Supporting Information

High-performance hybrid supercapacitors enabled by CoTe@CoFeTe double-shelled nanocubes

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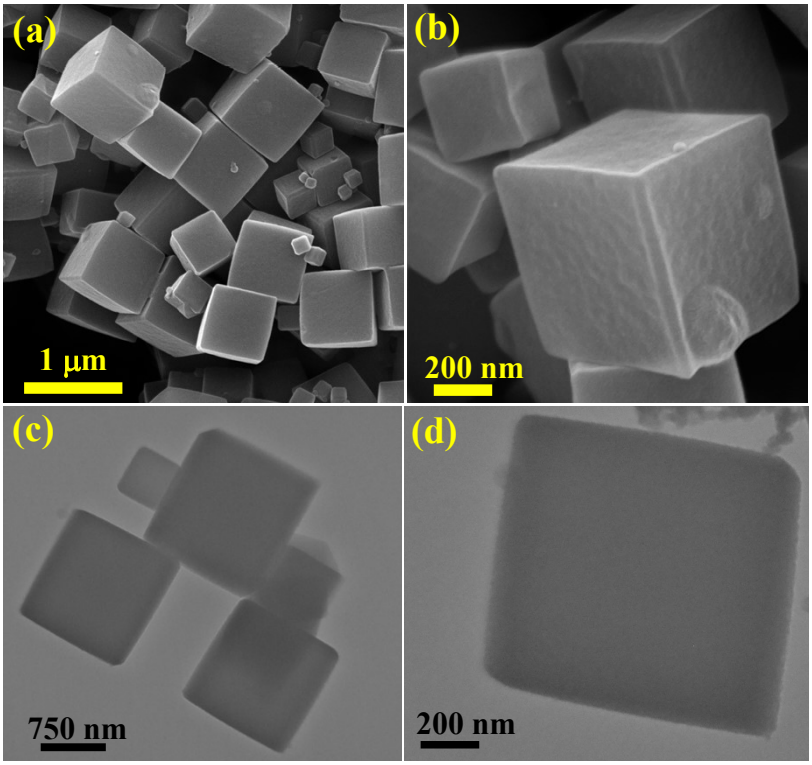


Fig. S1 (a, b) FESEM images of the ZIF67. (c, d) TEM images of the ZIF67.

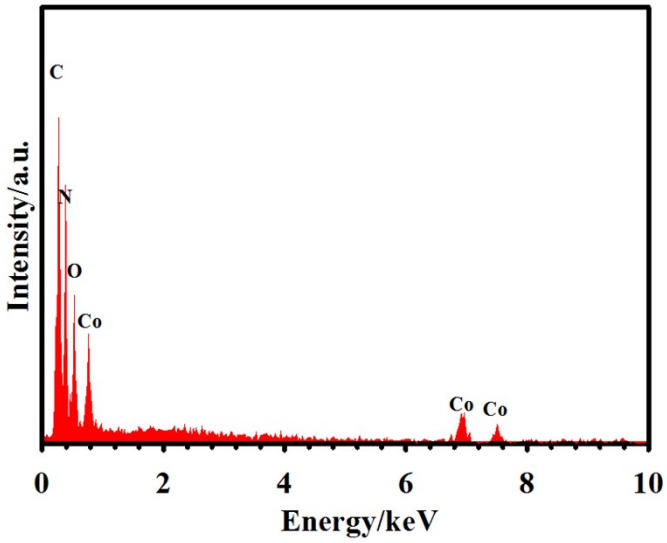


Fig. S2 EDX spectrum of the ZIF67.

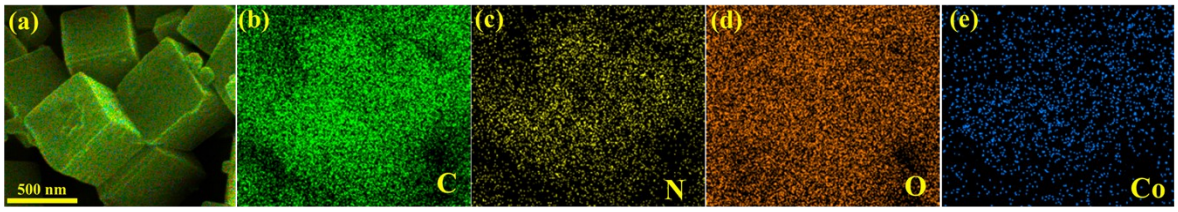


Fig. S3 FE-SEM mapping images of the ZIF67.

