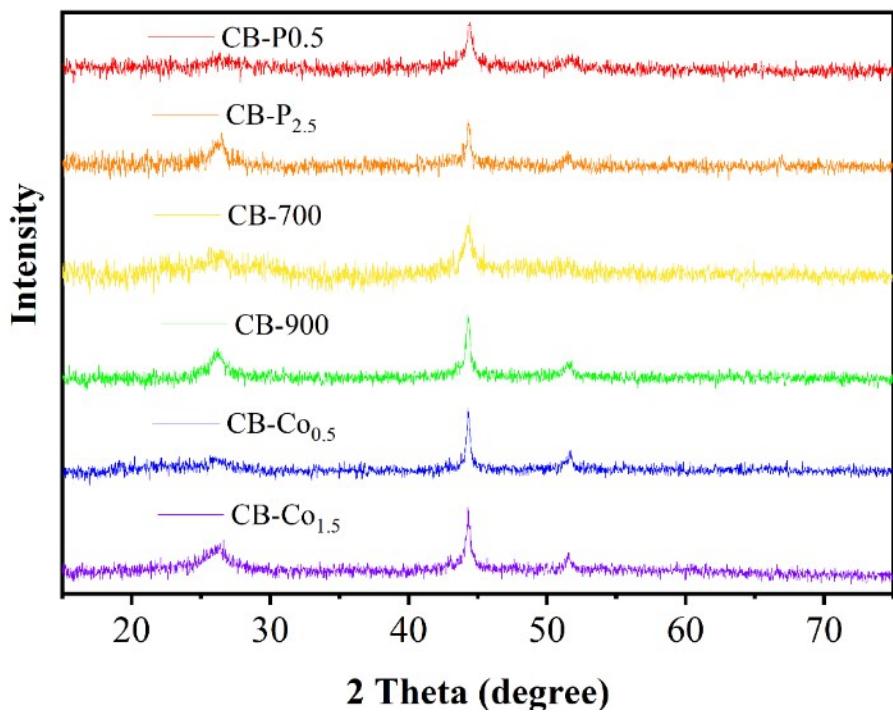
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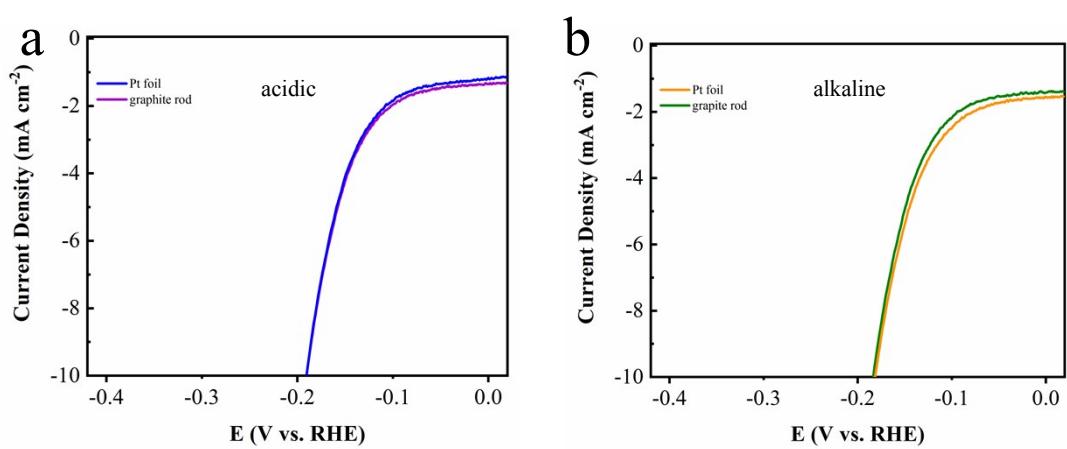
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**Fig.S1** TEM images of (a) Co@BNCNT-P123<sub>0.5</sub>, (b) Co@BNCNT-P123<sub>2.5</sub>, (c) Co@BNCNT-700, (d) Co@BNCNT-900, (e) Co@BNCNT-Co<sub>0.5</sub>, and (f) Co@BNCNT-Co<sub>1.5</sub>



**Fig. S2** XRD comparison pattern of CB-P<sub>0.5</sub>, CB-P<sub>2.5</sub>, CB-700, CB-900, CB-Co<sub>0.5</sub> and CB-Co<sub>1.5</sub>.



**Fig. S3** HER polarization curves of Co@BNCNT in  $\text{N}_2$ -saturated 0.5M  $\text{H}_2\text{SO}_4$  (a) and 0.1 M KOH (b) with Pt foil and graphitic rod taken as the counter electrode.

