High Performance Zn(II)-based Coordination Polymer as an Electrode Material for Pseudocapacitive Energy Storage and Hydrogen Evolution

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Supporting information

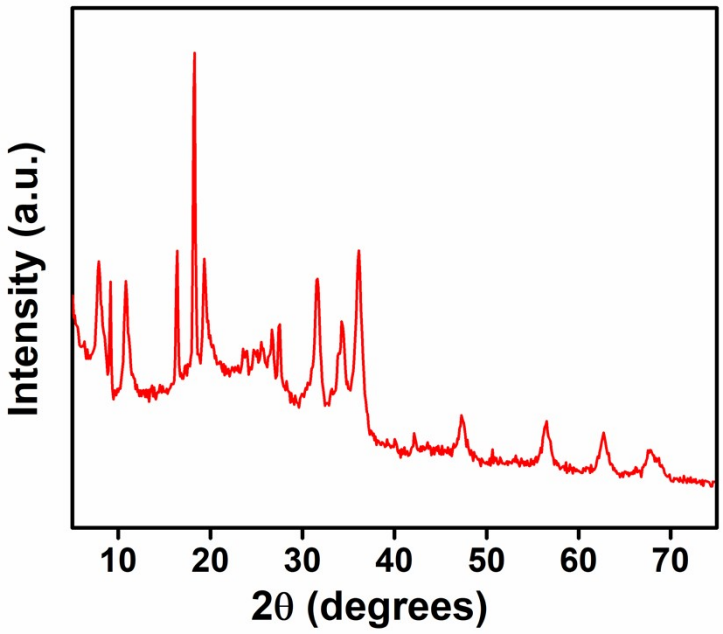

Figure S1. X-ray pattern of Zn(DAB).

