

Support documents

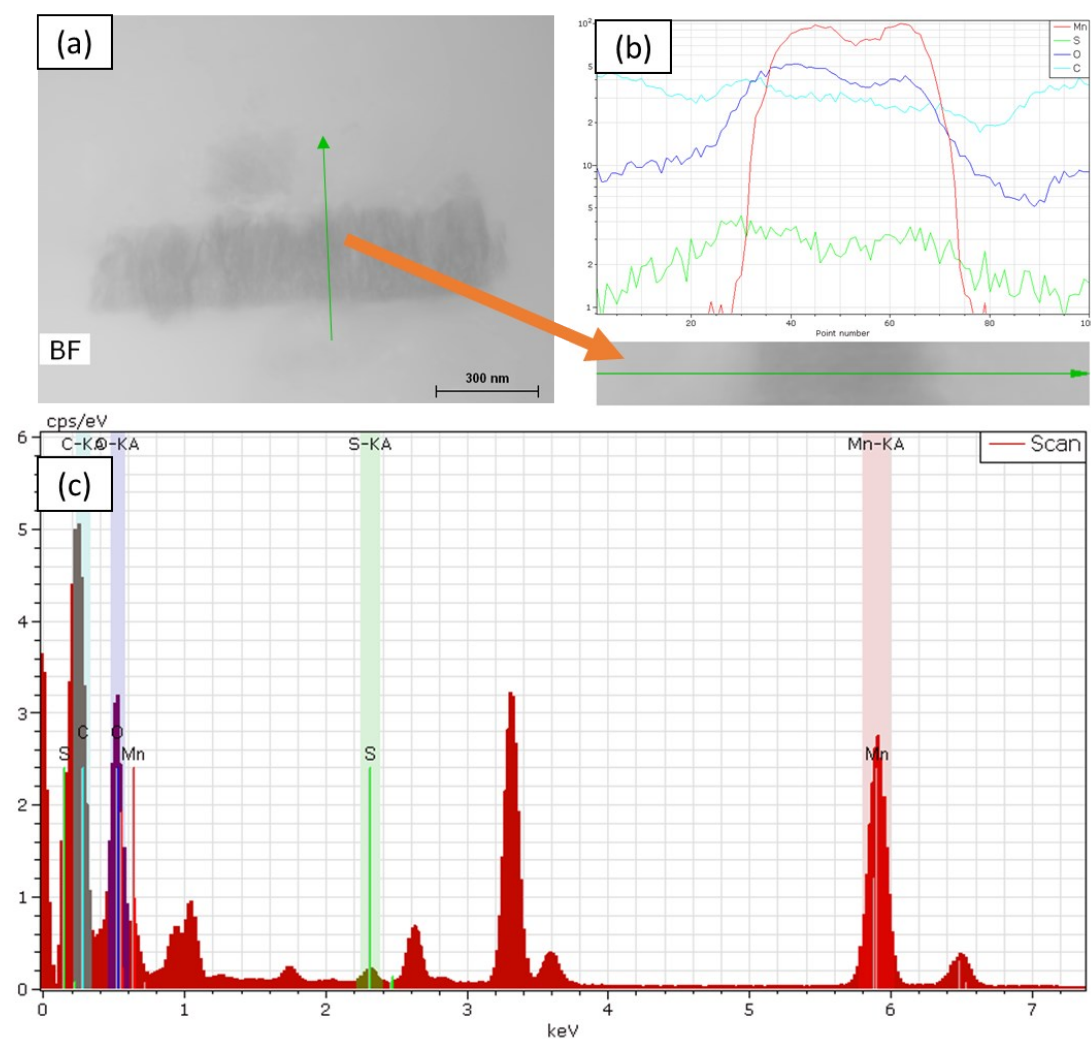


Fig. S1 a) Bright-field STEM (scanning transmission electron microscopy) image of the VMP cathode.

b) EDS-line scanning and c) EDS-element spectrum of the VMP cathode.

