Supporting Information

Efficient Catalyst of Co@CoP_x Core-shell Nanochains for Oxygen Evolution Reaction

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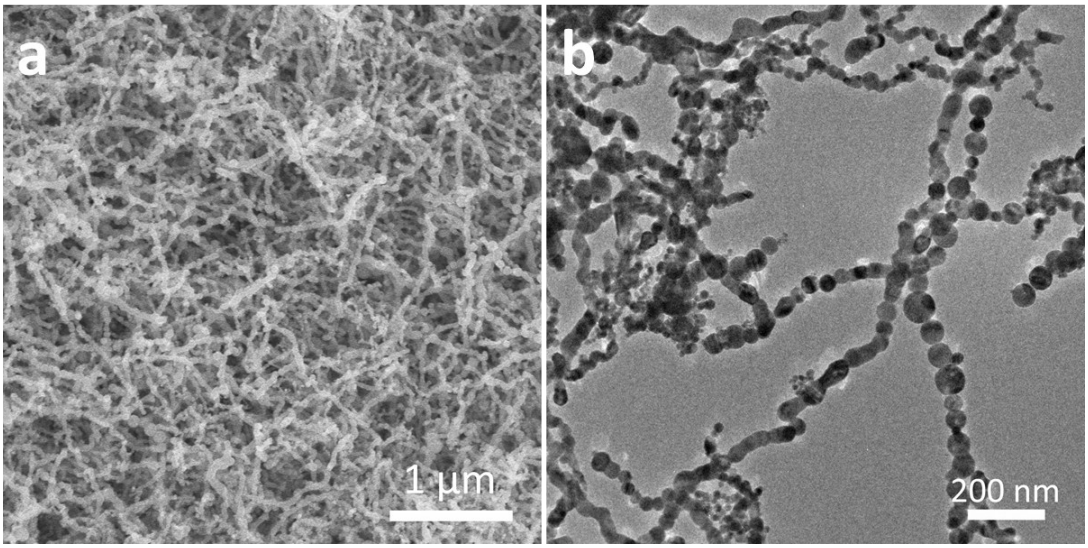

Figure S1. (a) SEM image and (b) TEM image of Co nanochains.

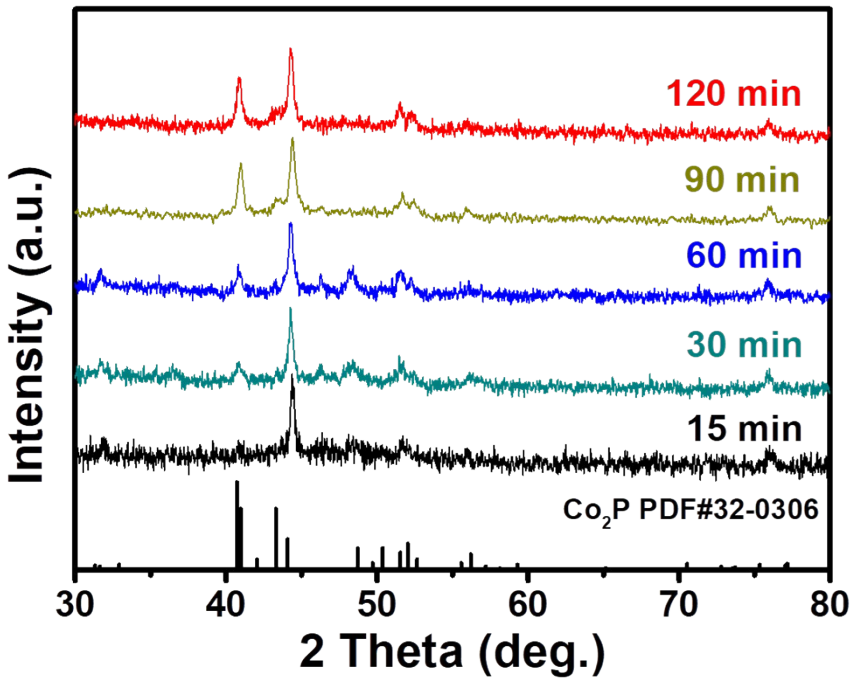

Figure S2. XRD patterns of Co@CoP_x nanochains prepared under different phosphorization time.