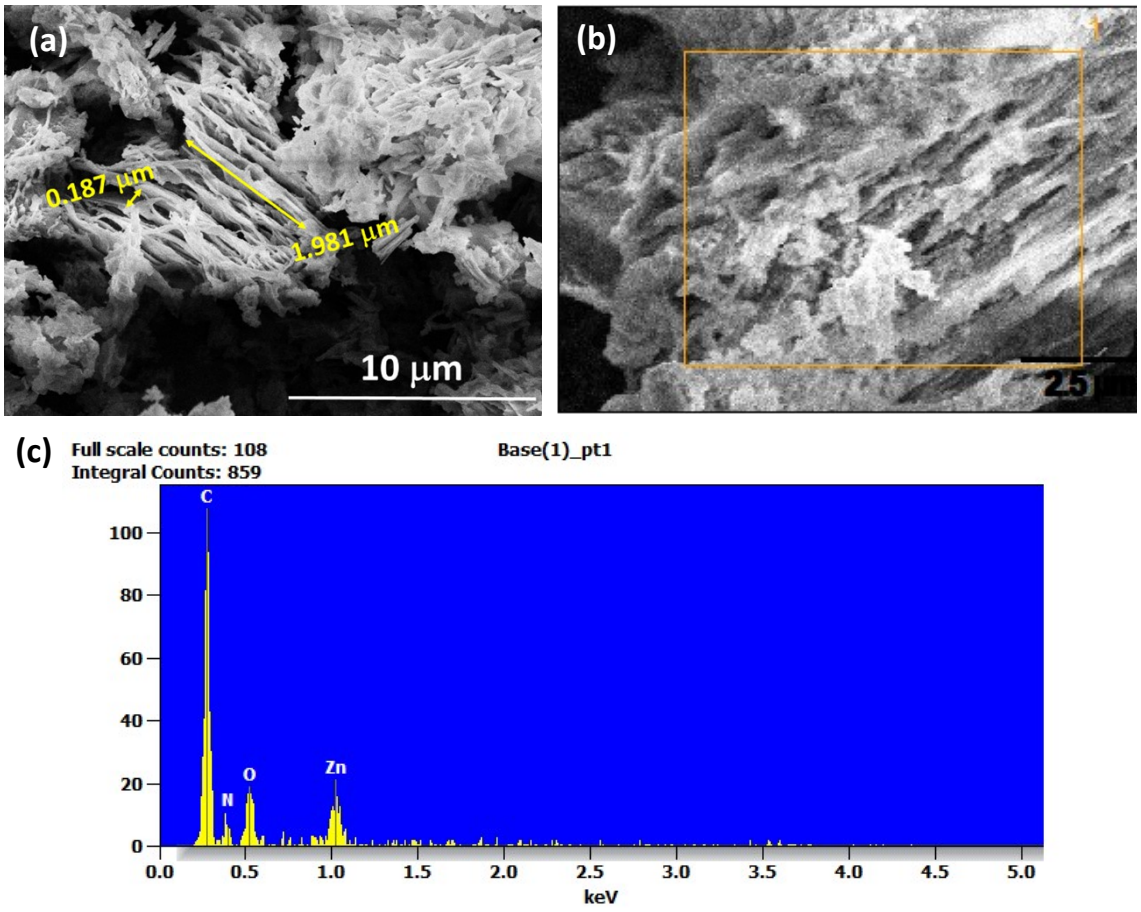

Figure S2. (a) FESEM image of Cd(DAB) (b) FESEM micrograph with resolution 512x340 and (c) EDS spectrum, of Zn(DAB).

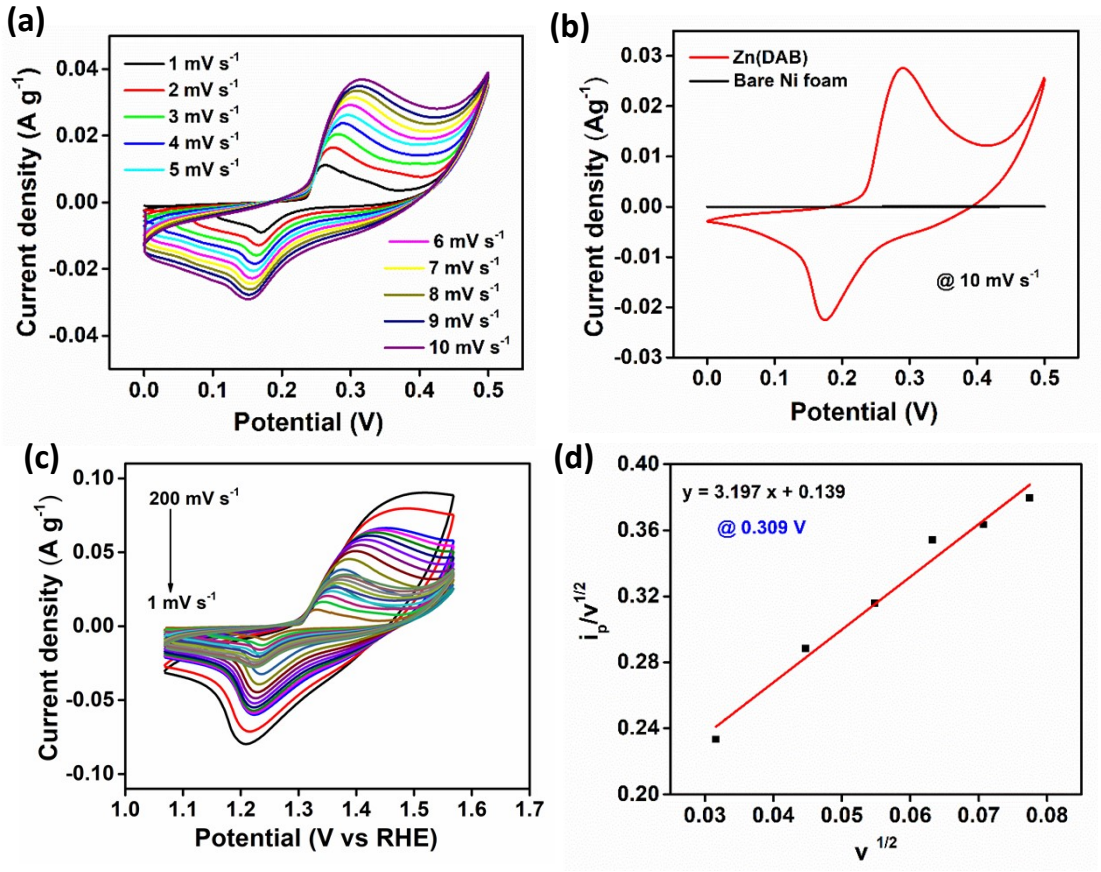

Figure S3. CV curves of, (a) Zn(DAB) at scan rates varying from 10 mV s^{-1} to 1 mV s^{-1} (b) Zn(DAB) and bare Ni foam at 10 mV s^{-1} (c) Zn(DAB) at scan rates varying from 200 mV s^{-1} to 1 mV s^{-1} using RHE scale (d) Linear plot of $i_p / v^{1/2}$ vs $v^{1/2}$.

