

Supporting Information

In Situ Growth of Cobalt@Cobalt-Borate Core-Shell Nanosheets as Highly-efficient Electrocatalysts for Oxygen Evolution Reaction in Alkaline/Neutral Medium

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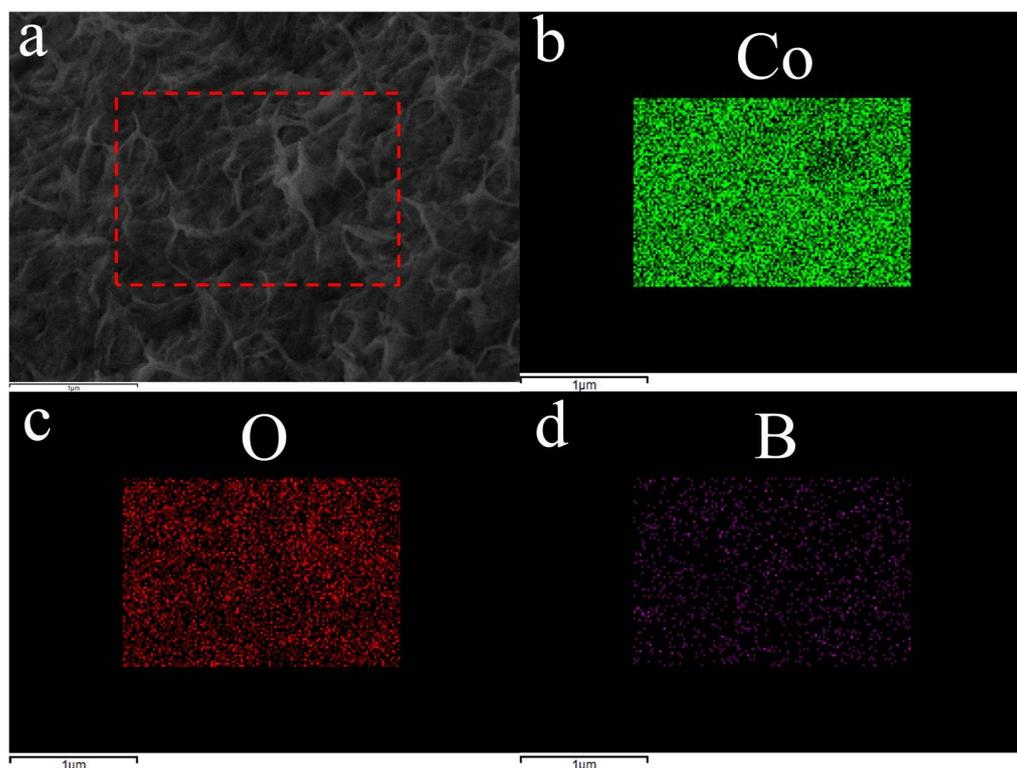


Figure S1. SEM image of Co@Co-Bi/Ti (a) and the corresponding EDX element mapping images of Co (b), O (c) and B (d).

