

Supporting Information for

## Ultra-high Mass-loading Cathode for Aqueous Zinc-ion Battery Based on Graphene-wrapped Aluminum Vanadate Nanobelts

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### Supplementary Figures

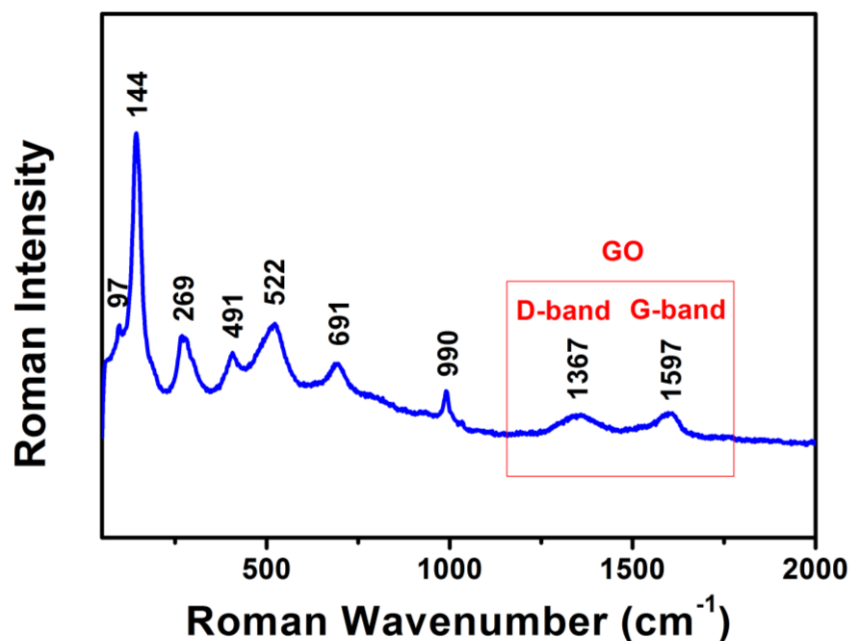