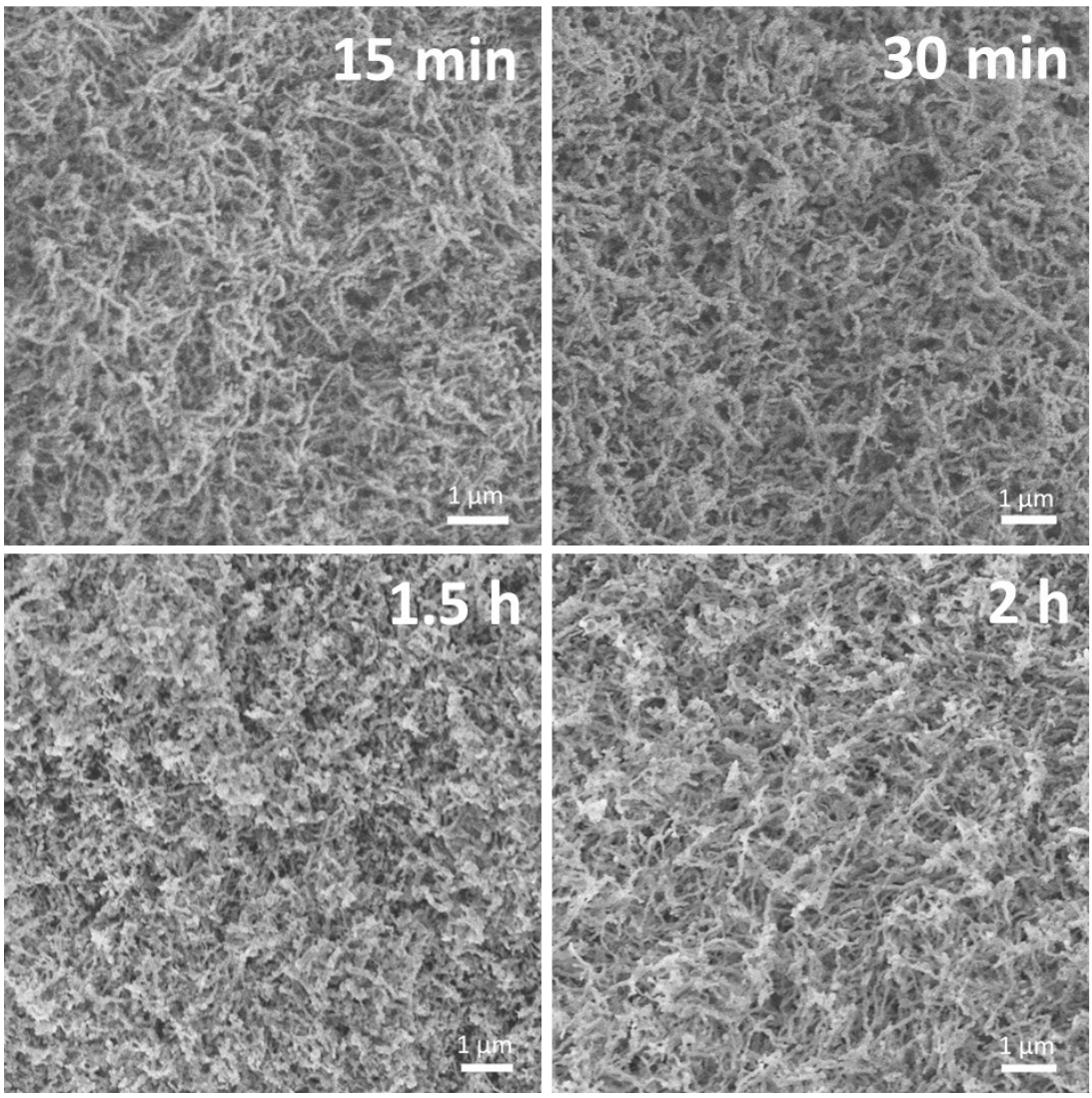

Figure S3. SEM images of Co@CoP_x nanochains prepared under different phosphorization time (a, b) 15 min, (c, d) 0.5 h, (e, f) 1.5 h, (g, h) 2 h.