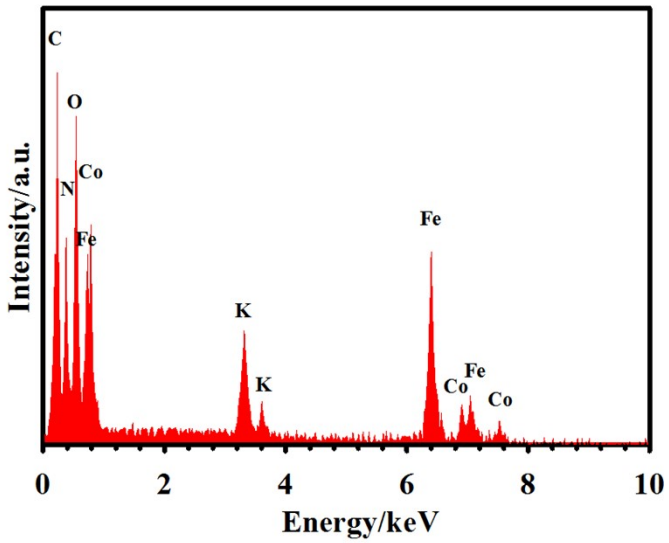


Fig. S4 EDX spectrum of the ZIF67@CoFe-PBA.

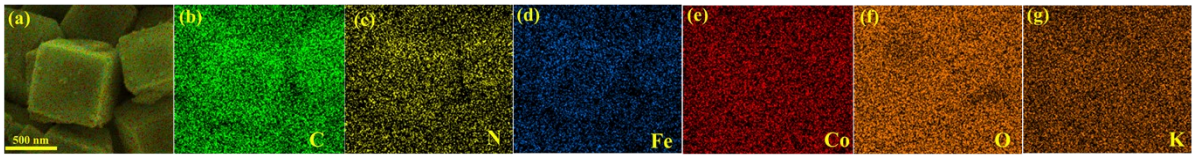
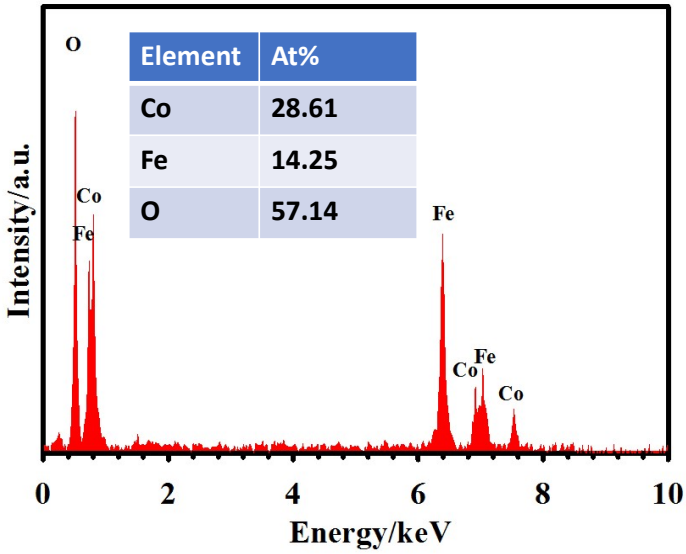


Fig. S5 FE-SEM mapping images of the ZIF67@CoFe-PBA.



Element	At%
Co	28.61
Fe	14.25
O	57.14

Fig. S6 EDX spectrum of the Co_3O_4@$CoFe_2O_4$.