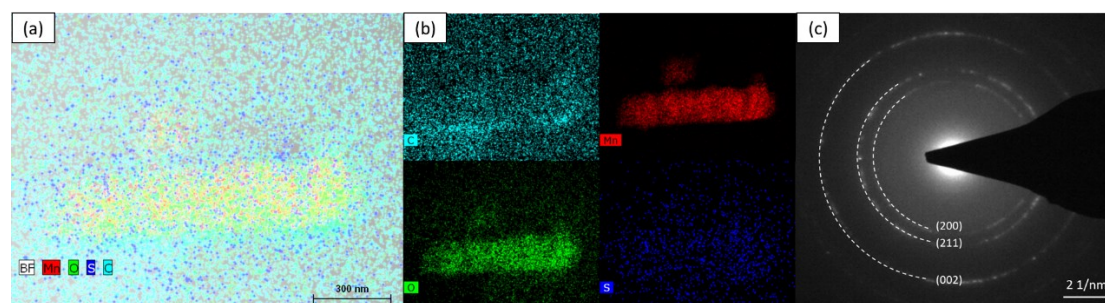


Fig. S2 Low angle annular dark-field (LAADF) TEM mapping images of a) overall and b) individual element of C, Mn, O, and S of the VMP cathode. c) SAED of the VMP cathode.

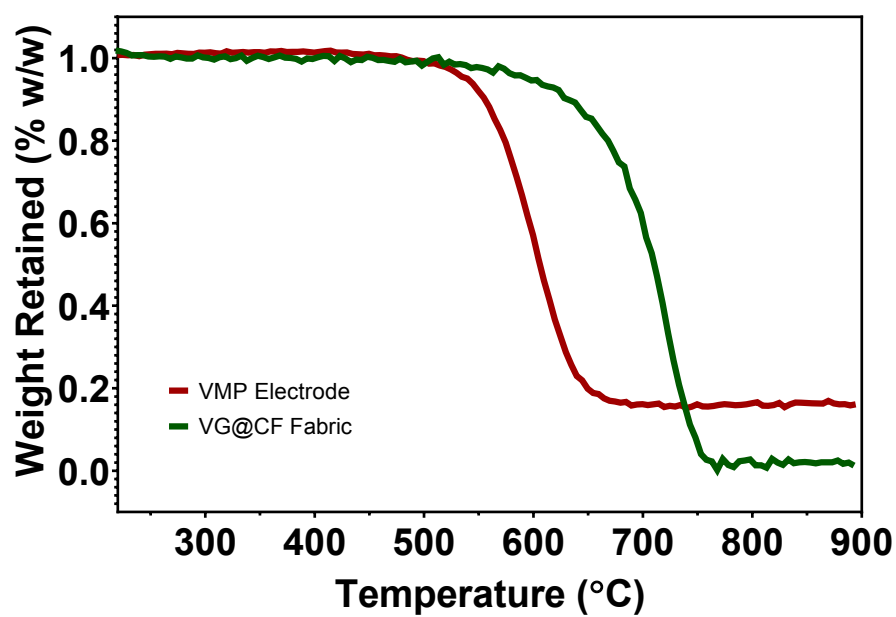


Fig. S3 TGA curves of VMP electrode and VG@CF fabric.