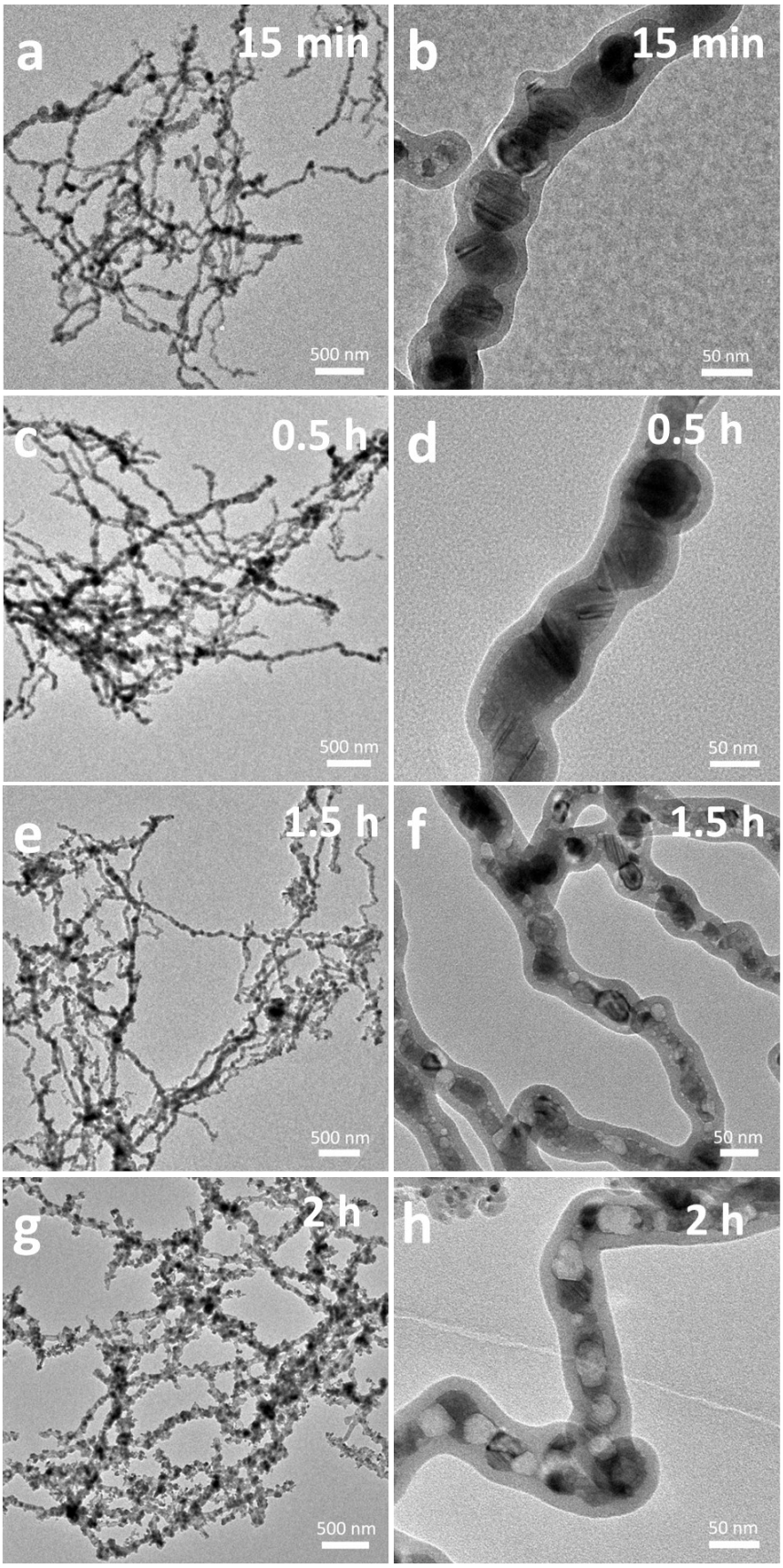

Figure S4. TEM images of Co@CoP_x nanochains prepared under different phosphorization time (a, b) 15 min, (c, d) 0.5 h, (e, f) 1.5 h, (g, h) 2 h.

