Electronic Supplementary Material (ESI) for Nanoscale.
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High-performance asymmetric supercapacitor based (CuCo)Se_2/GA cathode and $FeSe_2$/GA anode with enhanced kinetics matching

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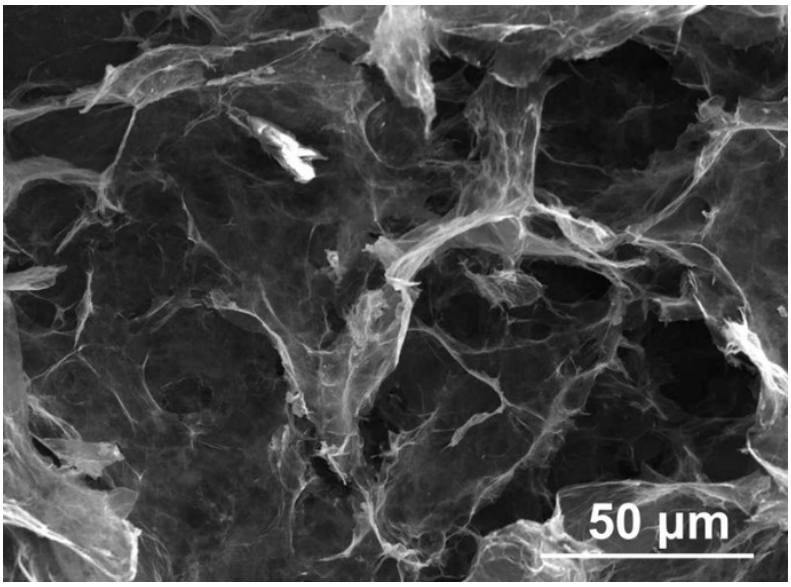

Fig. S1 SEM images of GA.

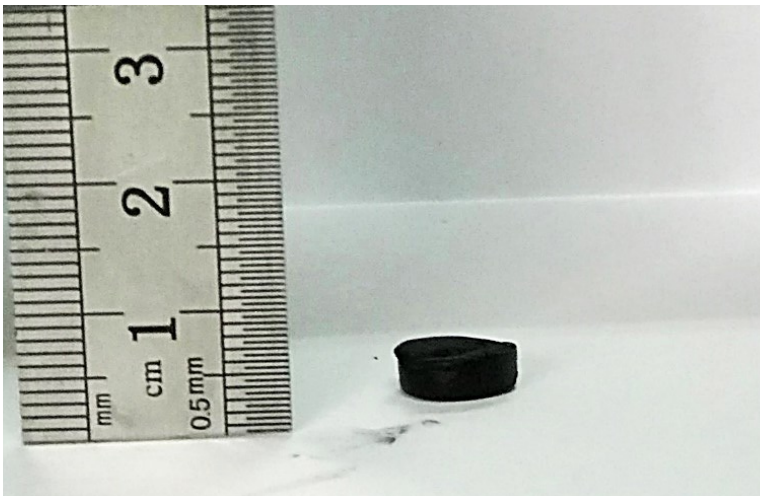

Fig. S2 Digital photo of the as-prepared (CuCo)Se_2/GA.

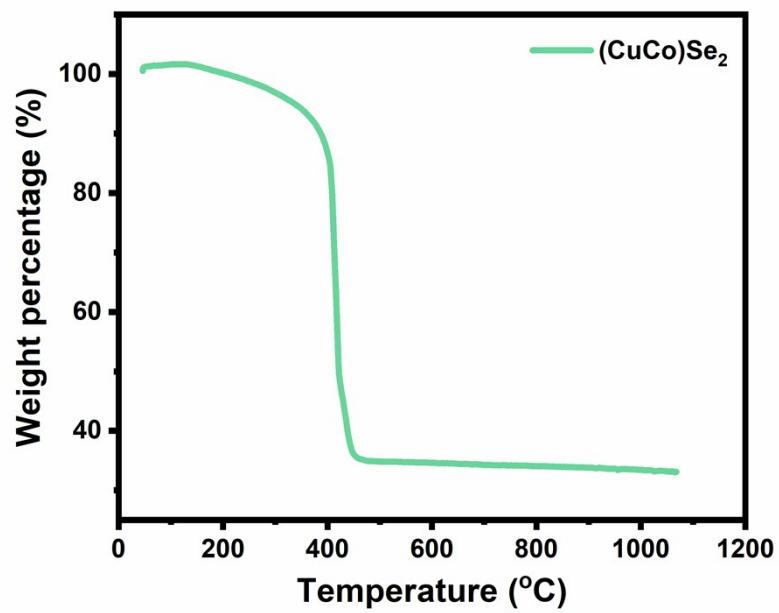

Fig.S3 TGA curve of the as-prepared $(CuCo)Se_2$/GA.