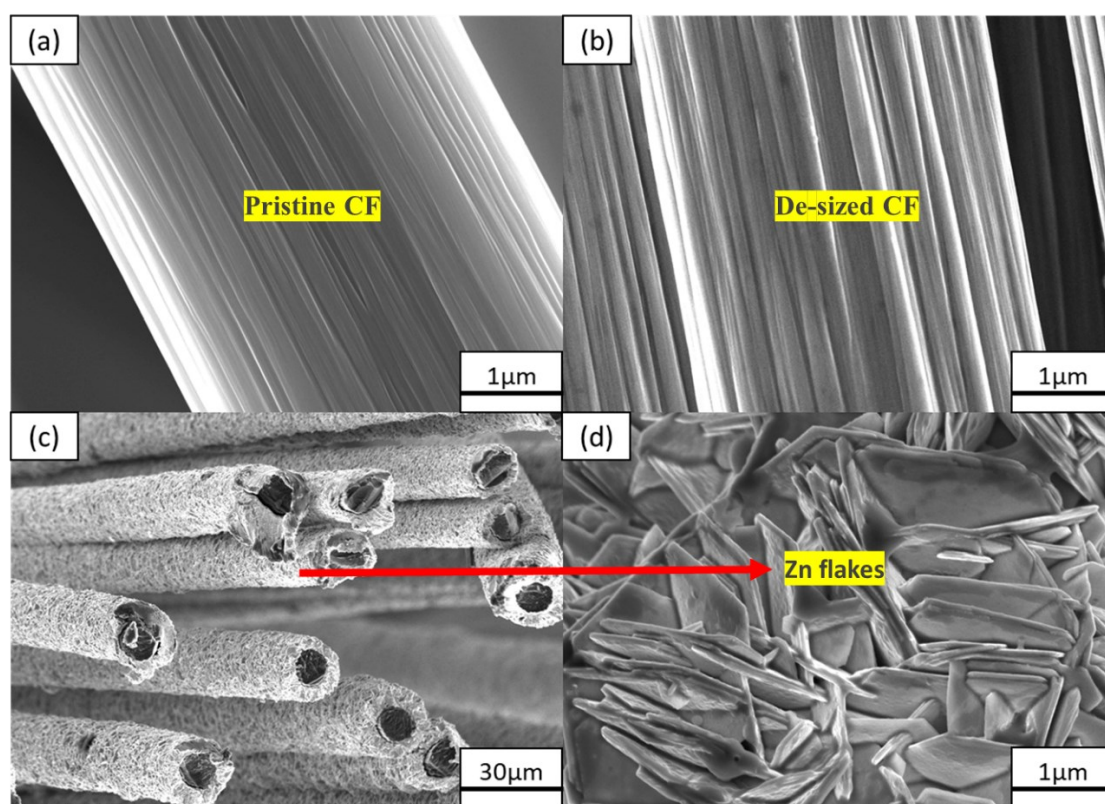


Fig. S4 SEM images of a) Pristine CF, b) De-sized CF, and c-d) Zn@CF.

