

Supporting Information

A copper tetrathiovanadate anode for ultra-stable potassium-ion storage

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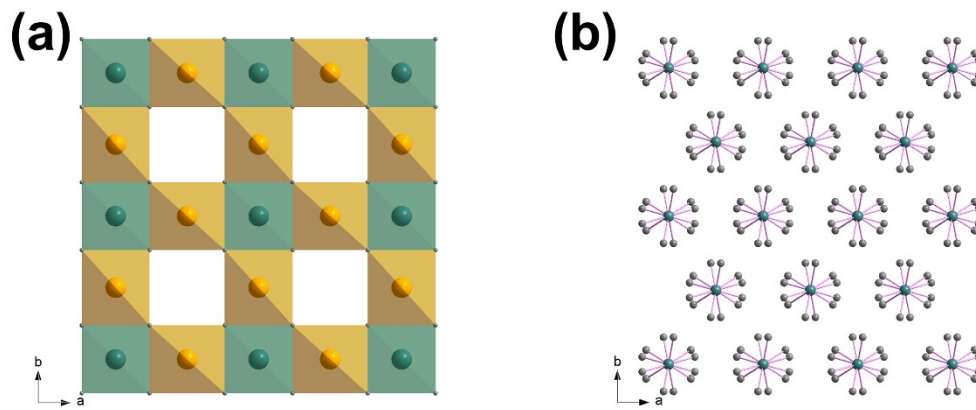


Fig. S1 Schematic crystal structures of (a) Cu_3VS_4 and (b) VS_4 . Orange, green and gray toms present Cu, V and S, respectively.

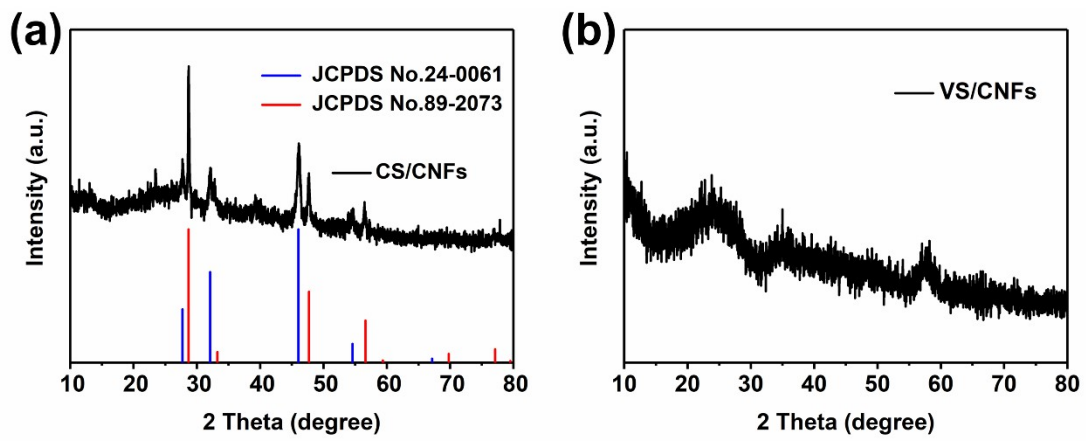


Fig. S2 XRD patterns of (a) CS/CNFs and (b) VS/CNFs.