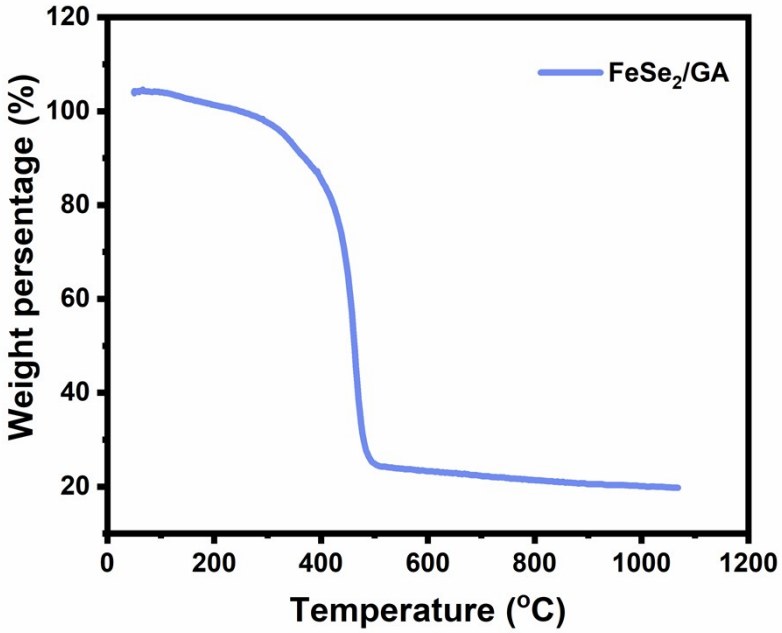

Fig.S4 TGA curve of the as-prepared $FeSe_2$/GA.

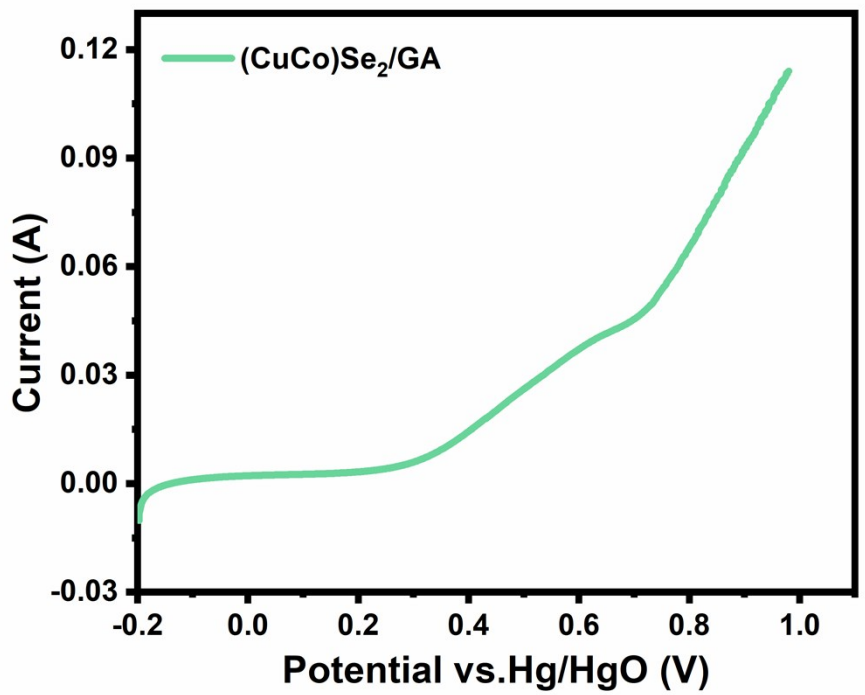

Fig.S5 LSV curve of $(CuCo)Se_2$/GA electrode.

