

Supporting Information for

In-Situ modification of metal electrode by integrated microbial corrosion and microbial mineralization using *Shewanella oneidensis* for efficient oxygen evolution

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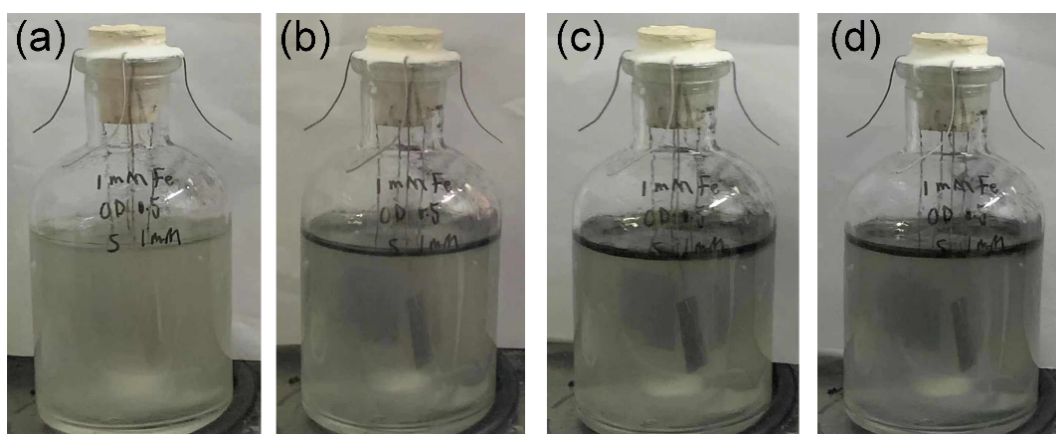


Fig. S1 Photographs for the synthesis of Fe-S₂/NF at different incubation time. (a) 0 day, (b) 1 day, (c) 3 days, and (d) 5 days.

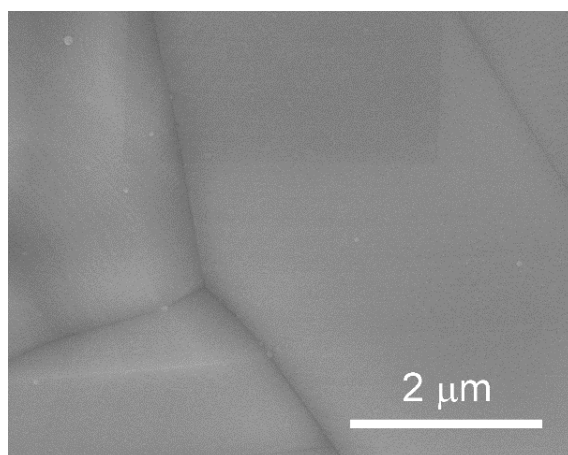


Fig. S2 SEM image of bare NF.