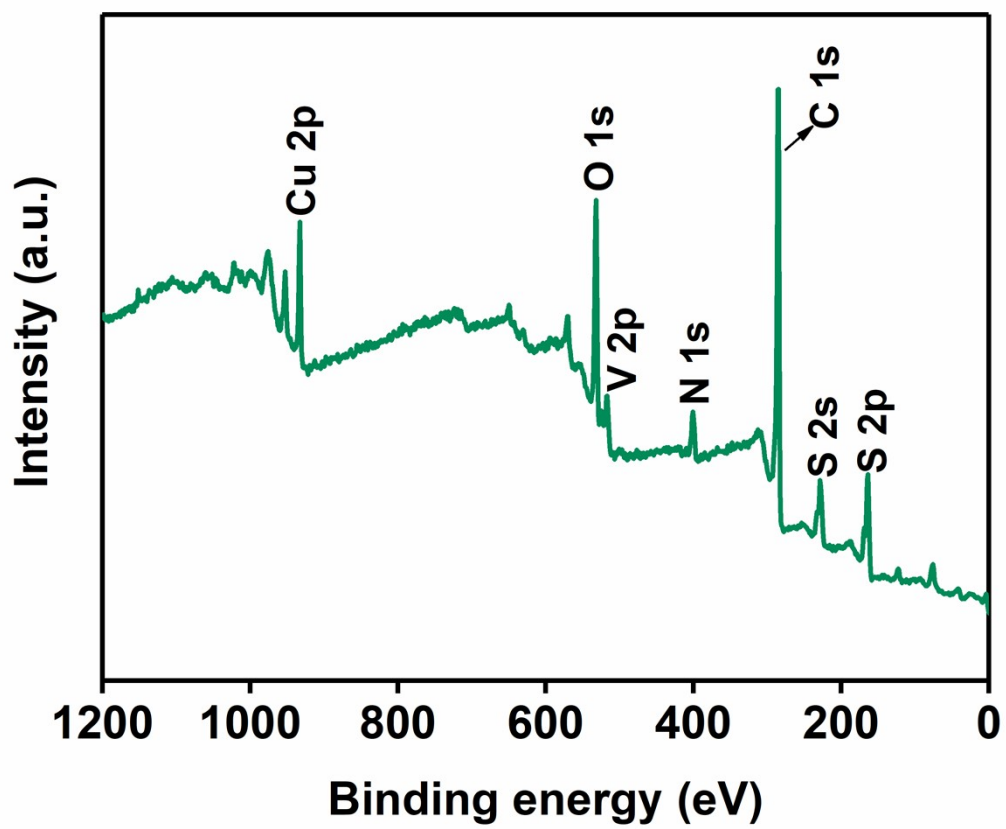


Fig. S3 Full XPS spectrum of CVS/CNFs.