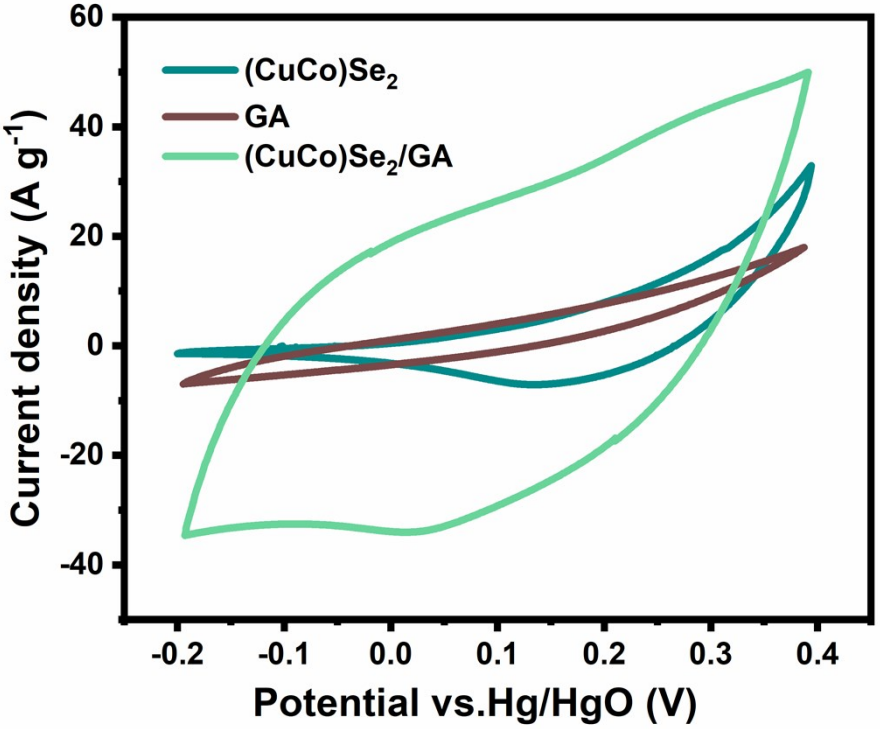

Fig.S6 Curves of pristine $(CuCo)Se_2$, GA and $(CuCo)Se_2$/GA at a scan rate of 100 mV s^{-1}.

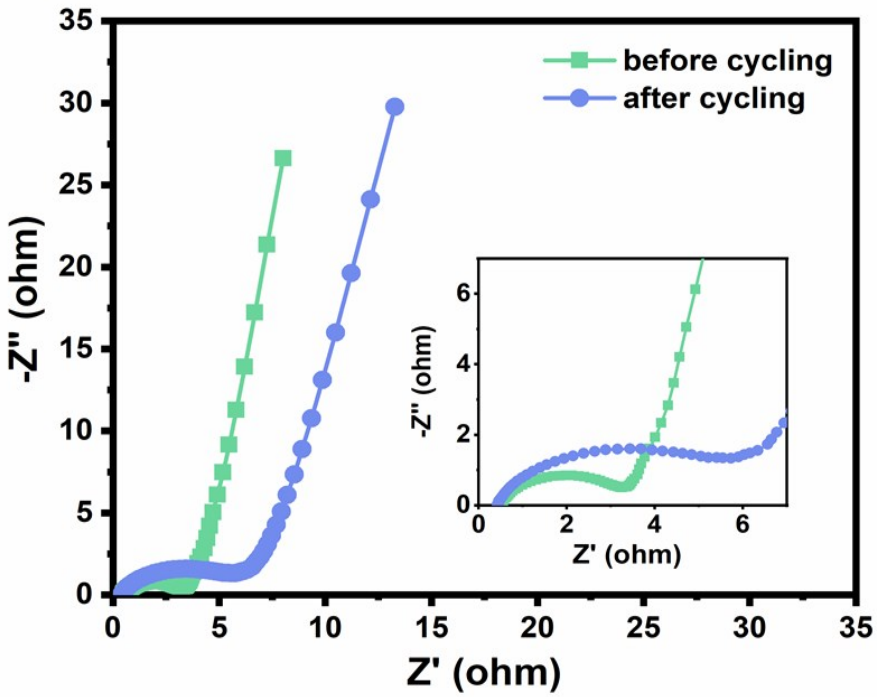

Fig.S7 Nyquist plots of (CuCo)Se_2/GA electrode before and after cycling.