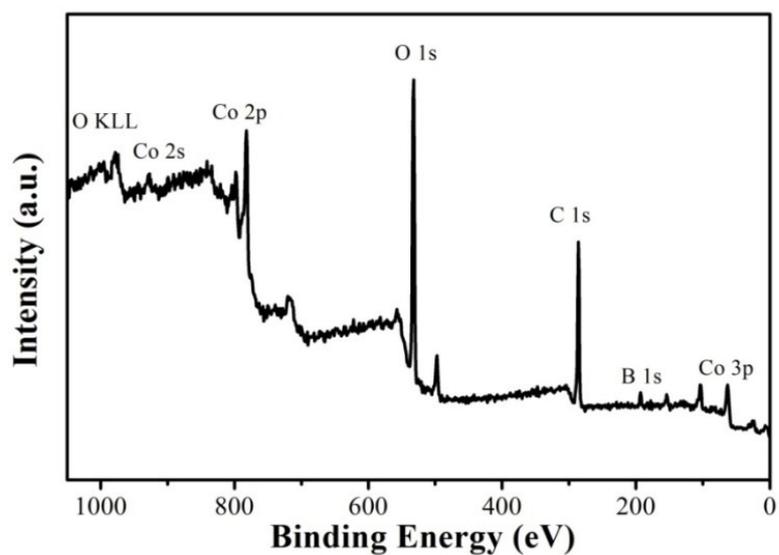


Figure S2. The whole XPS spectrum of Co@Co-Bi/Ti

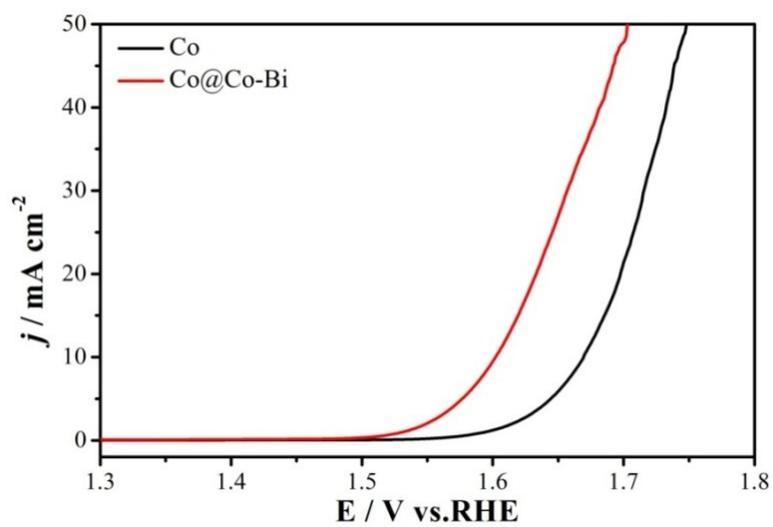


Figure S3. LSV curve of the OER performance of Co@Co-Bi and Co in 1 M KOH.

