SUPPLEMENTARY INFORMATION

$CoSe_2/WSe_2$/rGO anode for high performance energy storage device applications

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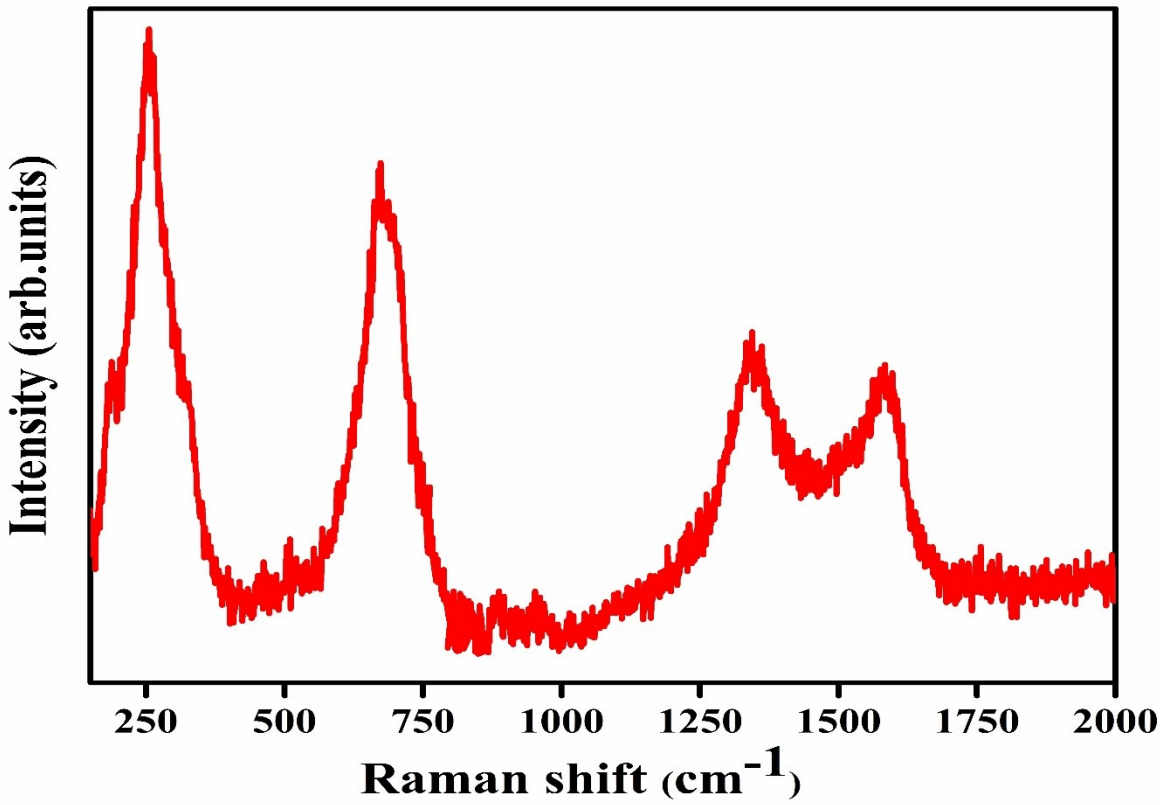
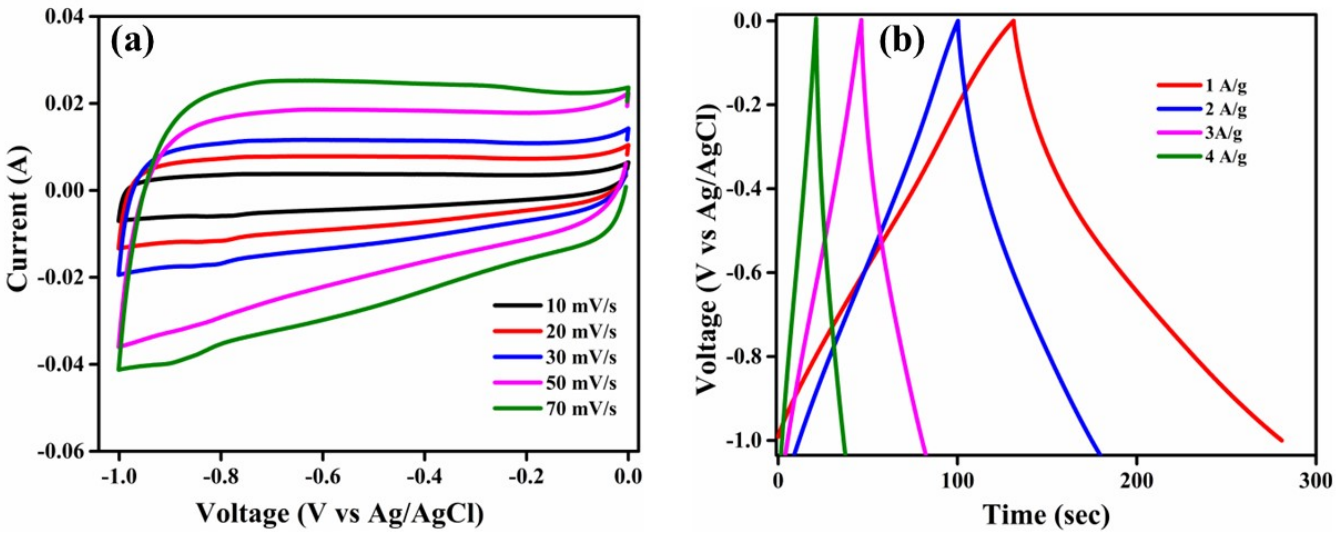


Fig.S1: Raman spectra of $CoSe_2/WSe_2$/rGO nanocomposite.