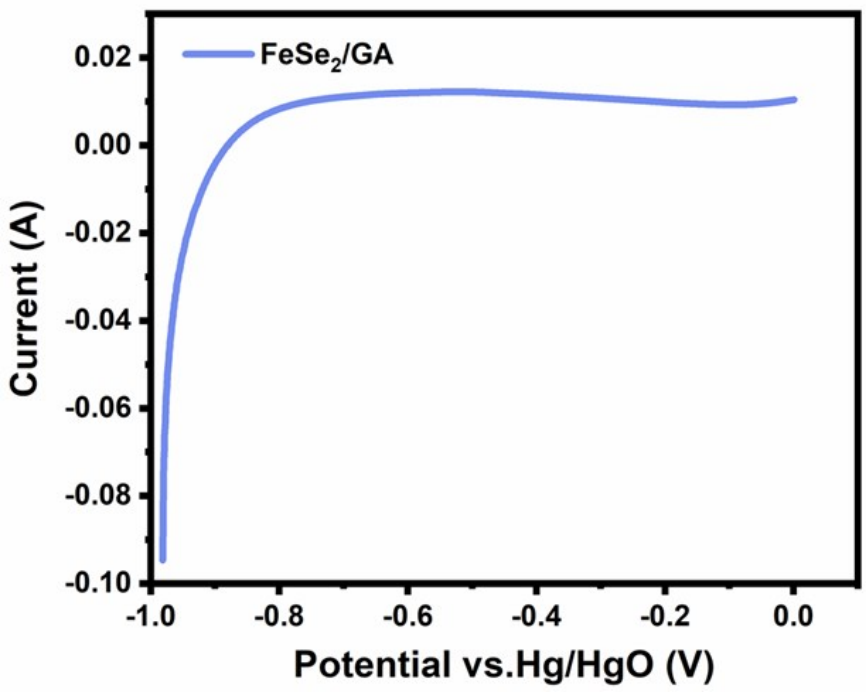

Fig.S8 LSV curve of $FeSe_2$/GA electrode.

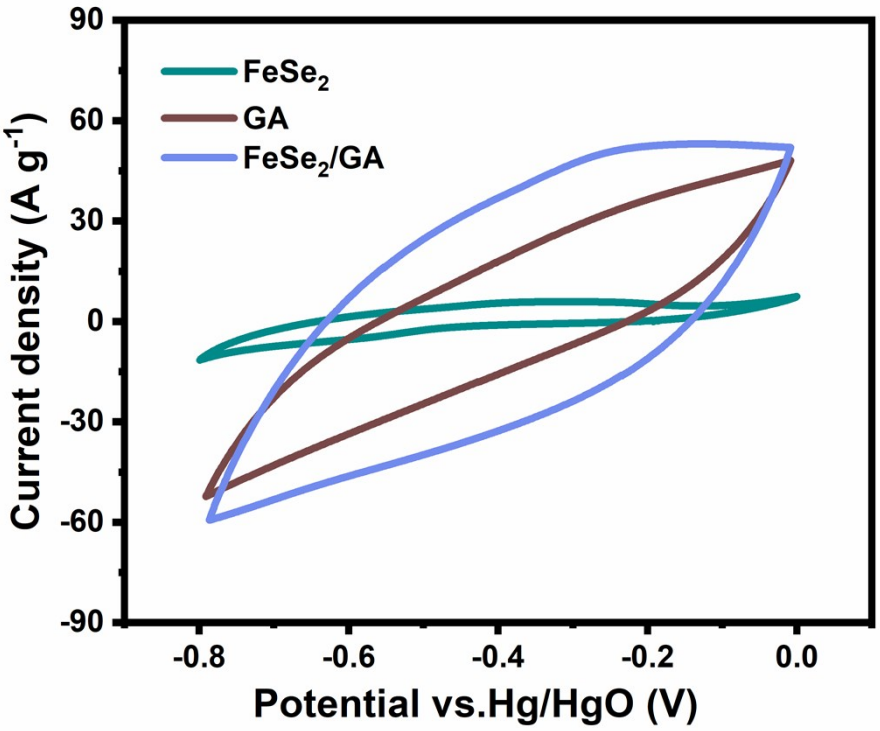

Fig.S9 Curves of pristine $FeSe_2$, GA and $FeSe_2$/GA at a scan rate of 100 mV s^{-1}.

