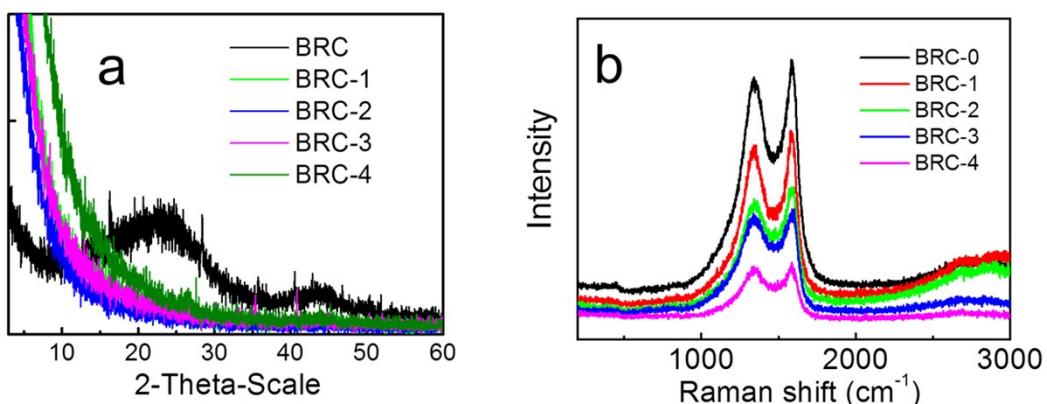
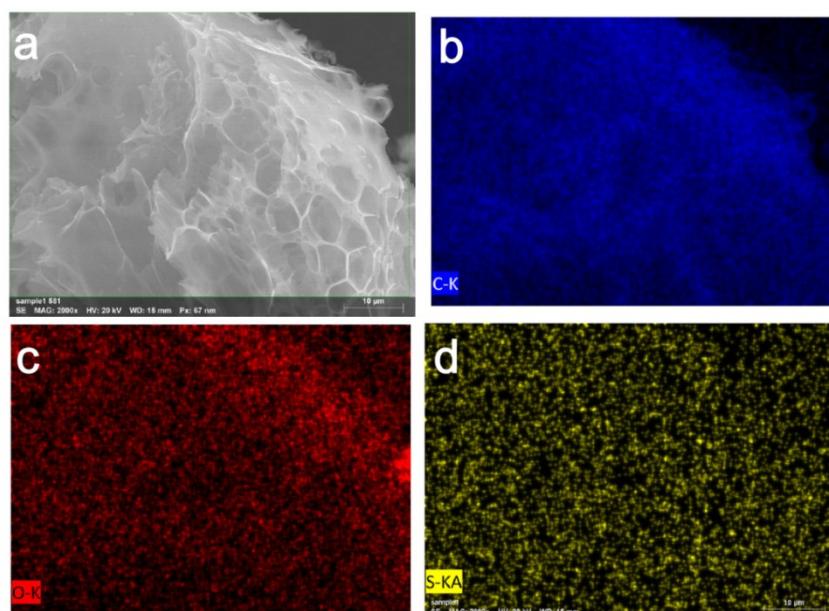


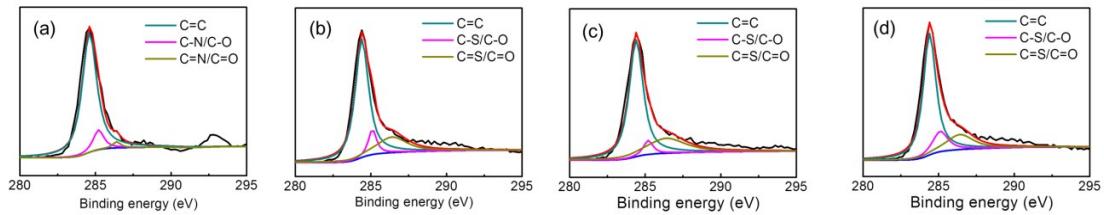
**Fig. S1** SEM images: (a-c) BRC-3; (d-f) BRC-4



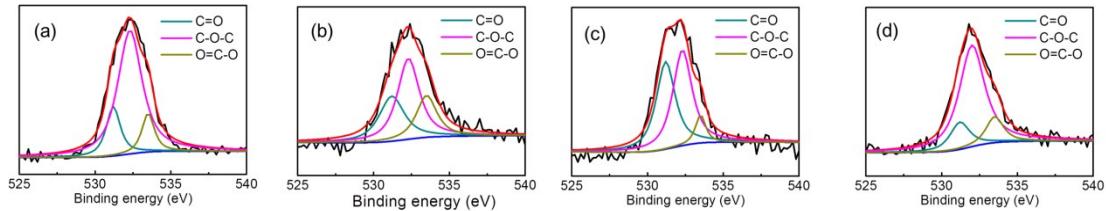
**Fig. S2** (a) XRD patterns and (b) Raman spectra of the BRC-x materials