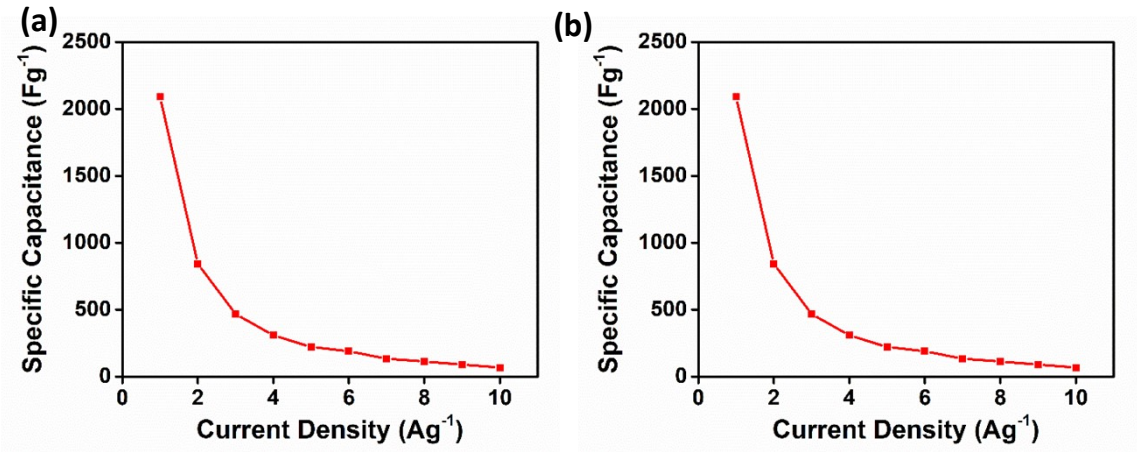

Figure S4. (a) Linear plot of Capacitance vs $1/v^{1/2}$ (b) Plot of specific capacitance vs current density.