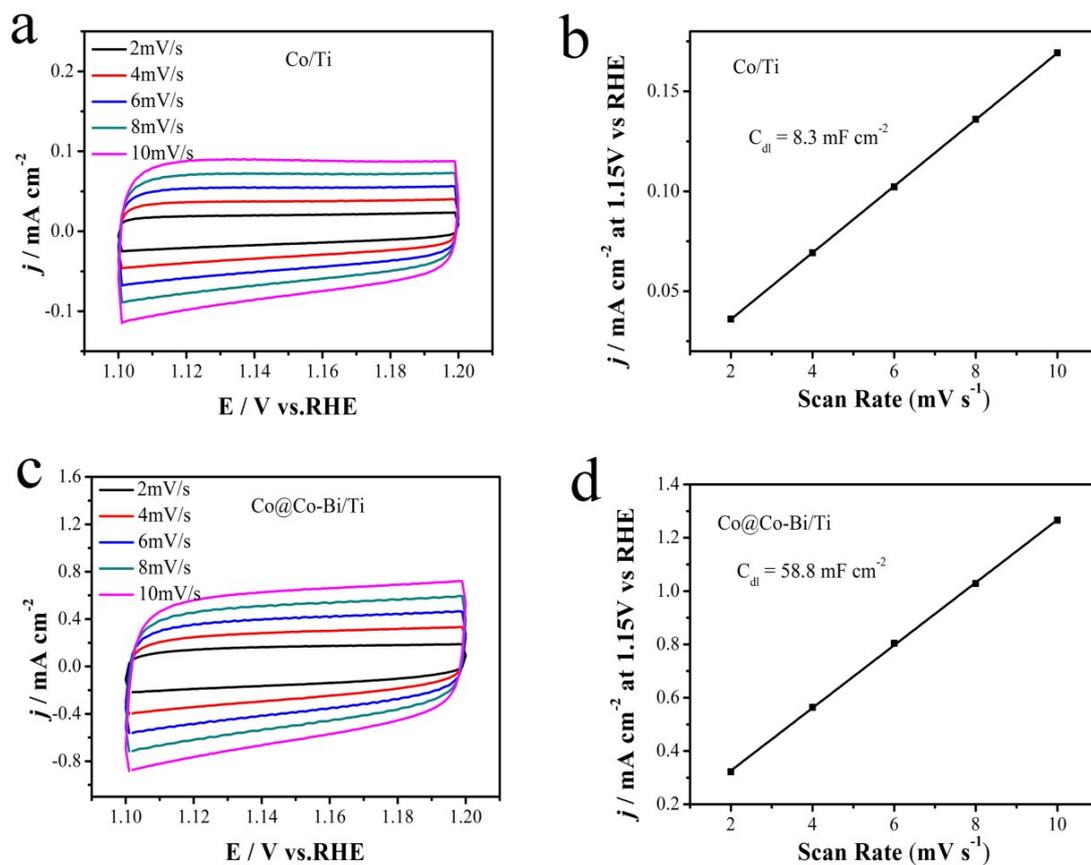


Figure S4. CV curves of Co/Ti (a) and Co@Co-Bi/Ti (c) from 1.1 V to 1.2 V with different scan rates; the capacitive current measured at 1.15 V was plotted as a function of scan rate (b) Co/Ti and (d) Co@Co-Bi/Ti

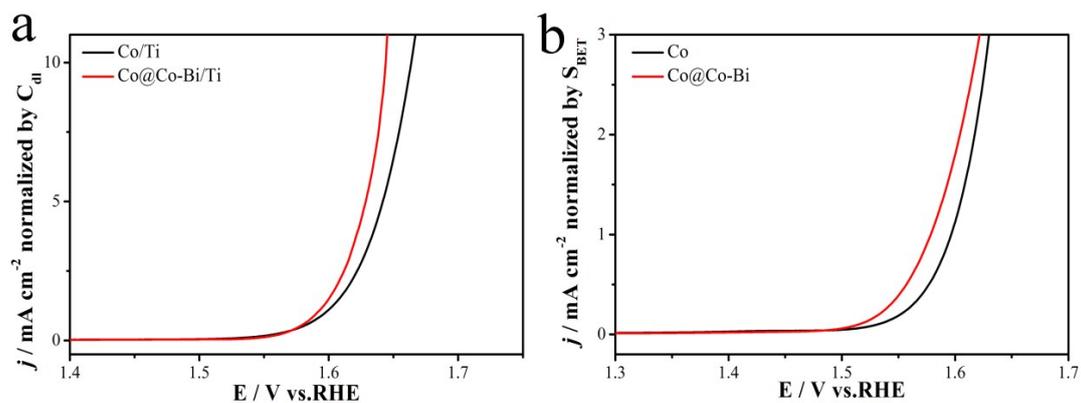


Figure S5. (a) LSV curves of Co@Co-Bi/Ti and Co/Ti in 1 M KOH for OER normalized by electrostatic double-layer capacity (C_{dl}) and (b) LSV curves of Co@Co-Bi and Co in 1 M KOH for OER normalized by BET specific surface areas (S_{BET}).