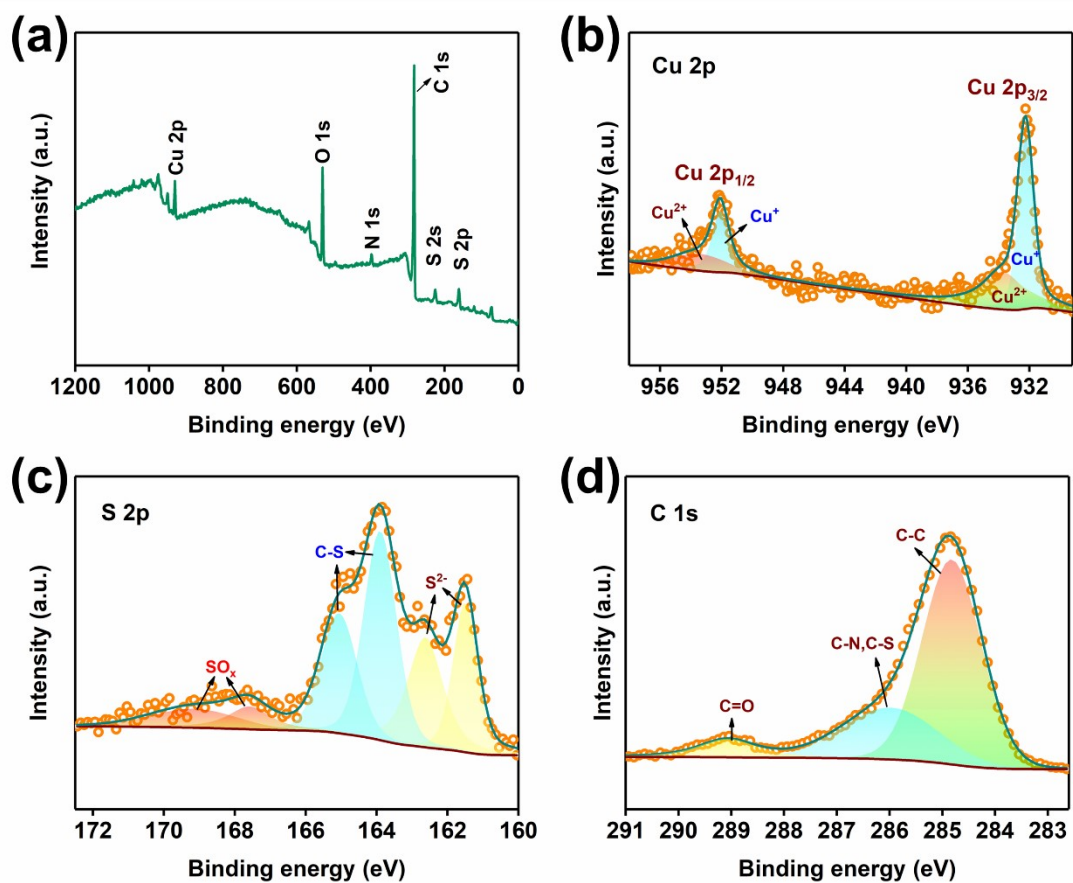


Fig. S4 (a) XPS spectrum of CS/CNFs and (b-d) high resolution XPS spectra of Cu 2p, S 2p, C 1s, respectively.

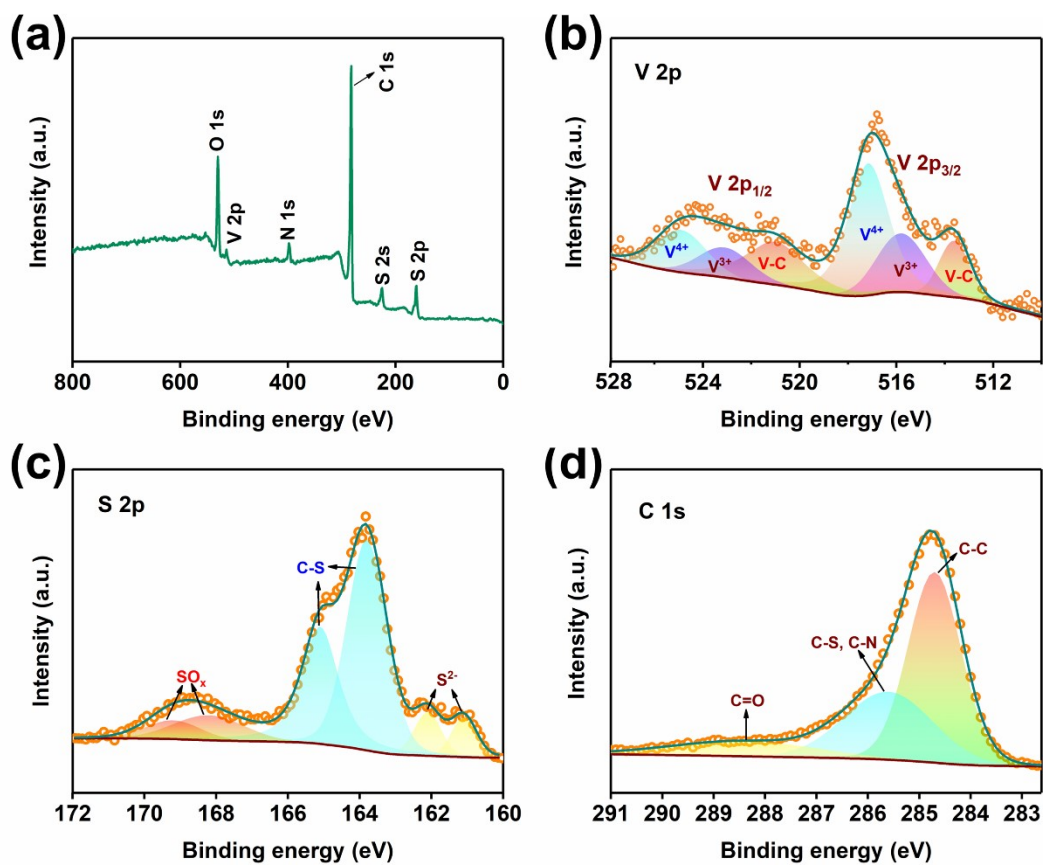


Fig. S5 (a) XPS spectrum of VS/CNFs and (b-d) high resolution XPS spectra of V 2p, S 2p, C 1s, respectively.