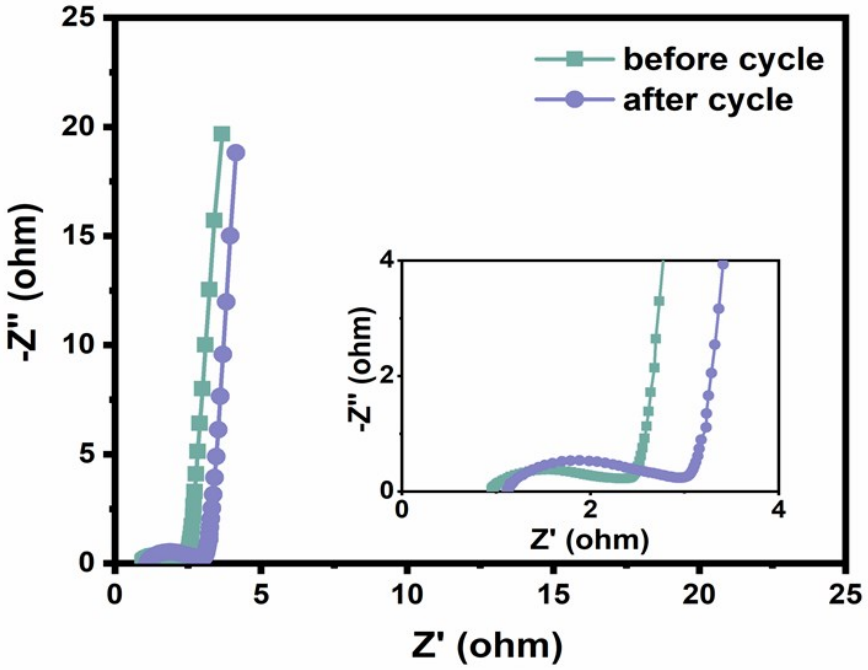

Fig.S10 Nyquist plots of $FeSe_2$/GA electrode before and after cycling.

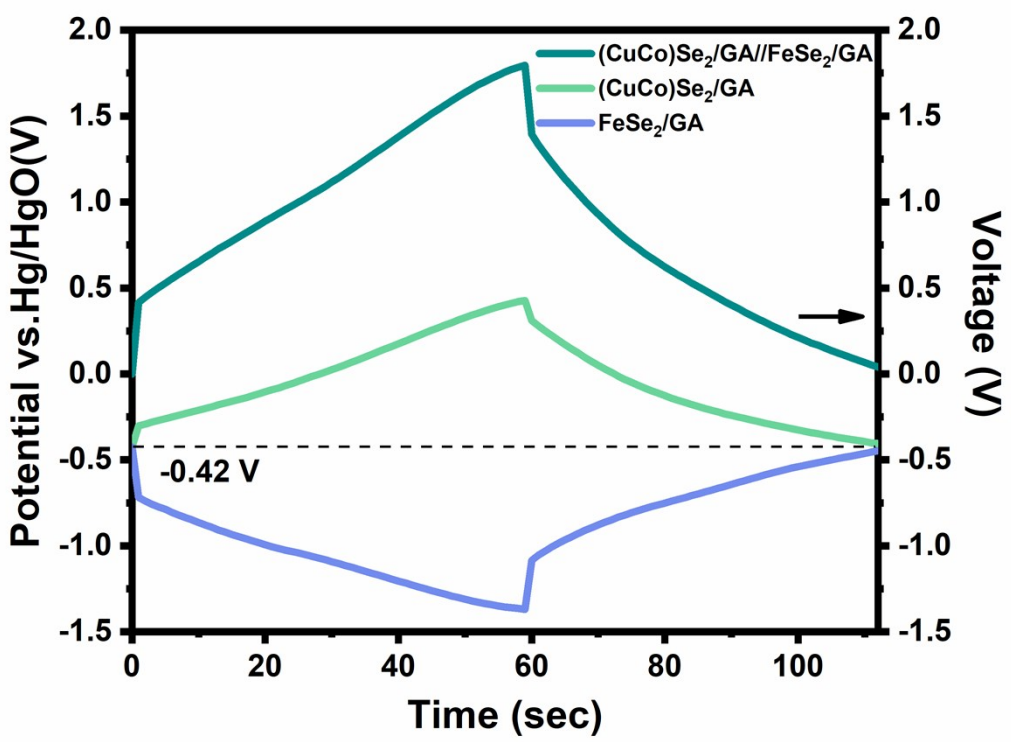

Fig.S11 Potential variation of the positive and negative electrode after cycling.