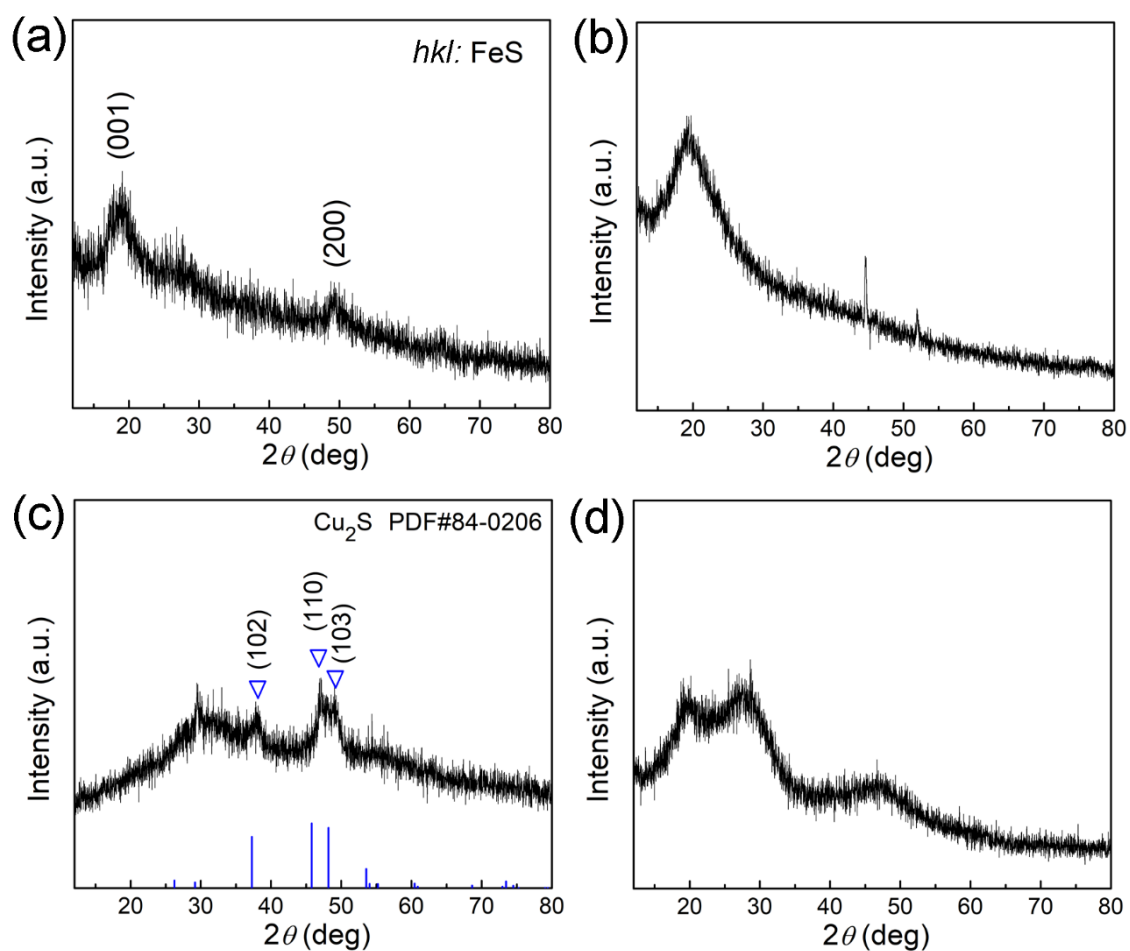


Fig. S3 XRD patterns of the M-S₂ powders scratched from M-S₂/NF. (a) Fe-S₂, (b) Ni-S₂, (c) Cu-S₂, and (d) Cd-S₂.

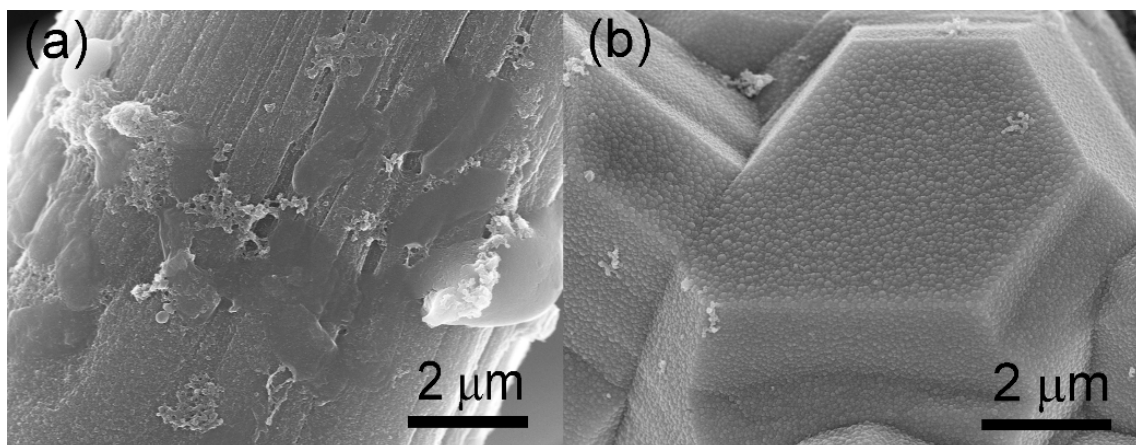


Fig. S4 SEM images of (a) Fe-S₂/CC, (b) Fe-S₂/CF.

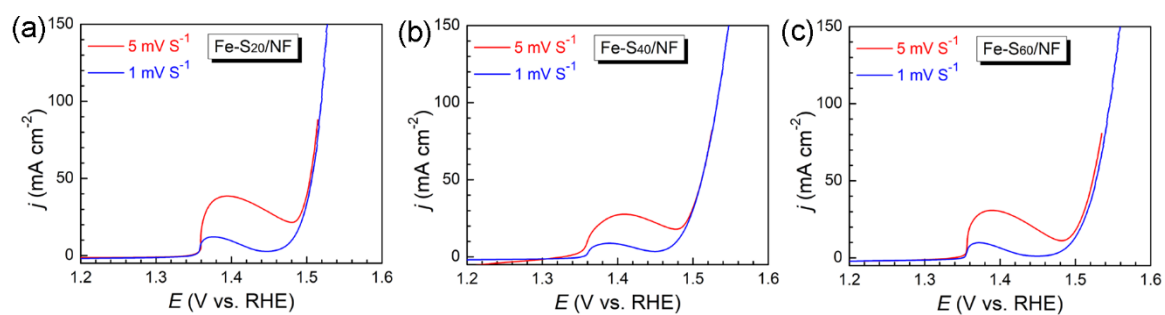


Fig. S5 LSV curves recorded at sweep rates of 1 and 5 mV s⁻¹. (a) Fe-S₂₀/NF, (b) Fe-S₄₀/NF, and (c) Fe-S₆₀/NF.