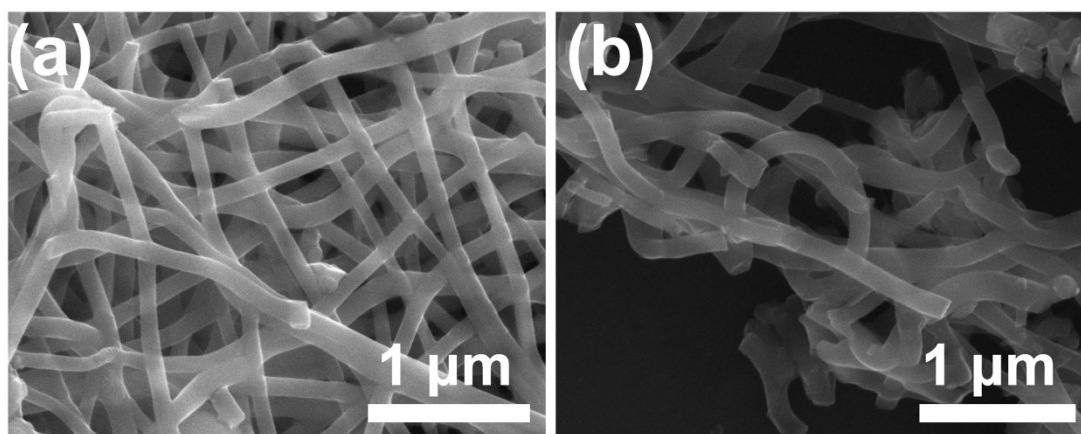


Fig. S6 SEM images of (a) CS/CNFs and (b) VS/CNFs.

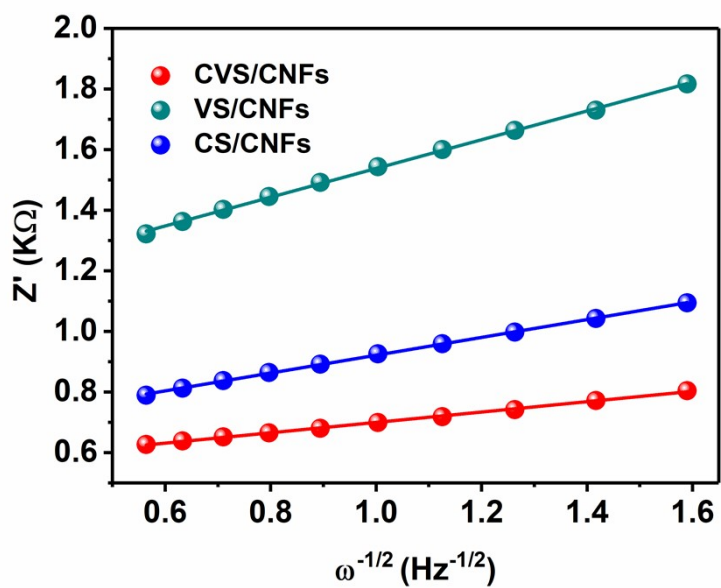


Fig. S7 $Z'-\omega^{-1/2}$ curve in low-frequency region and linear fitting.

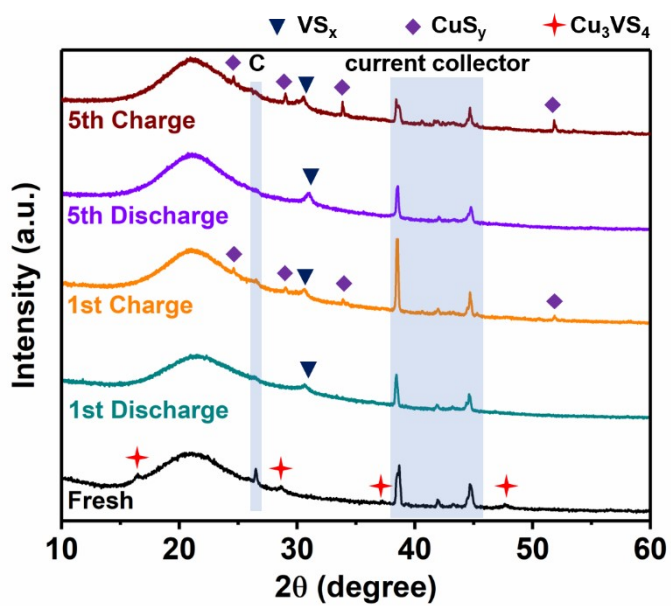


Fig. S8 *Ex-situ* XRD patterns of CVS/CNFs electrode under different state.