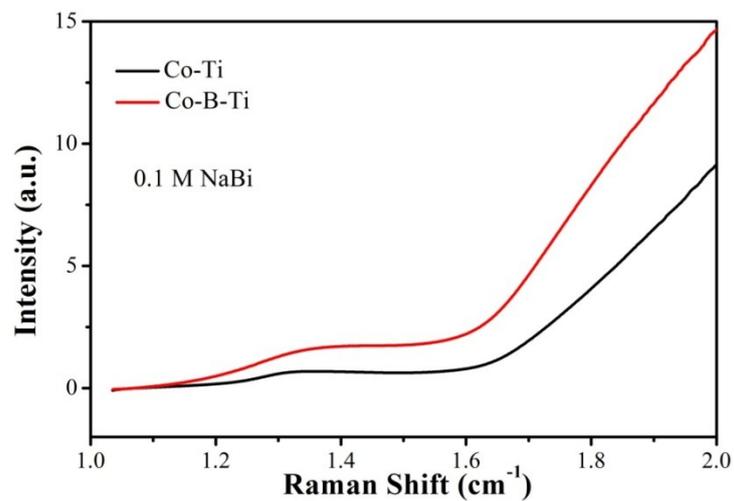


Figure S6. LSV curves of Co@Co-Bi/Ti and Co/Ti for OER in 0.1 M NaBi

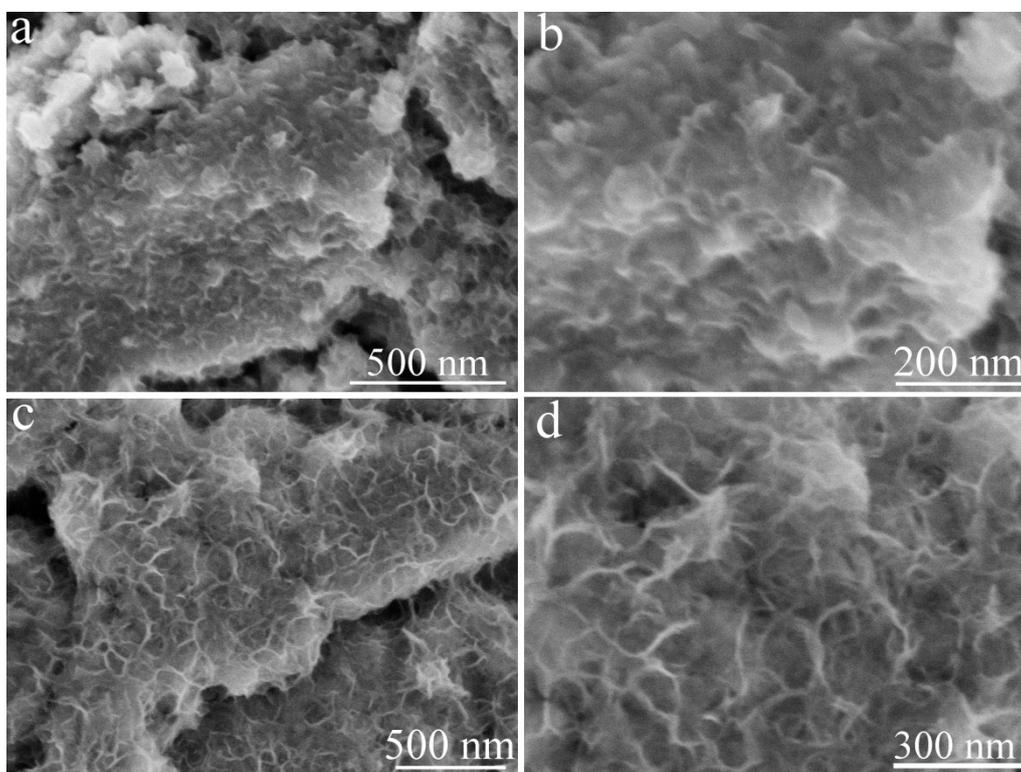


Figure S7. SEM images of Co@Co-Bi/Ti with different growth time: (a), (b) 24h and (c), (d) 48h.

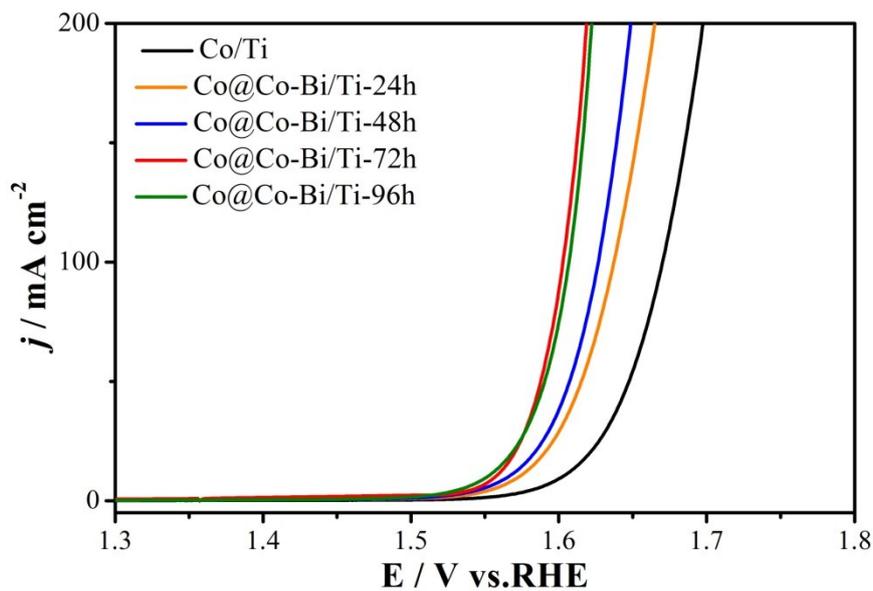


Figure S8. LSV curves of Co/Ti and Co@Co-Bi/Ti with different growth time (24h, 48h, 72h and 96h) for OER in 1 M KOH solution



Figure S9. Equivalent electrical circuits used to model the OER process on Co@Co-Bi/Ti (a) and Co/Ti (b) at the potential of 1.6 V (vs. RHE).