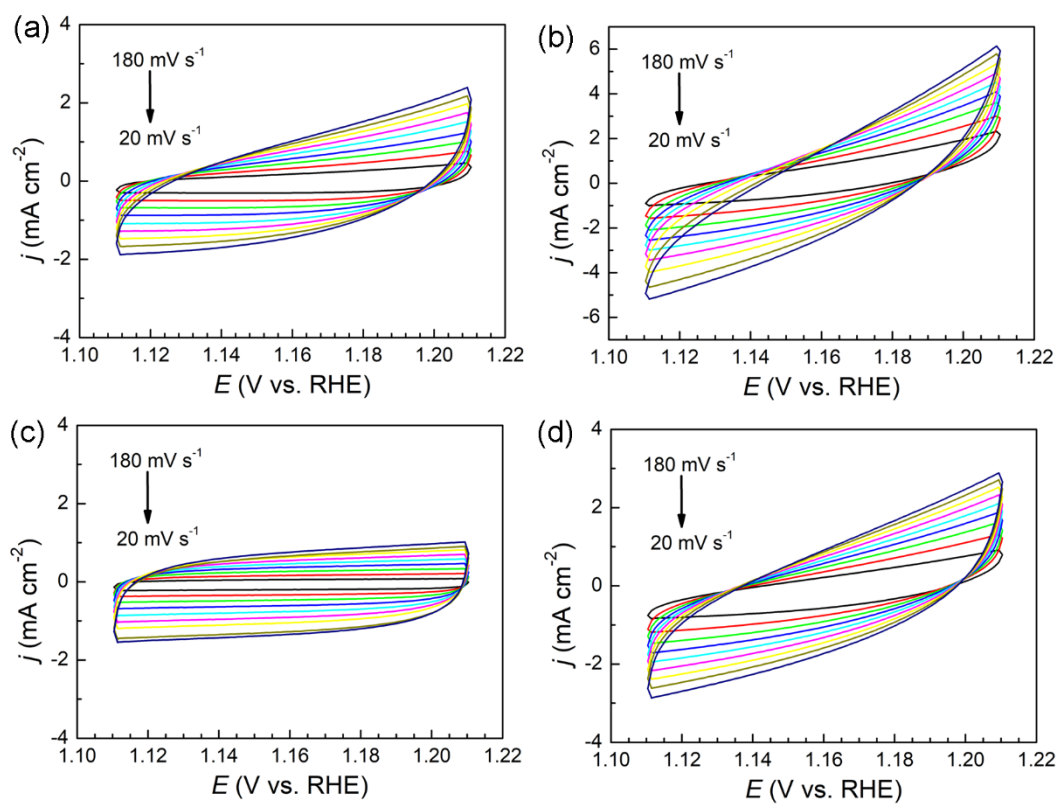


Fig. S6 CV curves recorded across the non-Faradaic region from 1.11 to 1.21 V in different scan rates from 20 to 180 mV s^{-1} of (a) Fe-S₂/NF, (b) Ni-S₂/NF, (c) Cu-S₂/NF, and (d) Cd-S₂/NF.