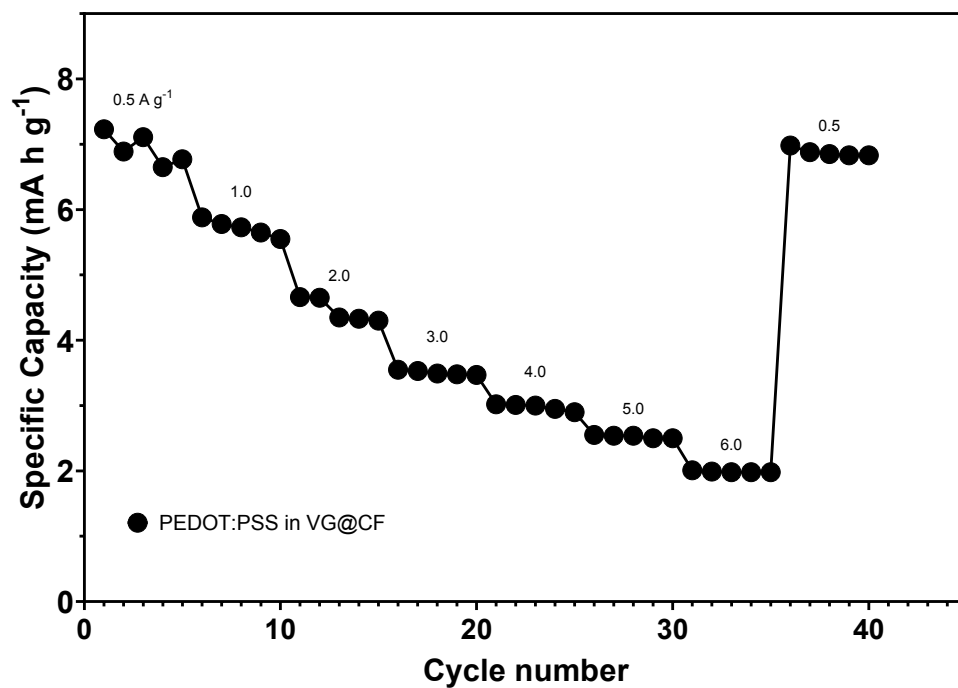


Fig. S5 Rate performance of bare PEDOT:PSS in VG@CF.

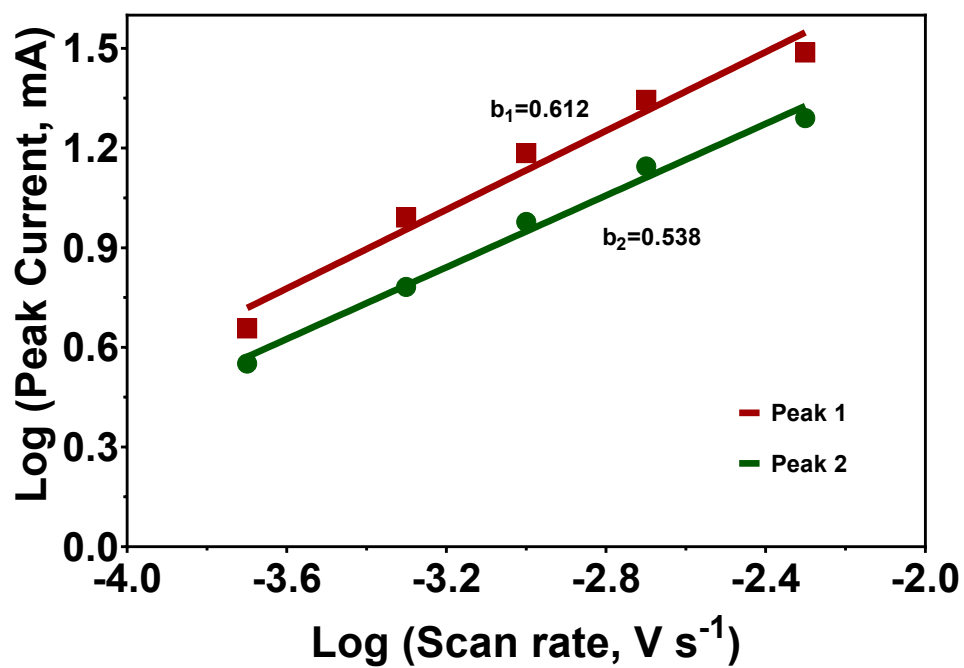


Fig. S6 log (I) vs. (log (V)) plots for the current response at Peak 1 and Peak 2.