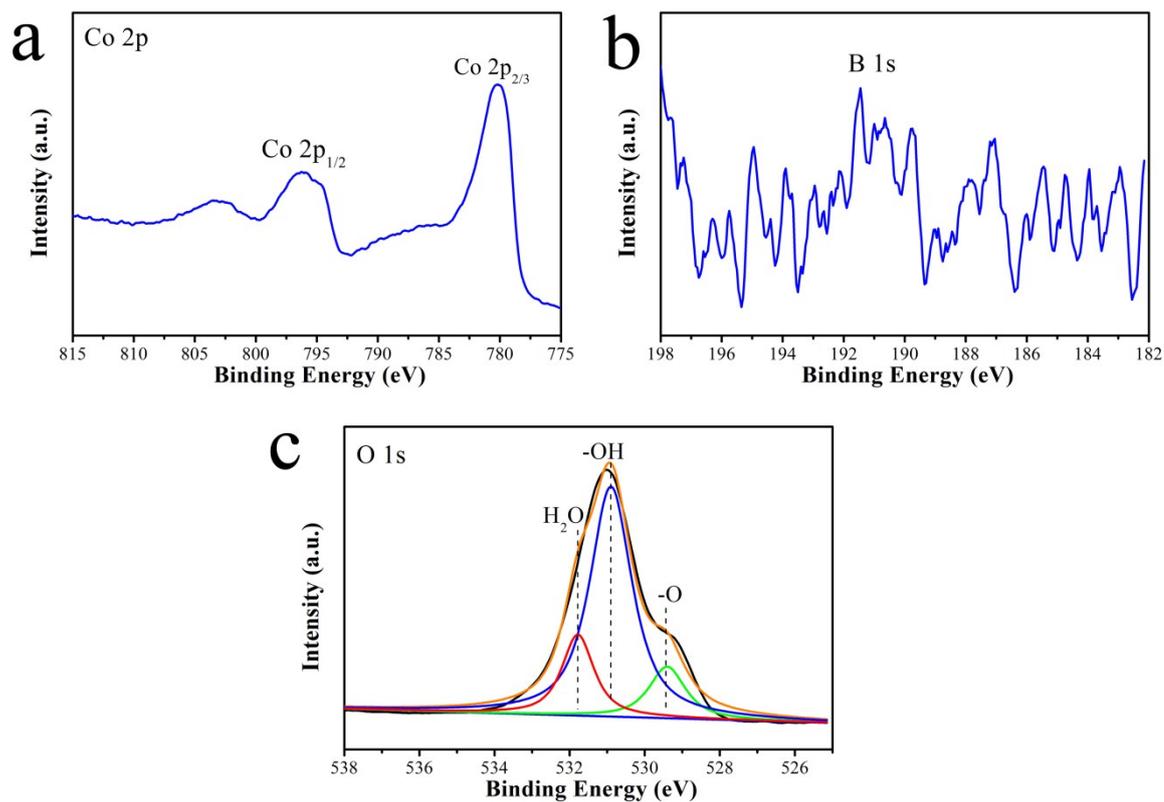


Figure 10. XPS spectra of Co@Co-Bi/Ti after OER test (a) Co 2p, (b) B 1s and (c) O 1s.