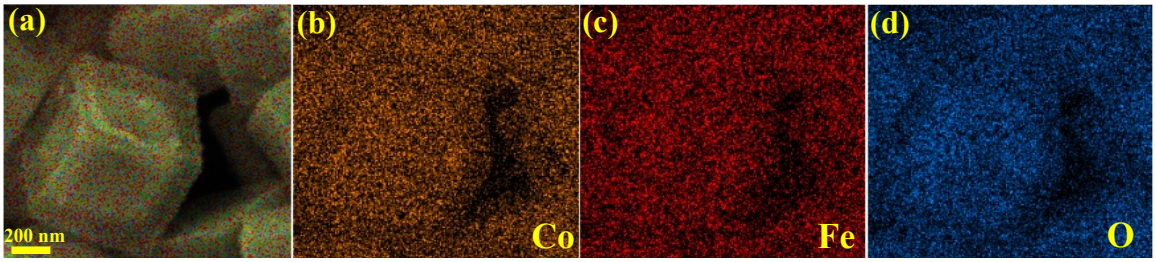
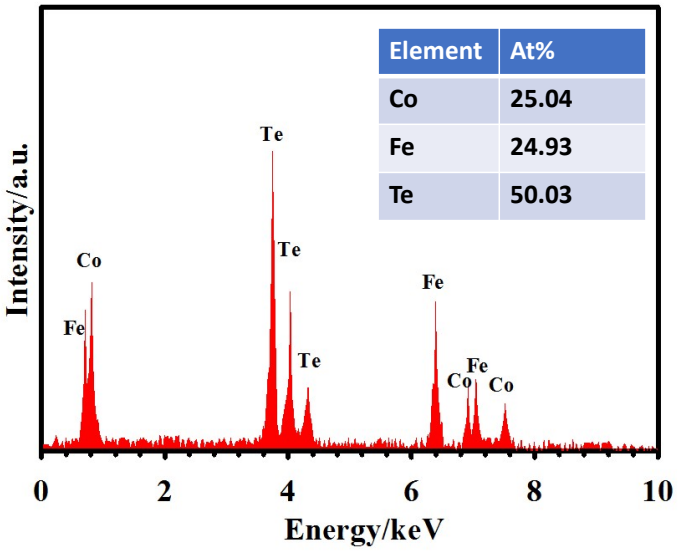


Fig. S7 FE-SEM mapping images of the Co_3O_4@$CoFe_2O_4$.



Element	At%
Co	25.04
Fe	24.93
Te	50.03

Fig. S8 EDX spectrum of the CoTe@CoFeTe.

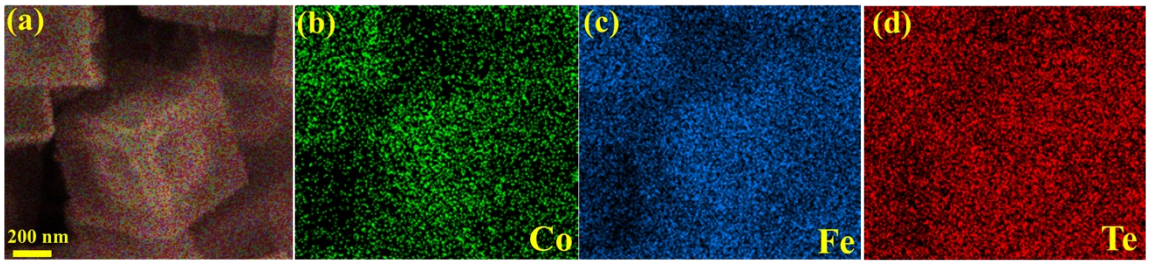


Fig. S9 FESEM mapping images of the CoTe@CoFeTe.