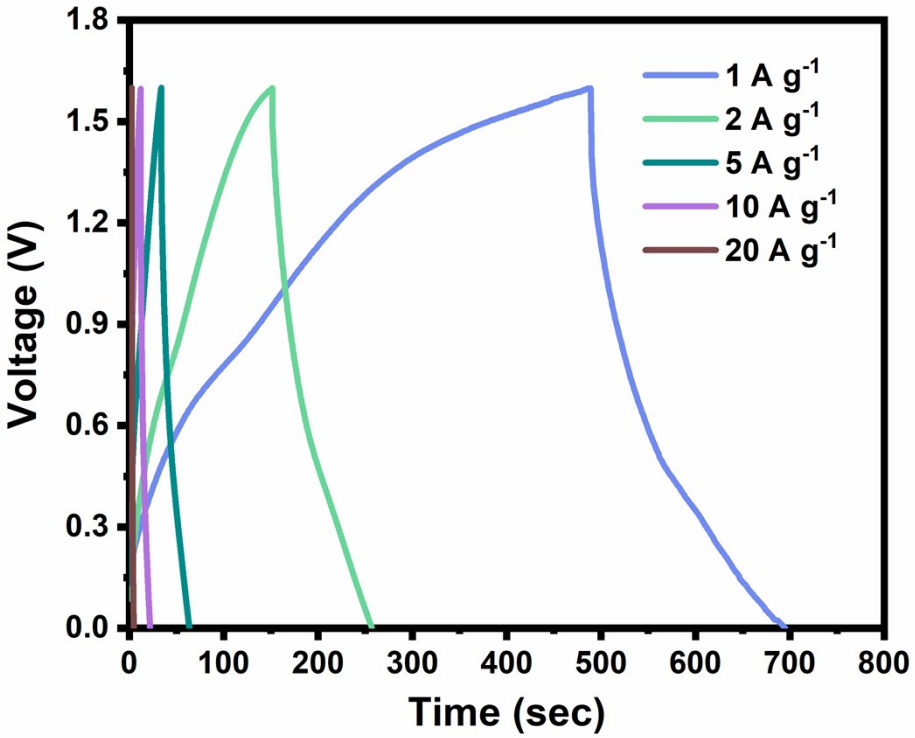

Fig.S12 GCD curves of the ASC at various current densities.

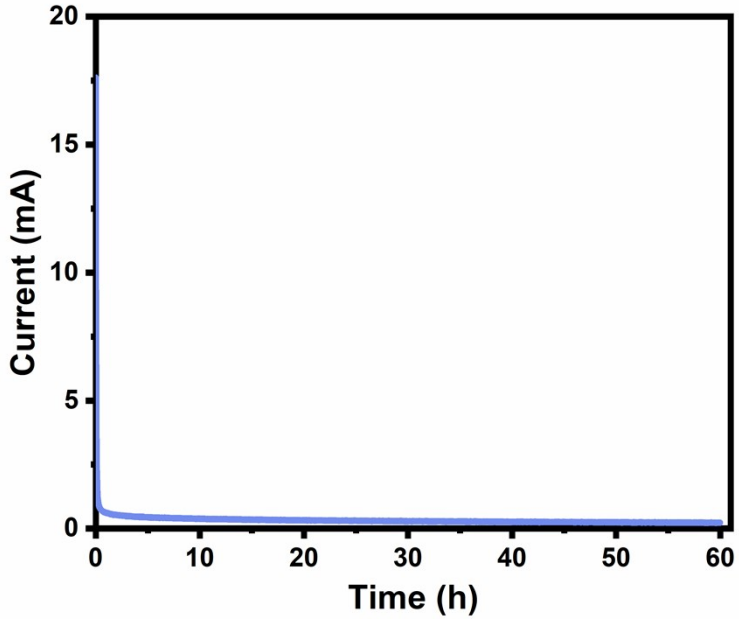

Fig.S13 Leakage current curve of the ASC.

Table S1. Textural parameters for $(CuCo)Se_2$, $FeSe_2$ and GA.

Materials	S_{BET} (m^2 g^{-1})	V_{total} (cm^3 g^{-1})	V_{micro}(cm^3 g^{-1})
$(CuCo)Se_2$	13.9	0.068	0.0008
$FeSe_2$	12.1	0.061	0.0015
GA	77.3	0.096	0.022

Table S2. The calculation process for the content of selenides in two samples.

	$2FeSe_2$ →	Fe_2O_3	Retention%
Relative molecular mass	427.5	159.7	159.7/427.5=37.4%
$FeSe_2$/GA		$FeSe_2$%	0.1976/0.374=52.8%
		GA%	1-0.528= 47.2%
	$(CuCo)Se_2$ →	CuO+CoO	Retention%
Relative molecular mass	280.4	158.5	158.5/280.4=56.5%
$(CuCo)Se_2$/GA		$(CuCo)Se_2$%	0.3313/0.565=58.6%
		GA%	1-0.586=41.4%