AC is synthesised and used as a counter active electrode material for the fabrication of ASC device. The electrochemical characterization of AC electrode is performed in 3M KOH electrolyte solution at ambient temperature. Fig.S2(a) shows the CV curves of the AC electrode at varying sweep rates with an operational voltage window of 0 to -1 V. The AC electrode shows CV curves with a symmetrical rectangular shape for a low to high scan rates with no any noticeable Faradaic peak, confirming its electric double layer capacitor (EDLC) type feature. The shape of the CV curves is same even at higher sweep rates, indicating less contact resistance between the electrolyte ions and electrode. Fig.S2(b) represents the GCD curves of the AC electrode recorded at different current densities. The computed SC value of AC electrode turns out to be 149, 98, 63 and 41 Fg^{-1} at current densities of 1.0, 2.0, 3.0, and 4.0Ag^{-1}.



Thus, the AC can be utilised as a counter active electrode for device fabrication.

Fig.S2: (a) CV curves of AC electrode at various scan rates (10-70 mV/s) and (b) GCD curves of AC electrode at different current densities.

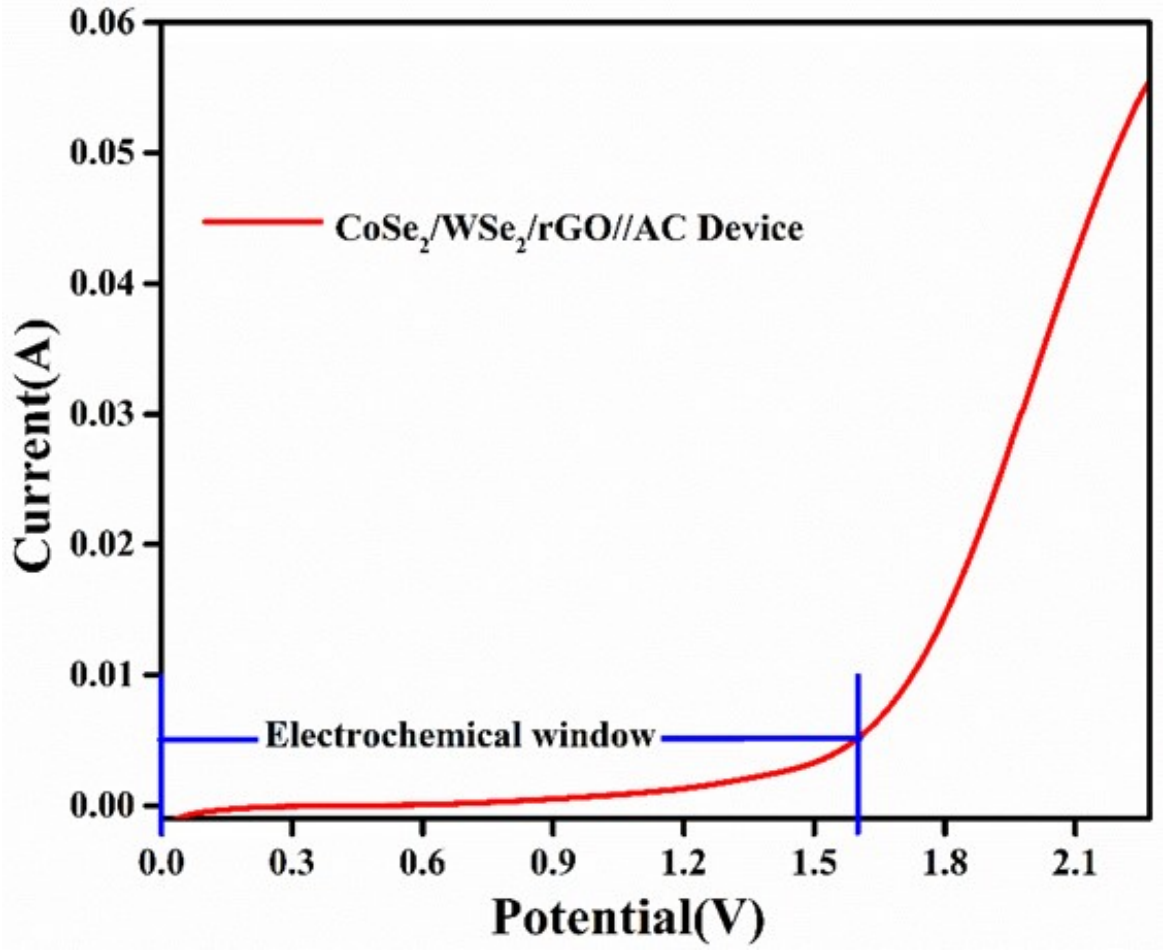


Fig.S3: LSV measurement for the ASC device.