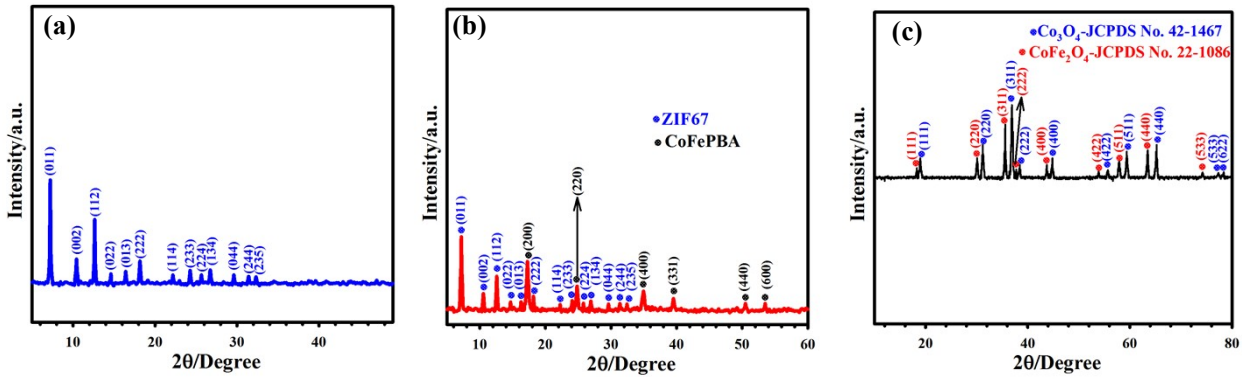


Fig. S10 (a) XRD pattern of the ZIF67. (b) XRD pattern of the ZIF67@CoFe-PBA. (c) XRD pattern of the Co_3O_4@$CoFe_2O_4$.

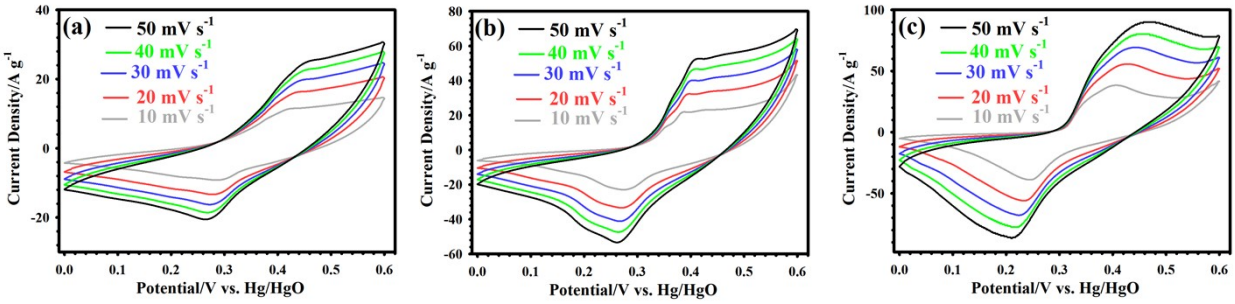


Fig. S11 (a) CV curves of the ZIF67 from 10 to 50 mV s^{-1}. (b) CV curves of the ZIF67@CoFe-PBA from 10 to 50 mV s^{-1}. (c) CV curves of the Co_3O_4@$CoFe_2O_4$ from 10 to 50 mV s^{-1}.

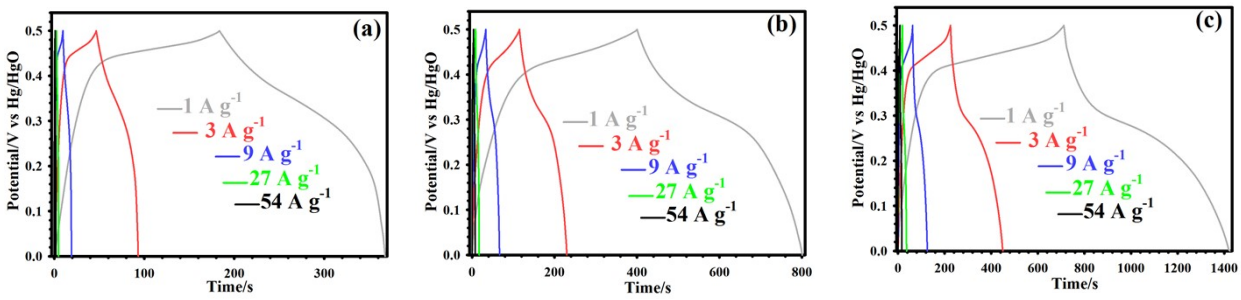


Fig. S12 (a) GCD curves of the ZIF67 from 1 to 54 A g^{-1}. (b) GCD curves of the ZIF67@CoFe-PBA from 1 to 54 A g^{-1}. (c) GCD curves of the Co_3O_4@$CoFe_2O_4$ from 1 to 54 A g^{-1}.