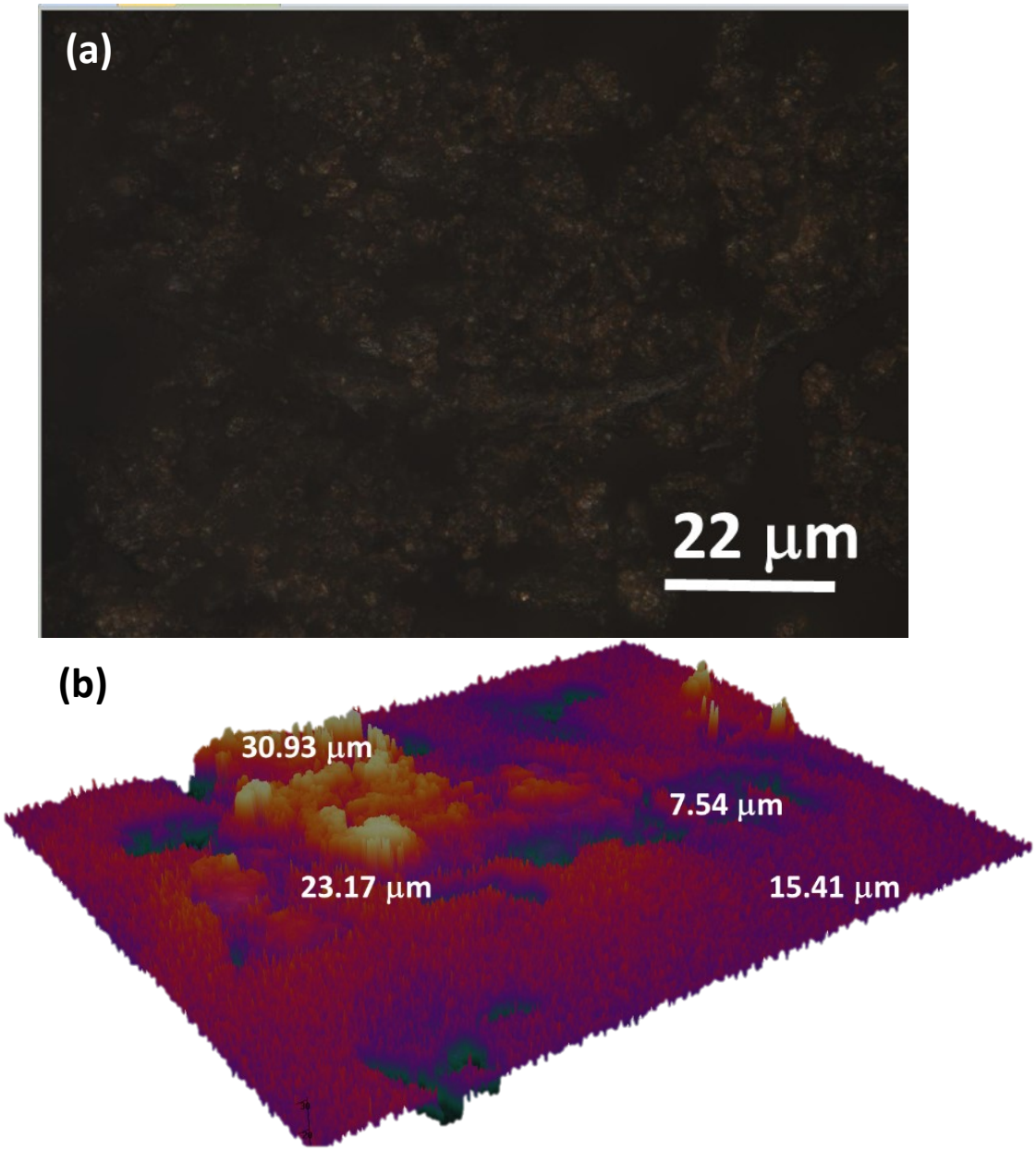

Figure S5. (a) 2D view (b) 3D view, for Zn(DAB) obtained from Optical Profilometry.

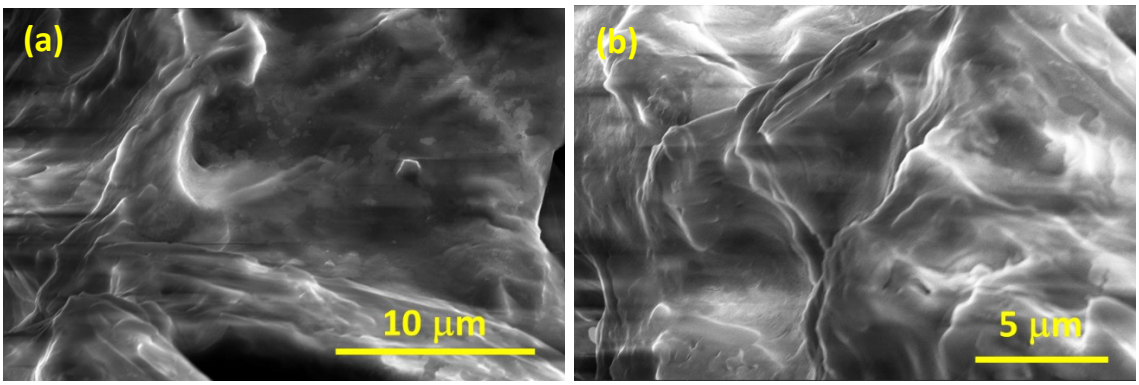

Figure S6. FESEM micrographs of Zn(DAB) after 5000 charge-discharge cycles.