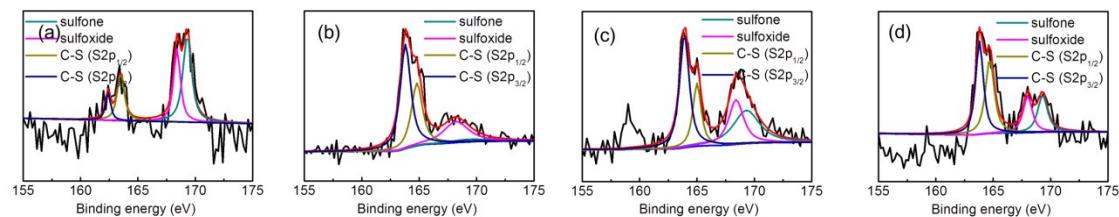
**Fig. S3** EDS mapping of BRC-2: (a) selected area, (b) C, (c) O and (d) S



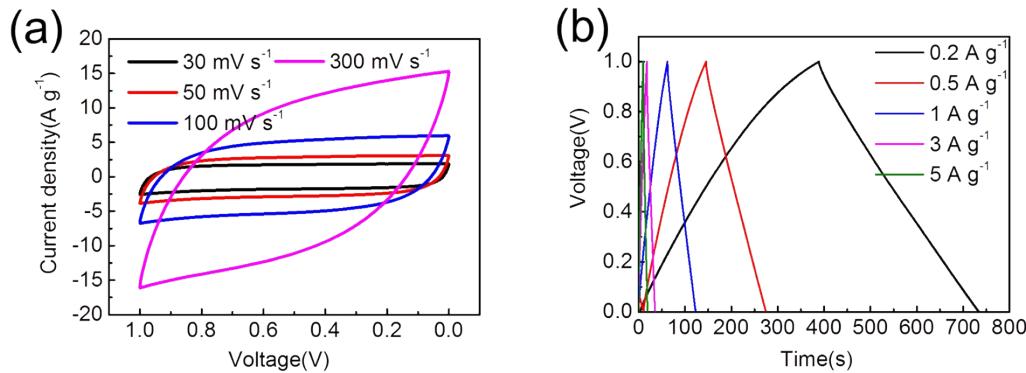
**Fig. S4** C1s spectra (a) BRC, (b) BRC-1, (c) BRC-3 and (d) BRC-4



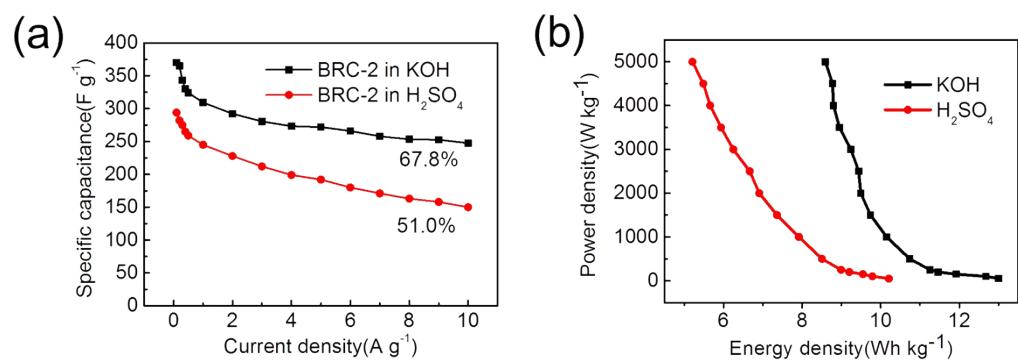
**Fig. S5** O1s spectra (a) BRC, (b) BRC-1, (c) BRC-3 and (d) BRC-4



**Fig. S6** S2p spectra (a) BRC, (b) BRC-1, (c) BRC-3 and (d) BRC-4



**Fig. S7** (a) CV curves and (b) Galvanostatic charge/discharge curves of BRC-2



**Fig. S8** Comparison of BRC-2 in KOH and  $\text{H}_2\text{SO}_4$  electrolyte