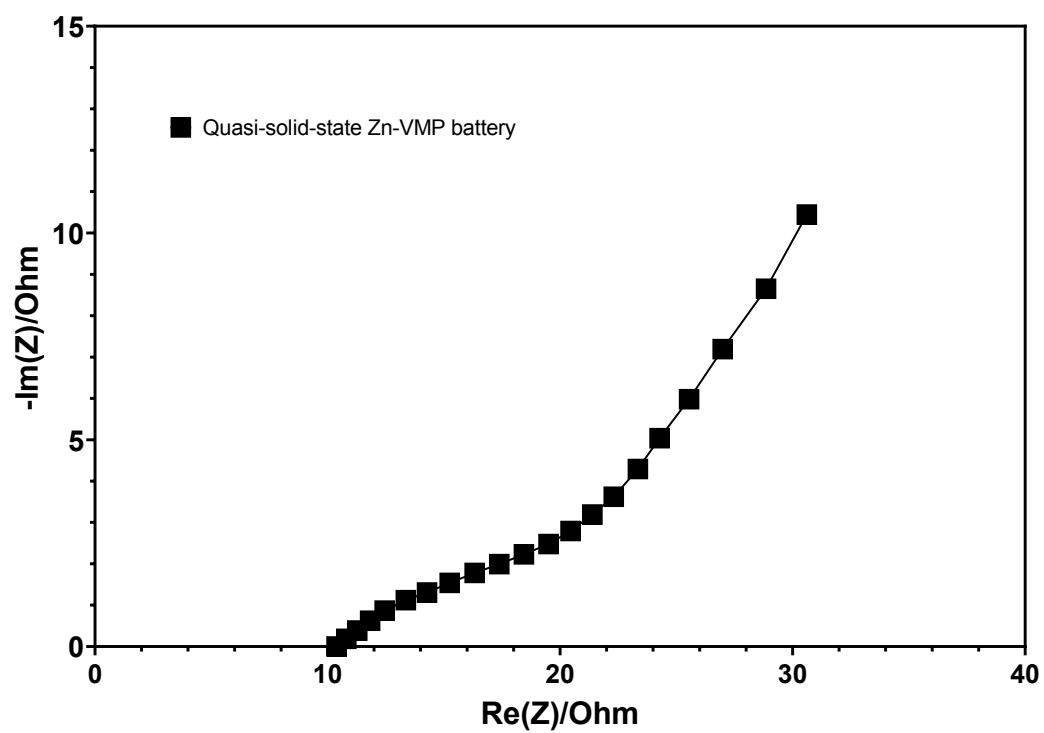


Fig. S7 Nyquist plots of quasi-solid-state Zn-VMP battery.

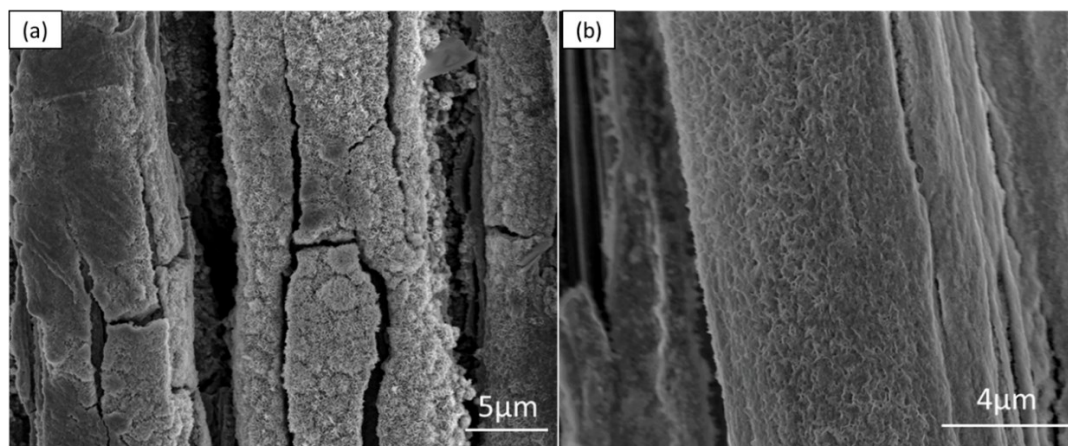


Fig. S8 SEM images of a) VM cathode, and b) VMP cathode after 1,000 cycles.

Current density (A g ⁻¹)	0.5	1	2	3	4	5	6
Energy (Wh kg ⁻¹)	400.23	337.28	258.21	205.65	176.60	149.29	106.83
Power (kW kg ⁻¹)	0.68	1.45	3.06	4.87	6.70	9.44	10.13
Energy (mWh cm ⁻³)	18.01	15.18	11.62	9.25	7.95	6.72	4.81
Power (W cm ⁻³)	0.03	0.07	0.14	0.22	0.30	0.42	0.46

Table. S1 Energy densities and power densities of the fabricated quasi-solid-state Zn-VMP battery at different current densities.