

Supplementary Information

Vertical cobalt dendrite array films: electrochemical deposition and characterization on glucose oxidation and magnetic properties

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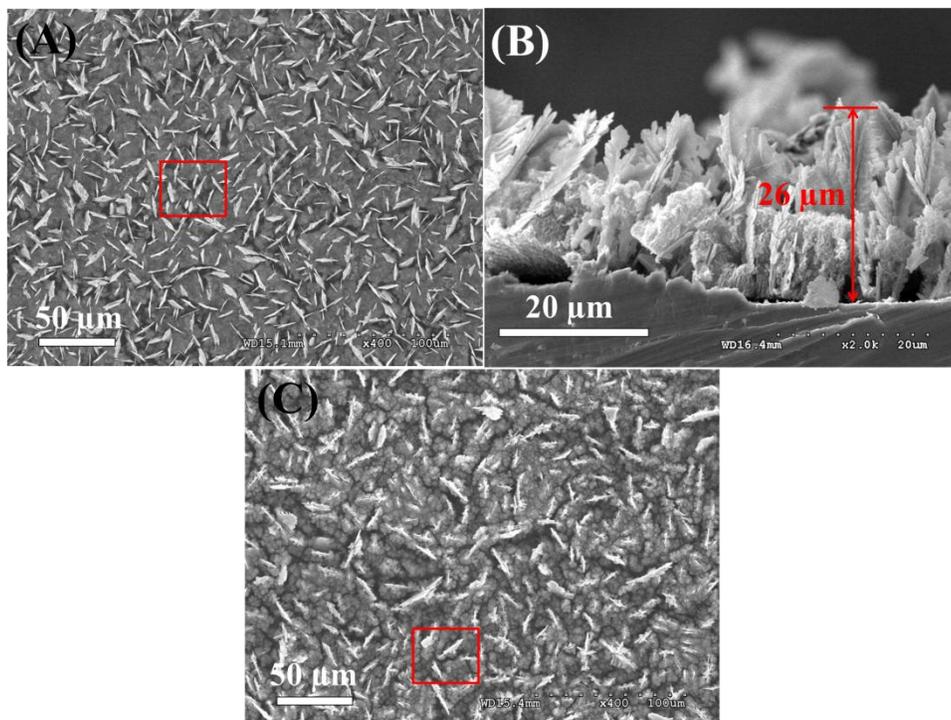


Figure S1. Low magnification SEM images of Co dendrites obtained at different applied potentials with initial pH = 5.6. Deposition condition: 0.05 M Co^{2+} , time: 600 s. (A) -1.2 V, (C) -1.3 V. (B) is the cross-sectional SEM image of (A).

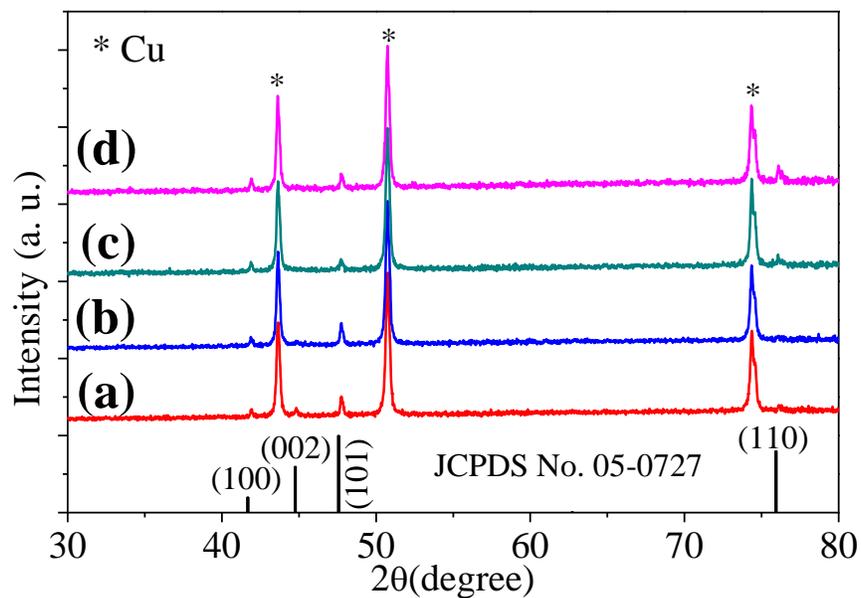


Figure S2. XRD patterns of Co dendrites films on Cu substrate (marked with asterisks) obtained at different applied potentials with initial pH = 5.6. Deposition condition: 0.05 M Co^{2+} , time: 600 s. (a) - 1.0 V, (b) -1.1 V, (c) -1.2 V, (d) -1.3 V.