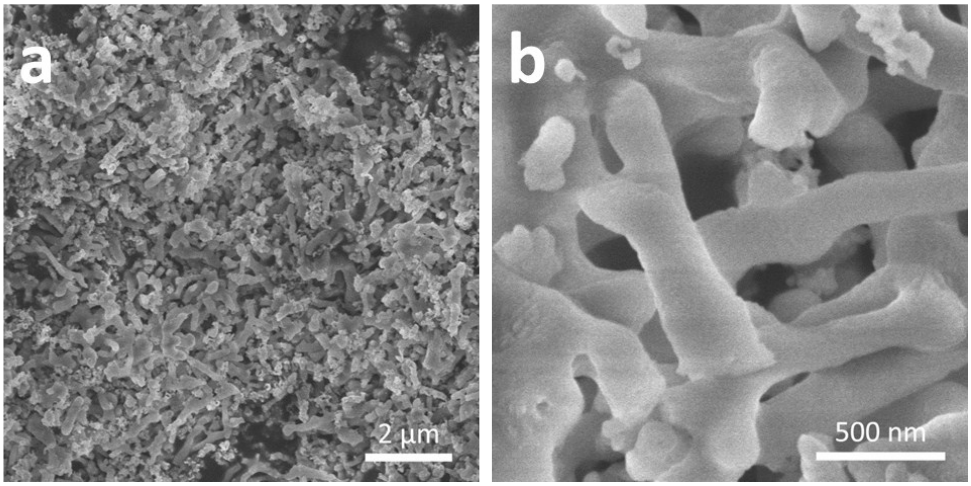

Figure S5. SEM images of CoP_x.

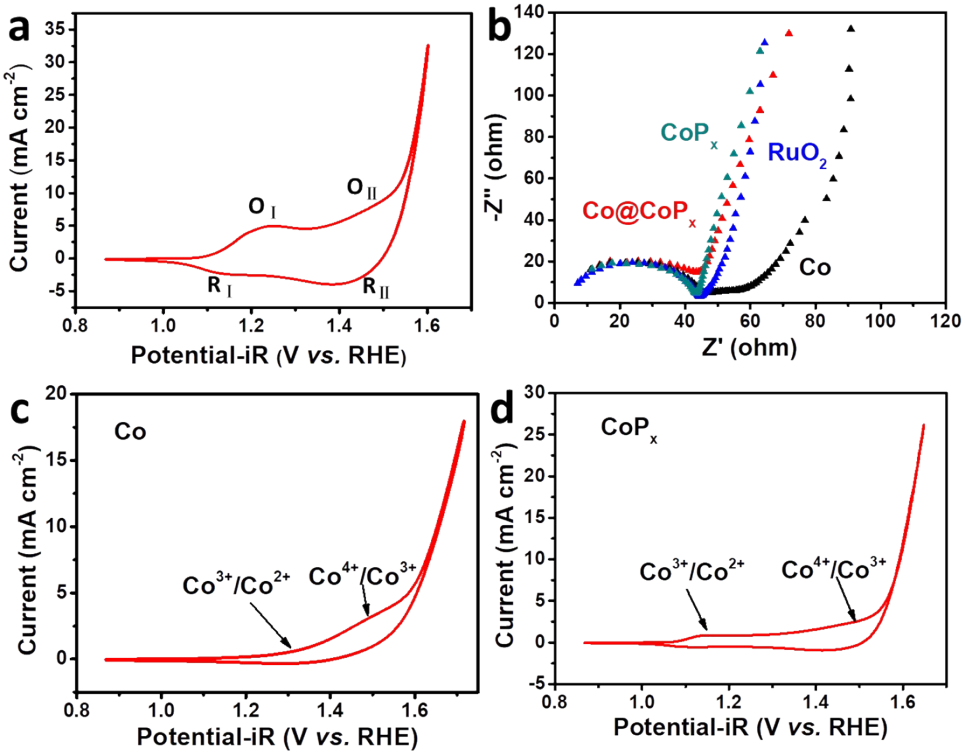

Figure S6. (a) Cyclic voltammetry curves of $Co@CoP_x$ nanochains; (b) Electrochemical impedance spectroscopy (EIS) of Co, CoP_x, $Co@CoP_x$ and RuO_2. (c) Cyclic voltammetry curves of Co; (d) Cyclic voltammetry curves of CoP_x.