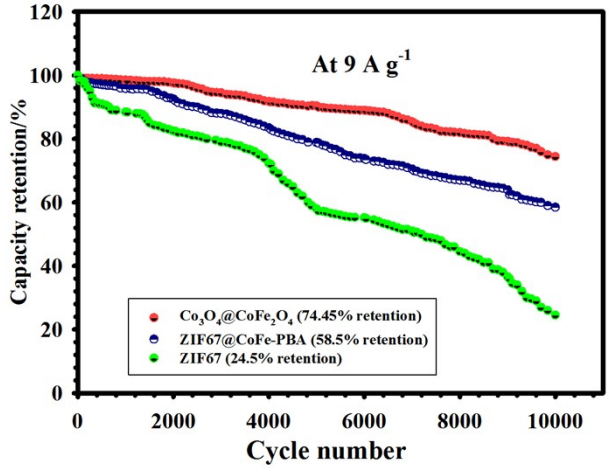


Fig. S13 Longevity of the ZIF67, ZIF67@CoFe-PBA, and Co_3O_4@$CoFe_2O_4$ electrodes at 9 A g^{-1}.

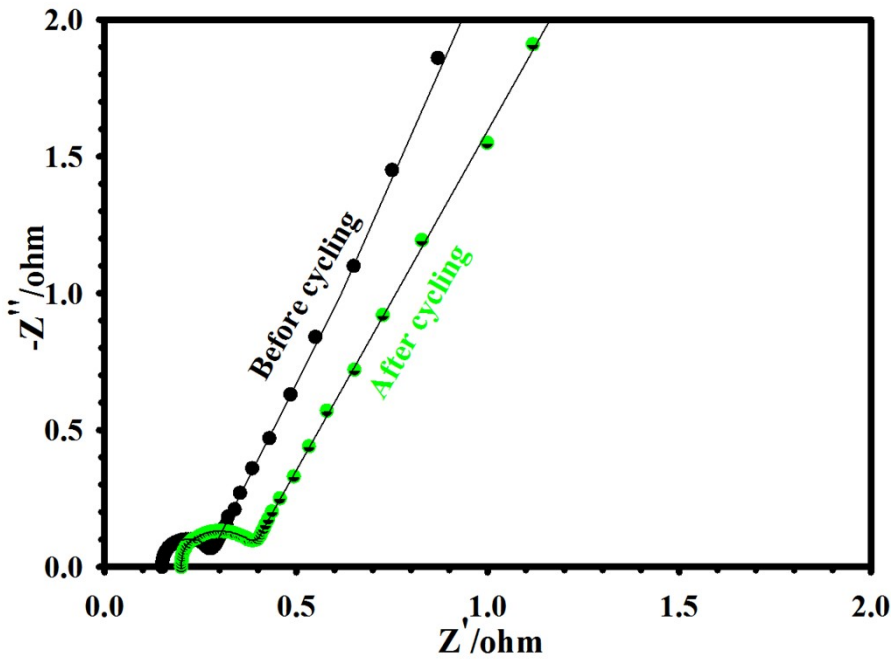


Fig. S14 EIS curves of the CoTe@CoFeTe before and after 10000 cycles.