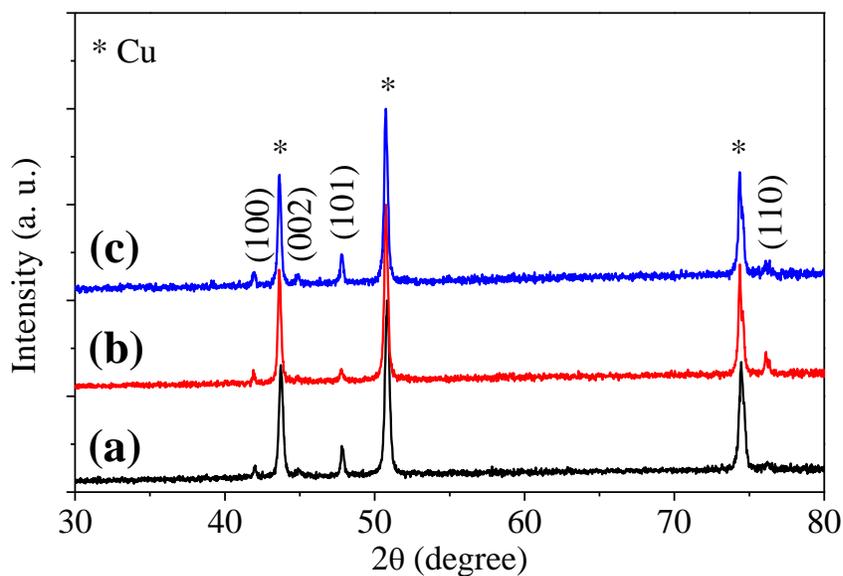


Figure S3. XRD patterns of Co dendrite obtained at pH = 7.5. Deposition condition: 0.05 M Co^{2+} , time: 600 s. (a) -1.1 V, (b) -1.2 V, (c) -1.3 V.

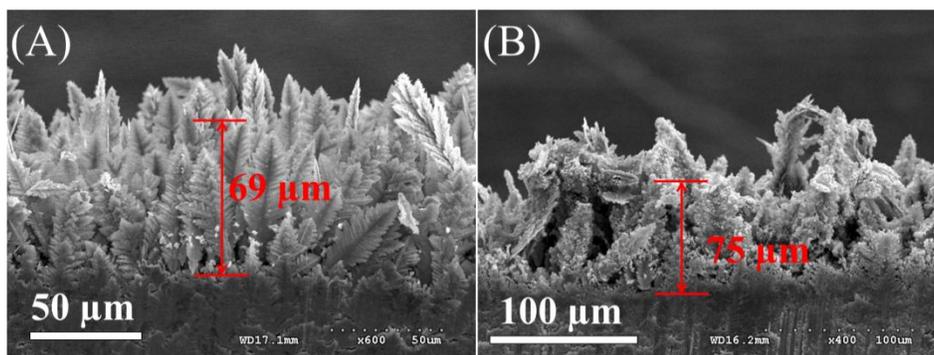


Figure S4. Cross-sectional SEM images of Co dendrite obtained at pH = 7.5. Deposition condition: 0.05 M Co²⁺, time: 600 s. (A) -1.2 V; (B) -1.3 V.

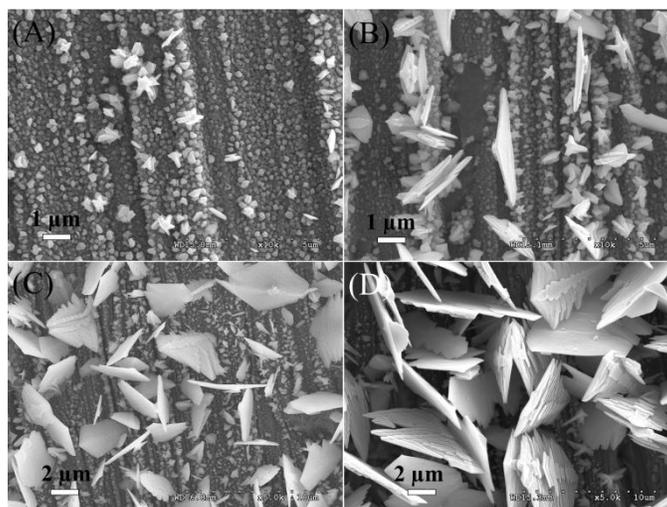


Figure S5. SEM images of Co dendrite films obtained in 0.05 M Co²⁺ solution at pH = 2.5 with potential -1.3 V for different time. (A) 100 s, (B) 200 s, (C) 300 s, (D) 600 s.