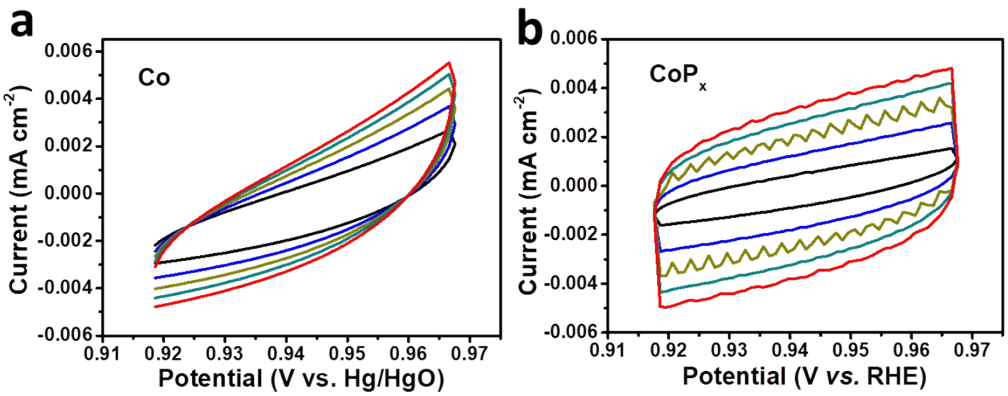

Figure S7. Cyclic voltammetry curves of (a) Co nanochains and (b) CoP_x in the region where no redox reaction occurs, the scan rate are 10, 8, 6, 4, 2 mV s^{-1}.

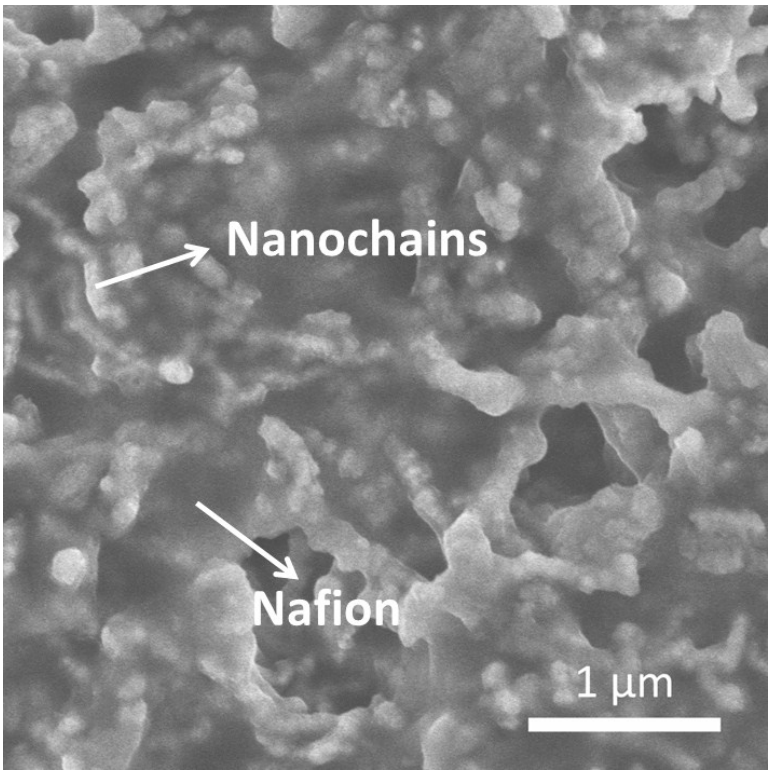

Figure S8. SEM image of Co@CoP_x after stability test.

