Electronic Supplementary Information

## **Controllable Fabrication of Nickel Nanoparticle Chains Based on Electrochemical Corrosion**

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## **1. Supporting Figures:**



Fig.S1 EDS of Ni segment in figure6d.



Fig.S2The morphology of the Ni30s/Cu15s nanowires arrays after corroding with

15wt% NaOH solution for 50min.

## 2. Electrode Potential in Alkaline Solution:

The potential of oxygen reduction reaction: 2H<sub>2</sub>O+O<sub>2</sub>+4e=4OH-+0.41V

Electrode potential of Ni: Ni+2OH<sup>-</sup>=Ni(OH)<sub>2</sub>+2e +0.72V

Electrode potential of Cu:

 $2Cu+2OH^{-}=Cu_{2}O+H_{2}O+2e +0.358V \\Cu_{2}O+2OH^{-}+H_{2}O=2Cu(OH)_{2}+2e +0.08V \\\Rightarrow Cu+2OH^{-}=Cu(OH)_{2}+2e +0.219V$ 

## **3. Detailed Operation for Oxygen-free Environment:**

The oxygen-free environment was created as following procedure. At first, play a piece of sample into a vial, and sealed with a rubber stopper. Then, the vial was deflated several times using needle tubing, make its internal near vacuum. At the same time, high-purity nitrogen was bubbled through the NaOH solution for 1h to remove the dissolved oxygen. At last, the NaOH solution that has been removed oxygen was injected into the vial to immerse the sample.