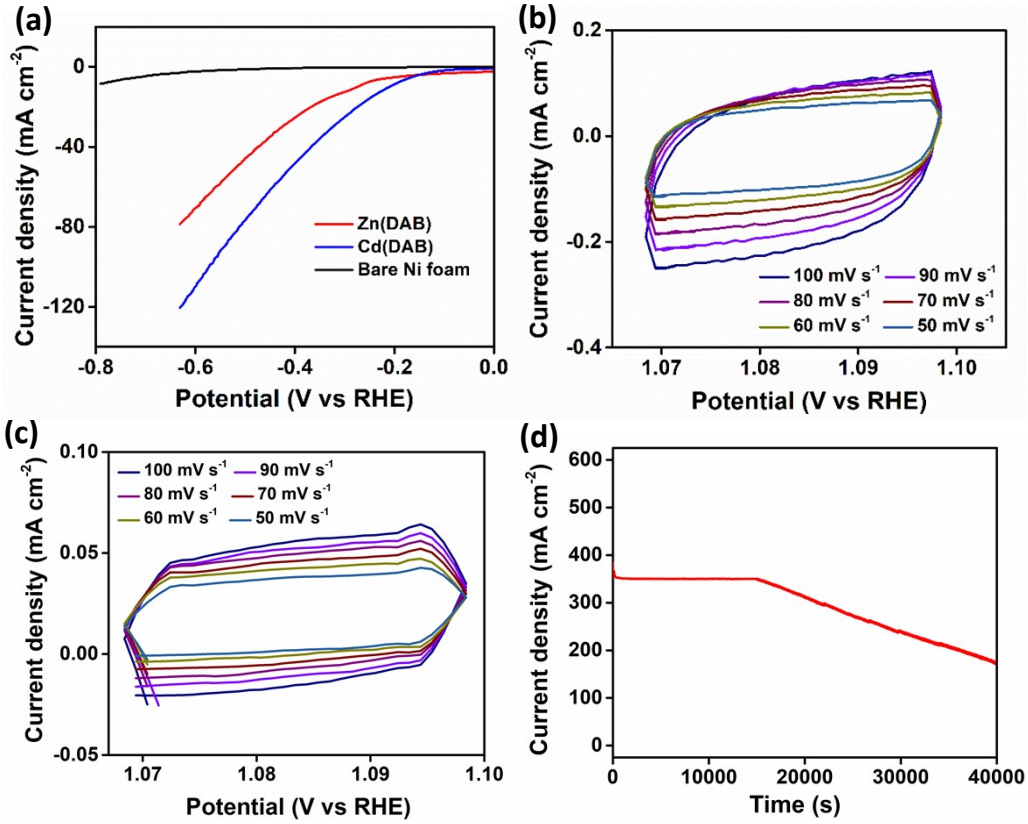

Figure S7. (a) LSV curves of Zn(DAB) and Cd(DAB) in comparison with bare Ni foam. CV curves of (b) Zn(DAB) (c) Cd(DAB). (d) Stability test of Zn(DAB) for 12 h.