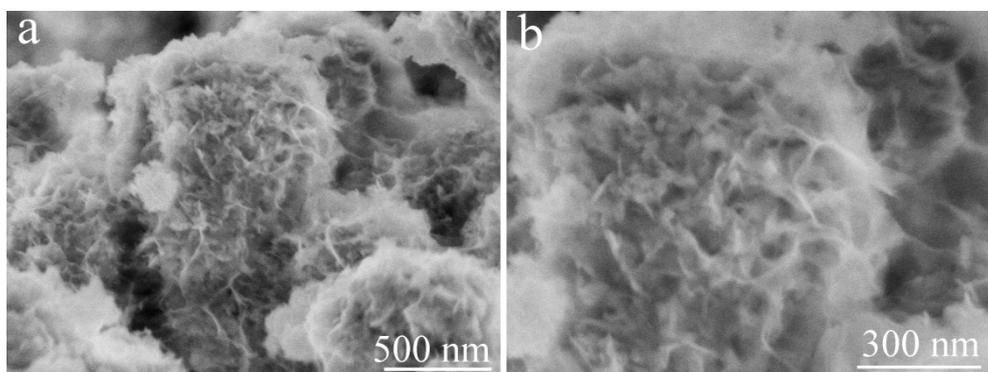


Figure S11. SEM images of Co@Co-Bi Ar

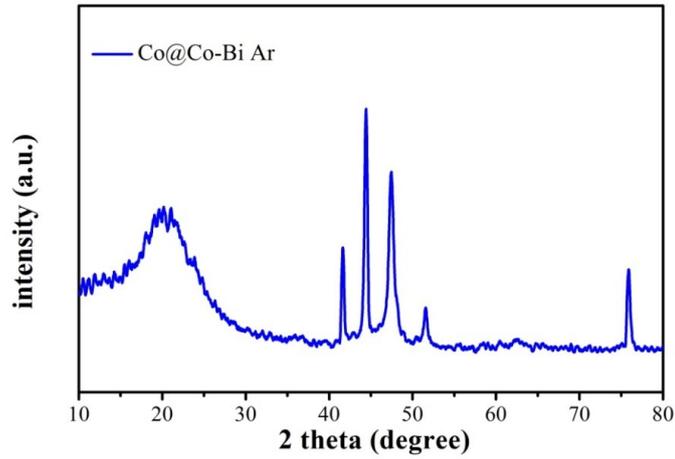


Figure S12. XRD pattern of Co@Co-Bi Ar

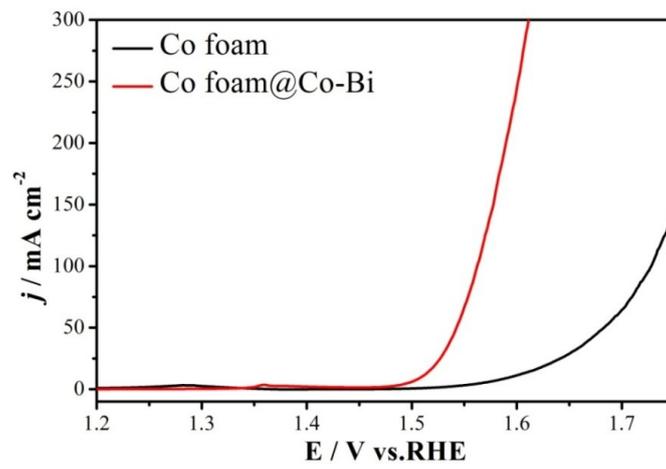


Figure S13. LSV curves of Co foam and Co foam @Co-Bi for catalyzing OER in 1 M KOH solution

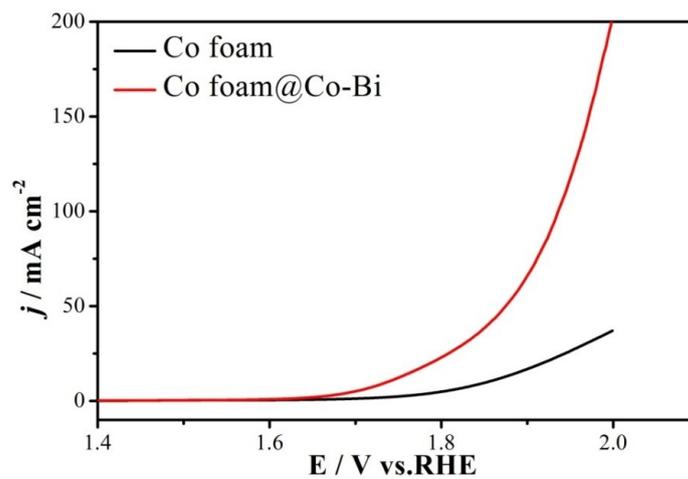


Figure S14. LSV curves of Co foam and Co foam @Co-Bi cathode with Ni foam as anode for water splitting