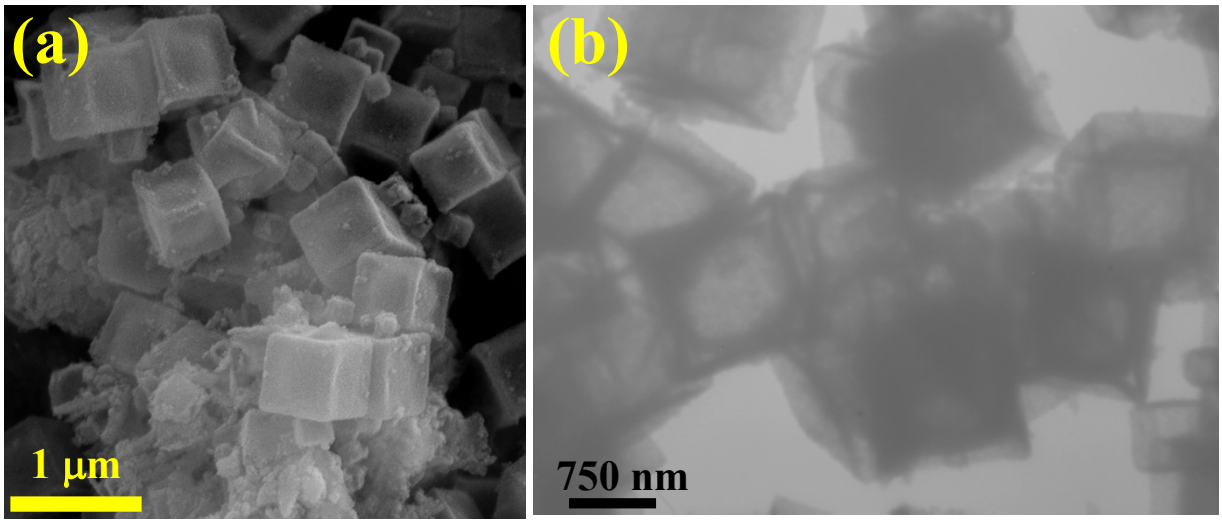


Fig. S15 (a) FE-SEM image of the CoTe@CoFeTe after 10000 cycles. (b) TEM image of the CoTe@CoFeTe after 10000 cycles

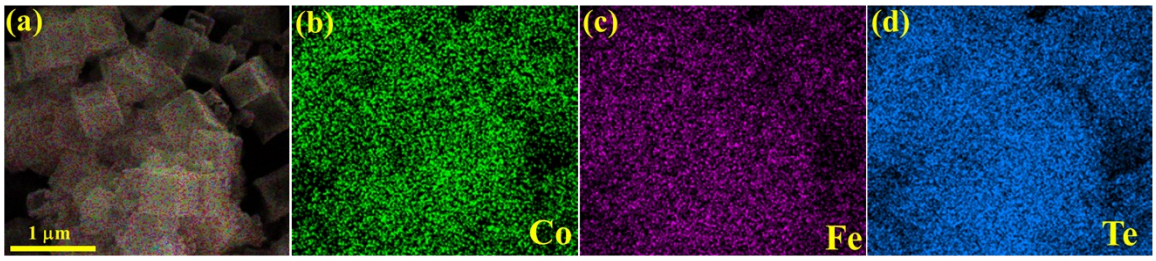


Fig. S16 FESEM mapping images of the CoTe@CoFeTe after 10000 cycles.

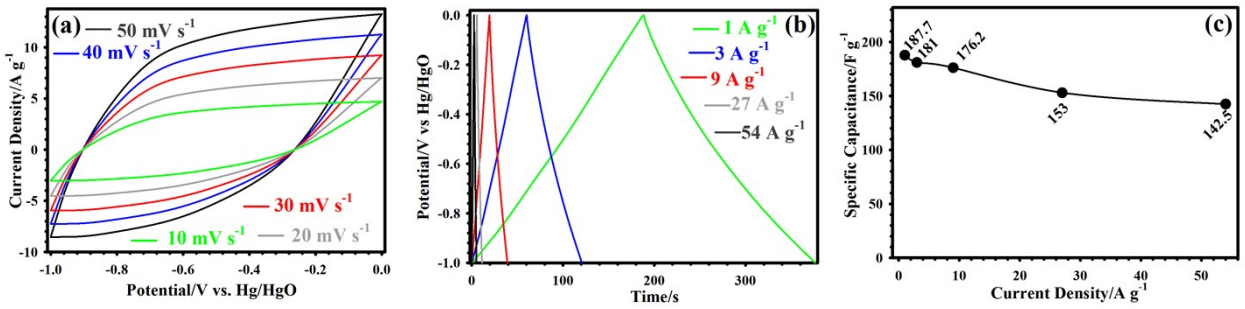


Fig. S17 (a) CV plots of the AC from 10 to 50 mV s^{-1}. (b) GCD plots of the AC from 1 to 54 A g^{-1}. (c) Rate capability of the AC electrode.