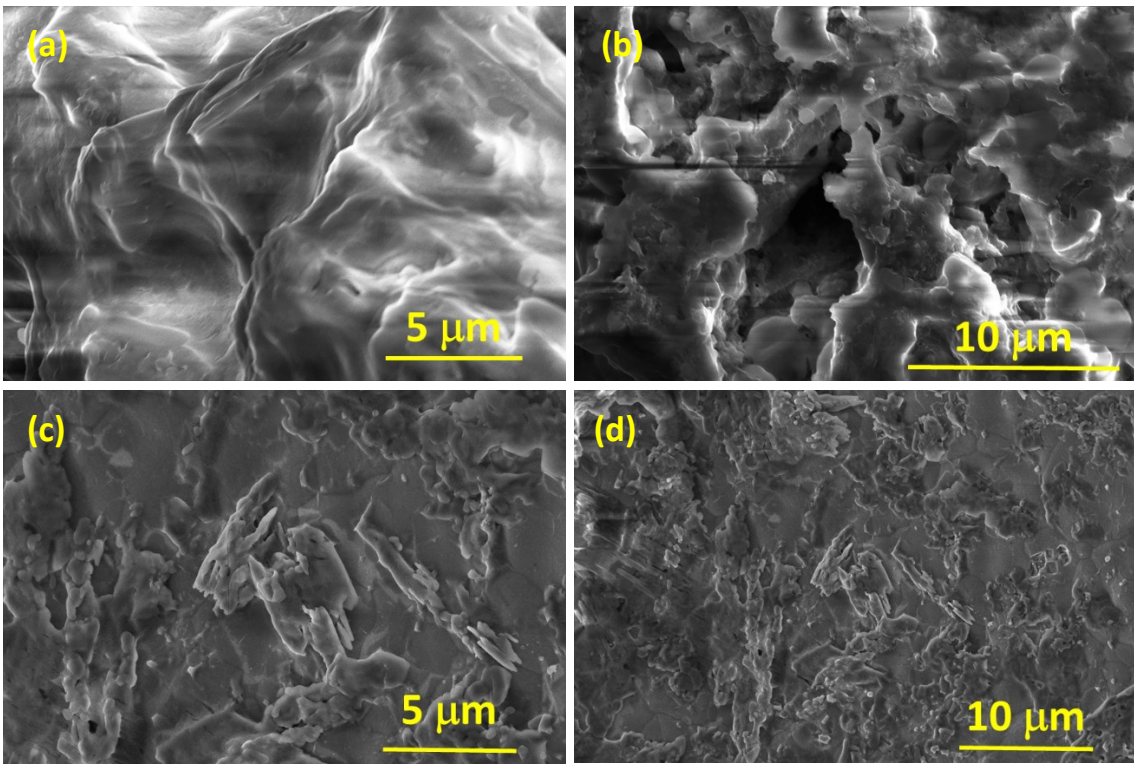

Figure S8. FESEM micrographs of (a-b) Zn(DAB) (c-d) Cd(DAB), post Bulk Electrolysis for 2 h.

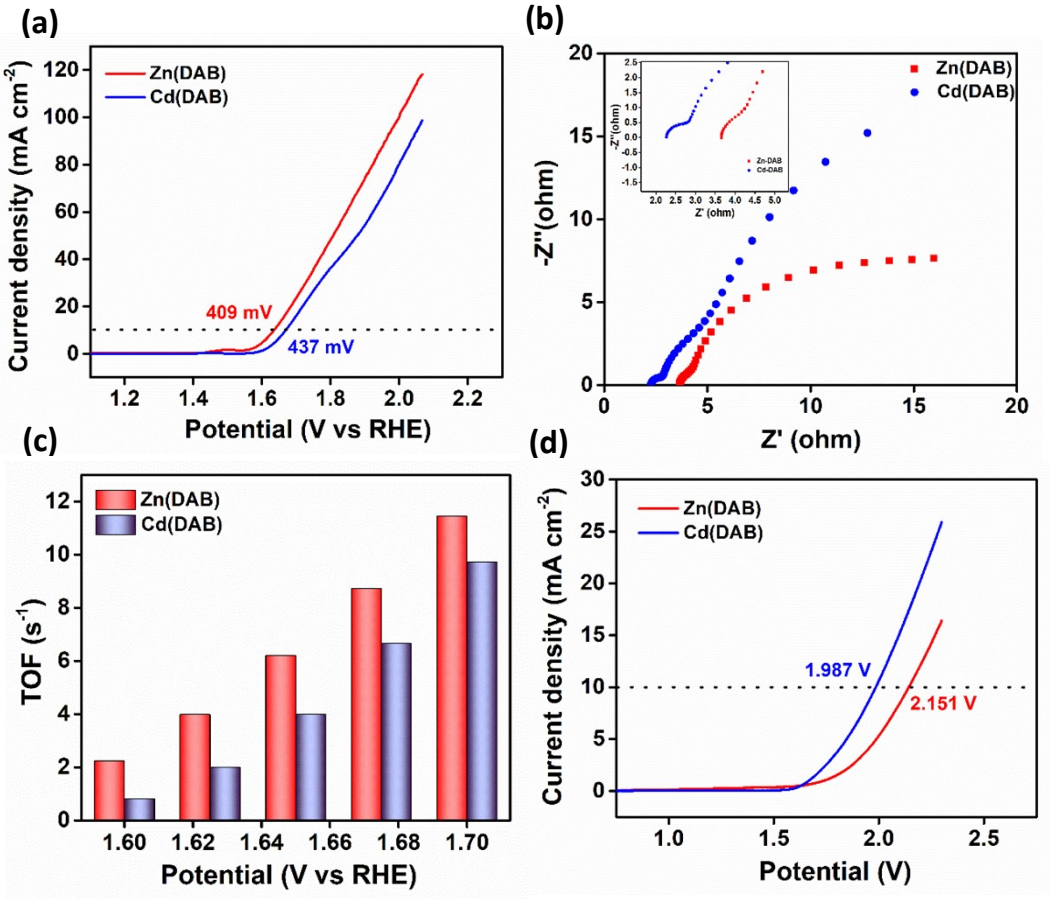

Figure S9. (a) LSV curves (b) Nyquist plot (c) TOF, for OER. (d) LSV curve for overall water splitting.