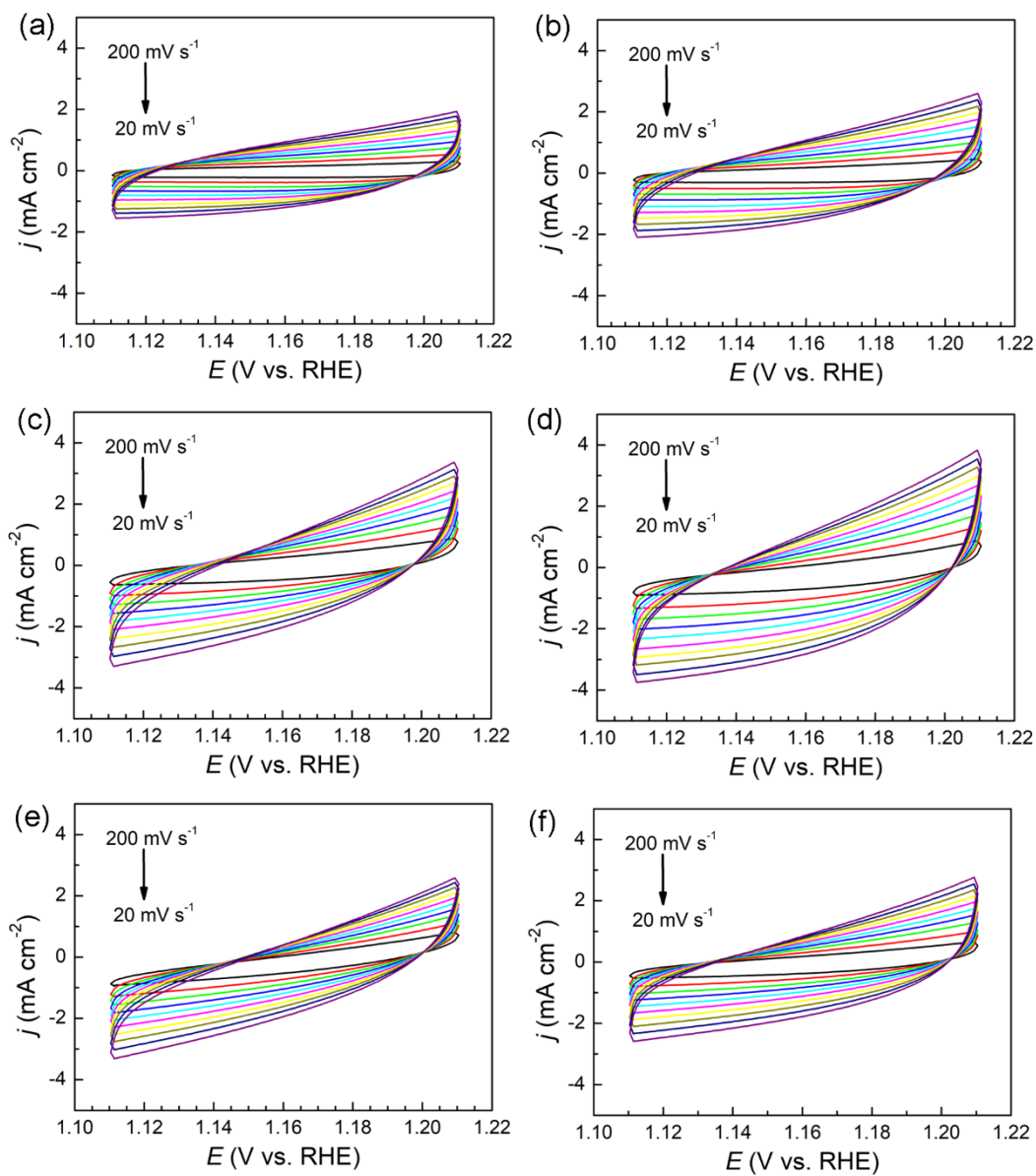


Fig. S7 CV curves recorded across the non-Faradaic region from 1.11 to 1.21 V in different scan rates from 20 to 200 mV s⁻¹ of Fe-S_x/NF. (a) x = 1, (b) x = 2, (c) x = 10, (d) x = 20, (e) x = 40, and (f) x = 100.

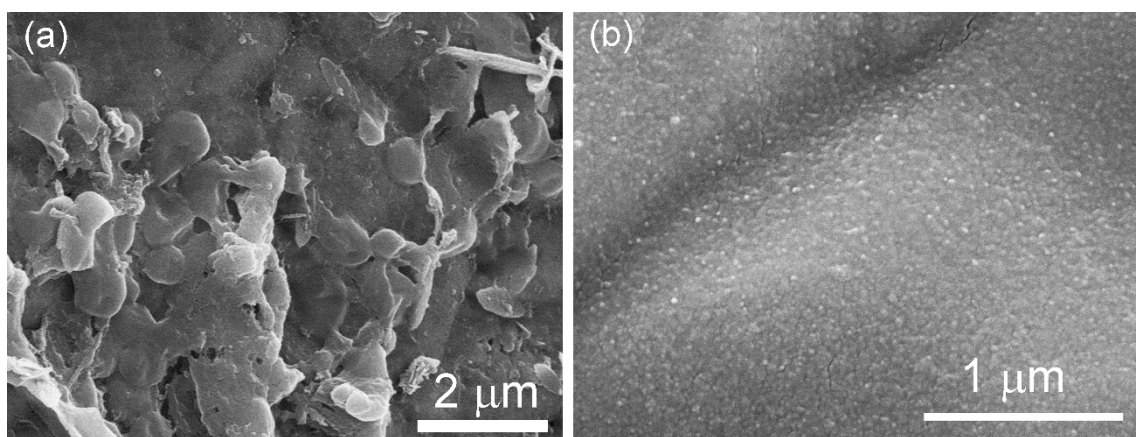


Fig. S8 SEM images of (a) SW/NF and (b) Fe-S₂*/NF.