Fig. S1 Raman spectrum of HAVO@G

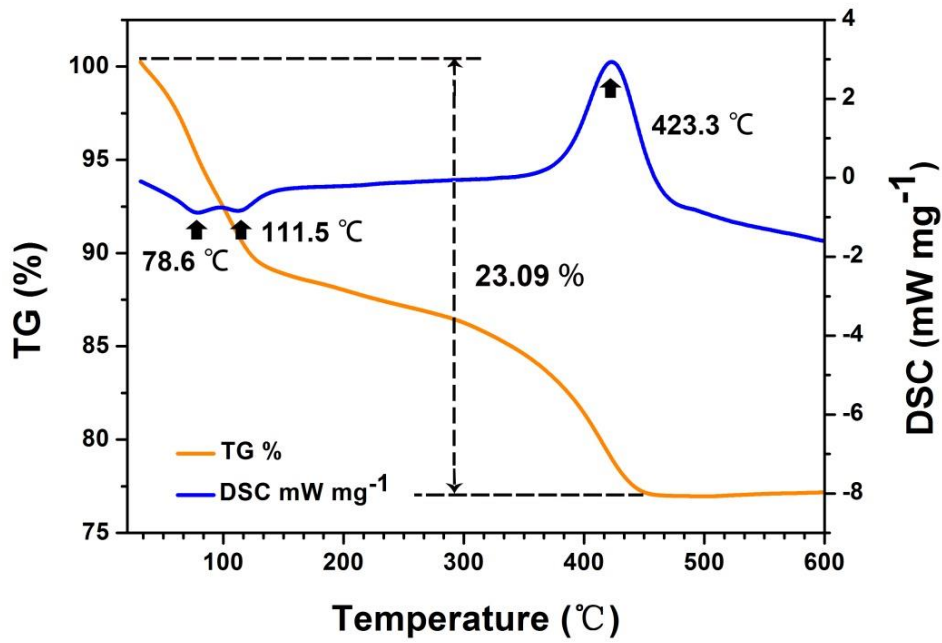


Fig. S2 TG and DSC results of HAVO@G

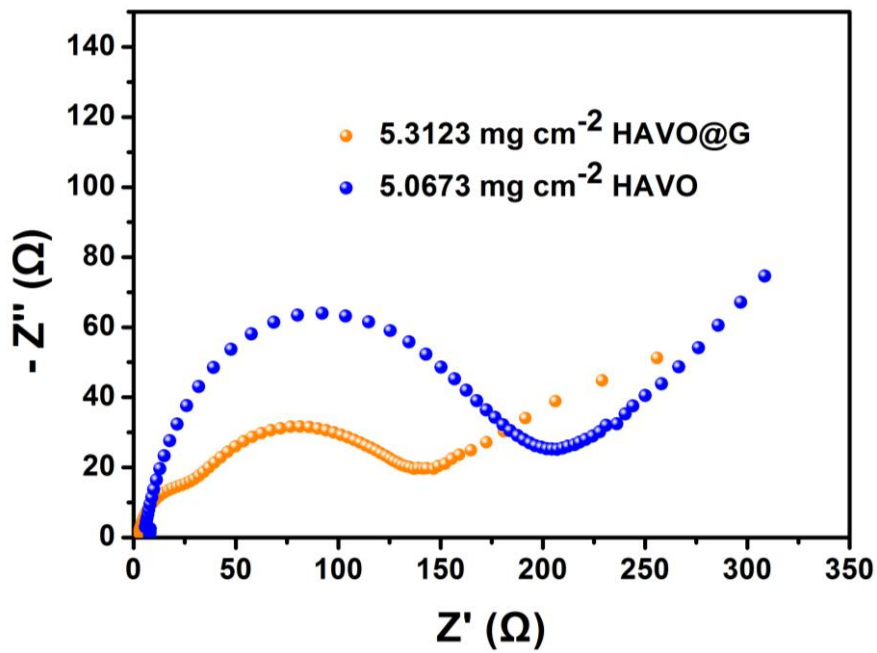
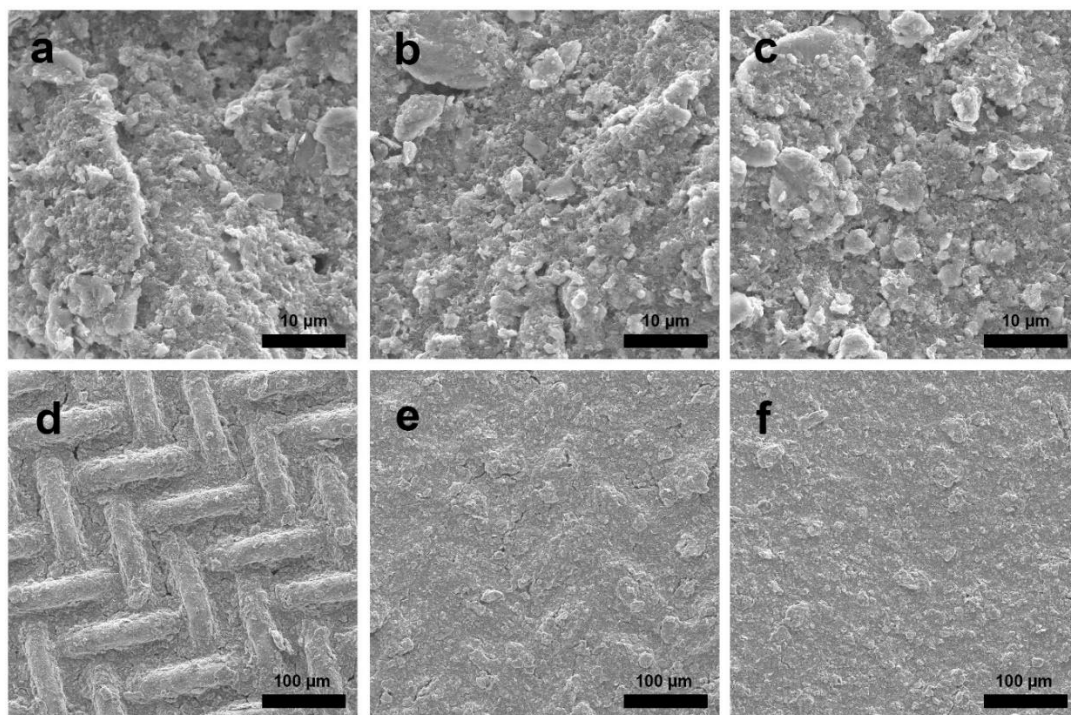
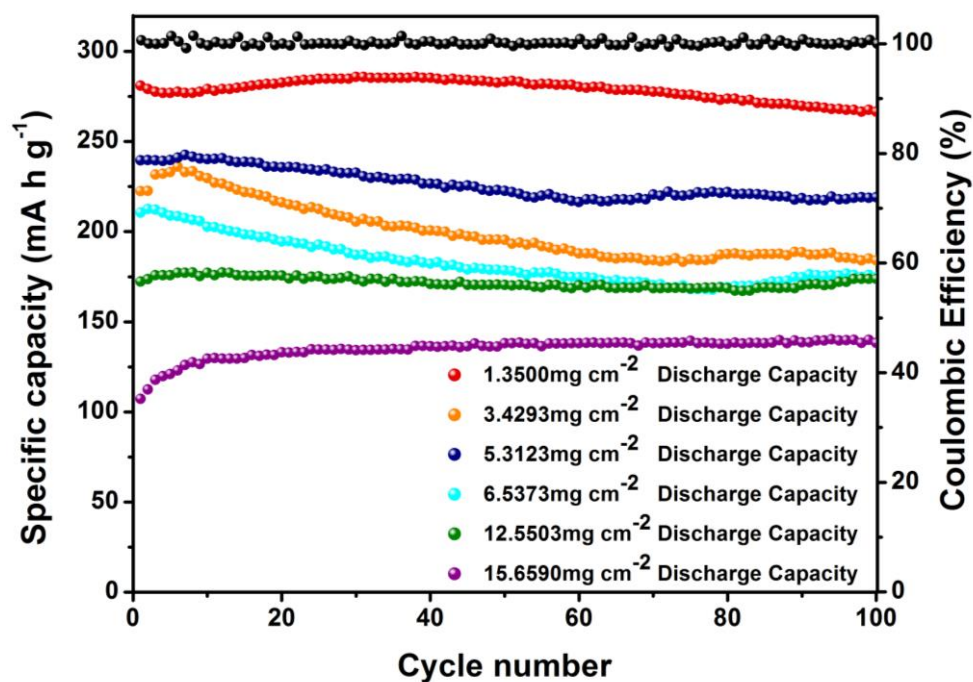