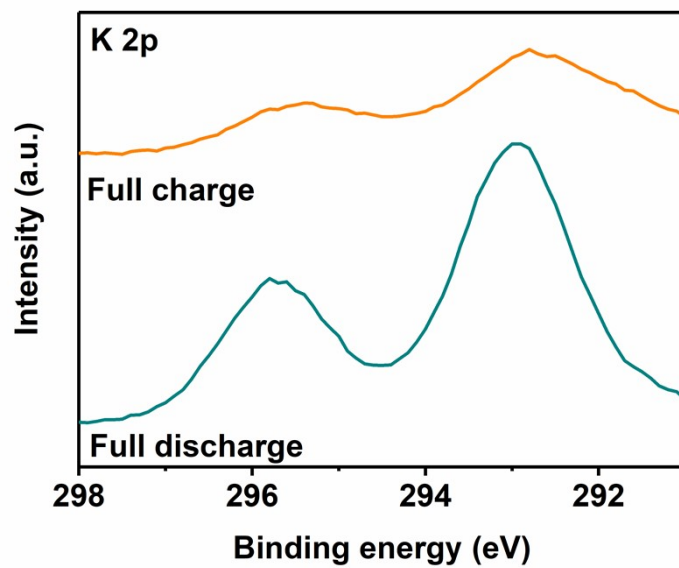


Fig. S9 High resolution XPS spectra of K 2p at full discharge/charge state.

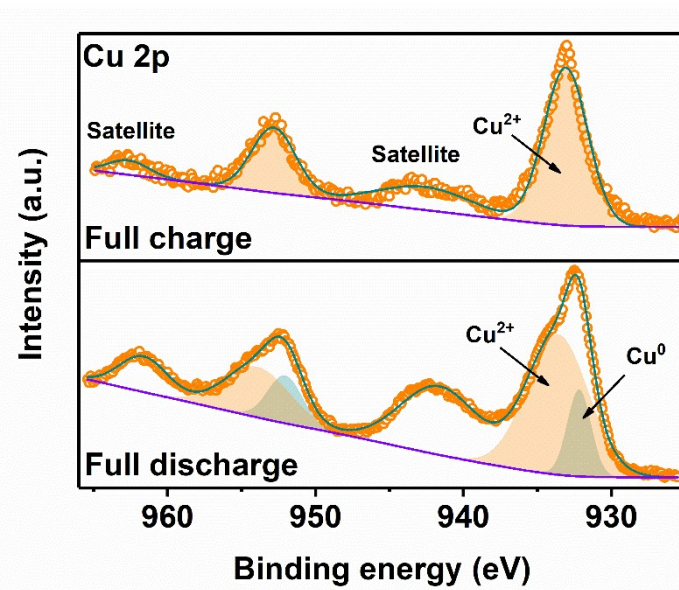


Fig. S10 High resolution XPS spectra of Cu 2p at full discharge/charge state.

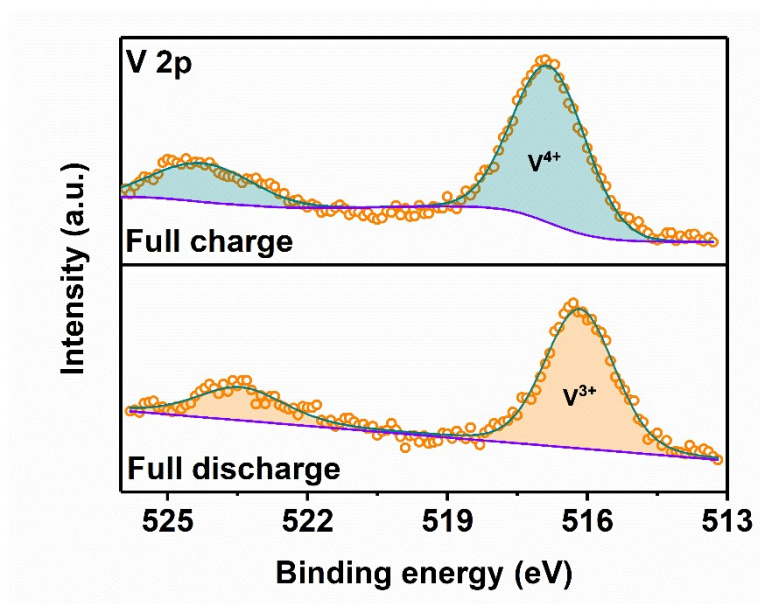


Fig. S11 High resolution XPS spectra of V 2p at full discharge/charge state.