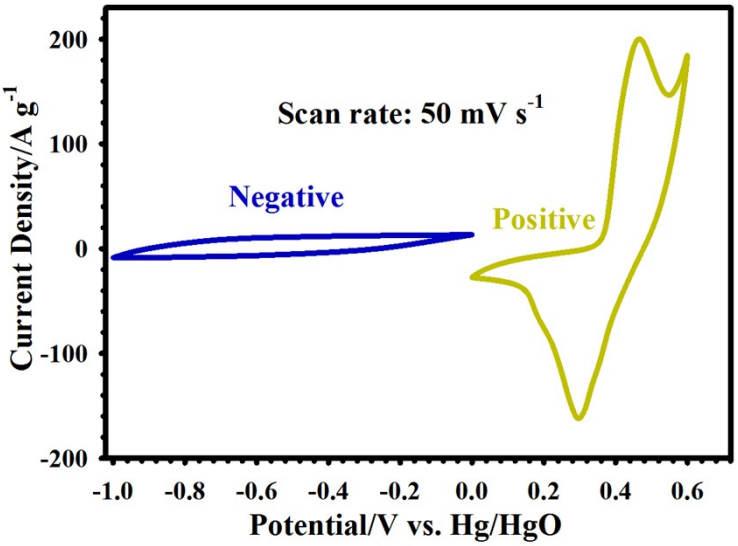


Fig S. 18 CV plots of AC (anode electrode) and CoTe@CoFeTe (cathode electrode) at 50 mV s^{-1}in three-electrode cell.

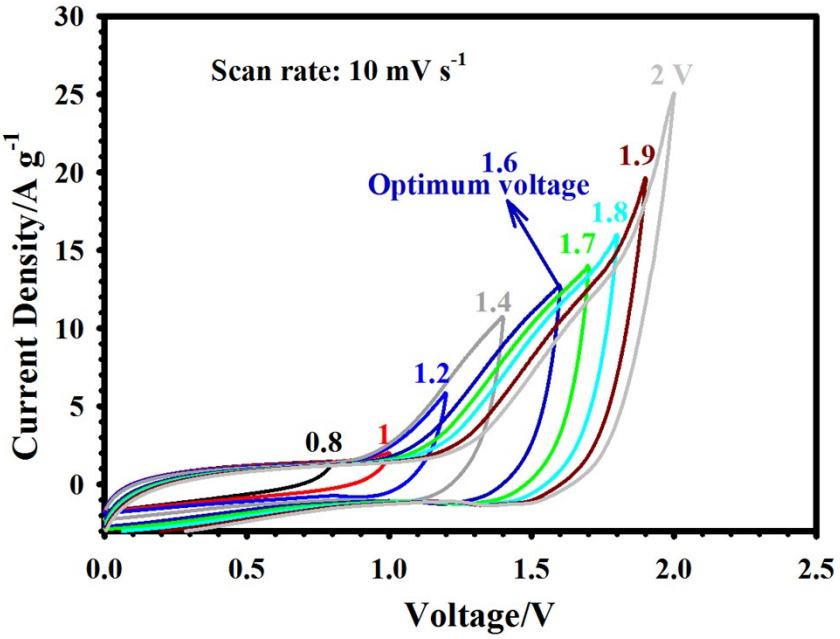


Fig. S19 CV plots of the AC//CoTe@CoFeTe at various potential window at 10 mV s^{-1} from 1.0 to 2.0 V.

Table S1. Comparison of the performance of the CoTe@CoFeTe with other previously reported electrode materials.

Composition	Capacity (C/g)	Cycles, retention	Rate capability	ED (Wh kg^{-1})	Reference
$Ni_{0.33}Co_{0.67}Te$	472.3 at 1 A g^{-1}	5000, 92%	60.4% at 20 A g^{-1}	54	1
CoTe	354 at 1 A g^{-1}	5000, 76.9%	90.2% at 20 A g^{-1}	32.9	2
NiCoSe/G	421.3 at 1 A g^{-1}	5000, 84.6%	53% at 30 A g^{-1}	40.4	3
rGO-CCSe	724 at 1 A g^{-1}	6000, 91.5%	71% at 60 A g^{-1}	57.8	4
CuSe@MnSe	635.32 at 1 A g^{-1}	7000, 91.62%	60.3% at 30 A g^{-1}	19.4	5
Ni_3Se_2	440.55 at 1 A g^{-1}	10000, 80.2%	53.3% at 20 A g^{-1}	38.4	6
$(Ni_{0.85}Se)_3(Co_{0.85}Se)$/ rGO	1004.5 at 1 A g^{-1}	5000, 79.7%	78.8% at 20 A g^{-1}	38	7
$Ni_{0.85}Se@MoSe_2$	387 at 1 A g^{-1}	1000, 95%	63% at 15 A g^{-1}	25.5	8
CoTe@CoFeTe	1312 at 1 A g^{-1}	10000, 92.35 (3 E)	80% at 54 A g^{-1}	64.66	This study

References

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