Fig. S3 Electrochemical impedance spectra of HAVO@G and HAVO



**Fig. S4** SEM images of HAVO@G electrodes with different areal loading. (a, d)  $\sim 2 \text{ mg cm}^{-2}$ , (b, e)  $\sim 6 \text{ mg cm}^{-2}$ , (c, f)  $\sim 12 \text{ mg cm}^{-2}$



**Fig. S5** Cycling performance of HAVO@G with different areal loading at  $2 \text{ A g}^{-1}$

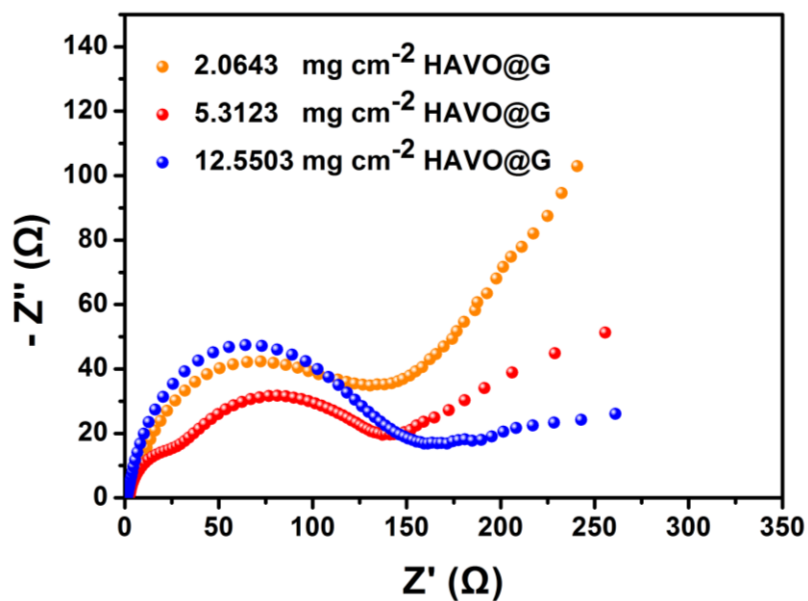


Fig. S6 Electrochemical impedance spectra for HAVO@G with different areal loading

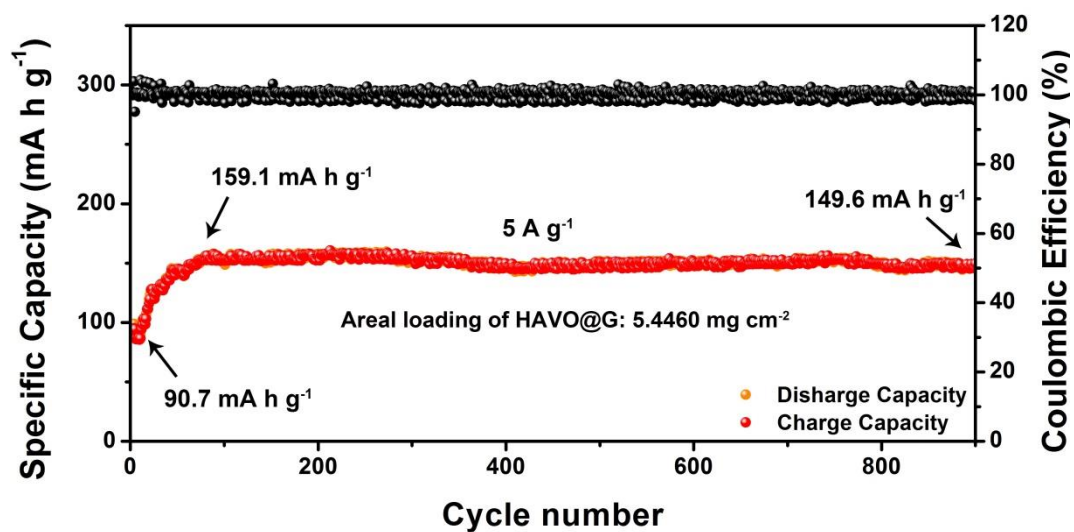


Fig. S7 Cycling performance of HAVO@G at  $5 \text{ A g}^{-1}$  with a high areal mass loading of  $5.4 \text{ mg cm}^{-2}$