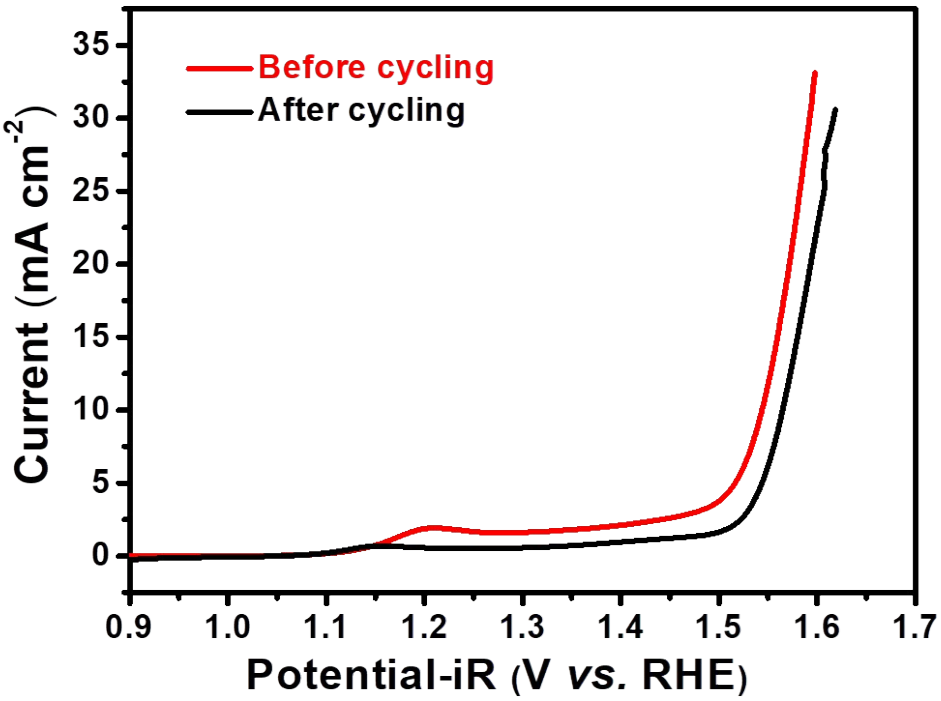

Figure S9. Polarization curves of Co@CoP_x before and after stability test.

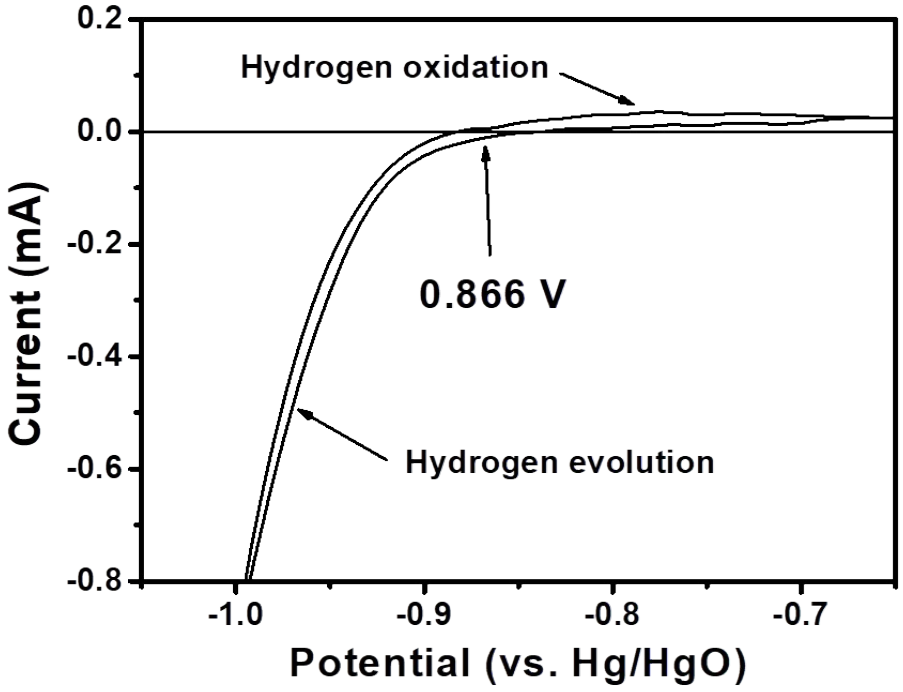

Figure S10. CV curve measured in H_2 saturated 0.1 M KOH for RHE calibration.