Supporting Information

Revolutionizing energy storage with advanced reduced graphene oxide-wrapped MnSe@CoSe@$FeSe_2$ nanowires

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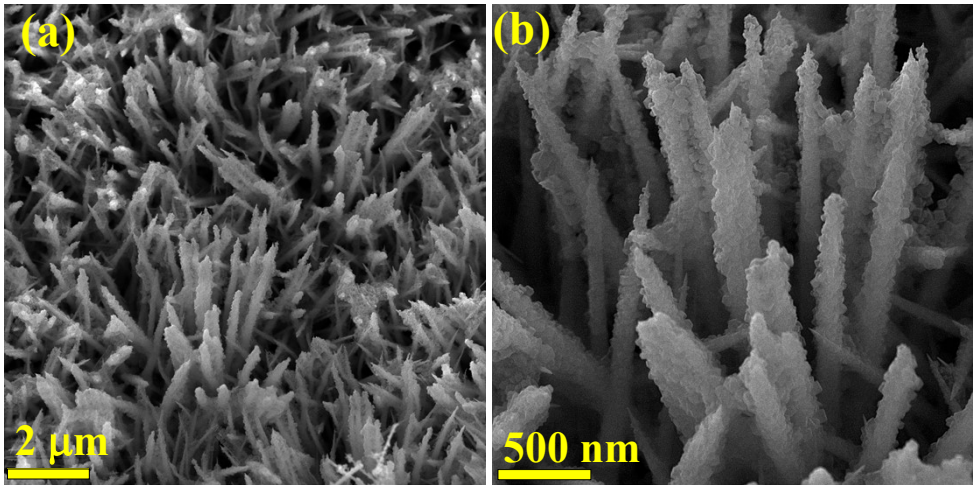

Fig. S1 (a, b) FESEM images of the NF@MCFS300.

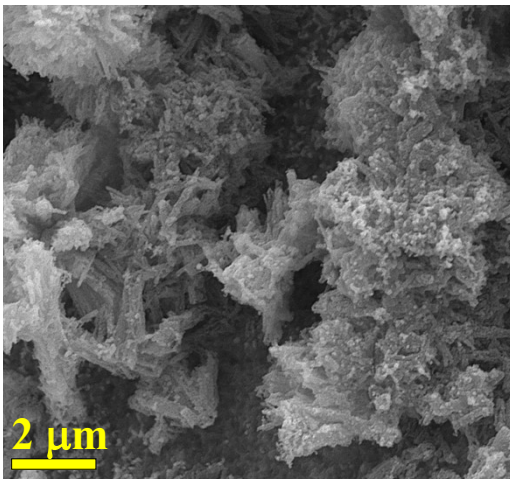

Fig. S2 FESEM images of the NF@MCFS600.

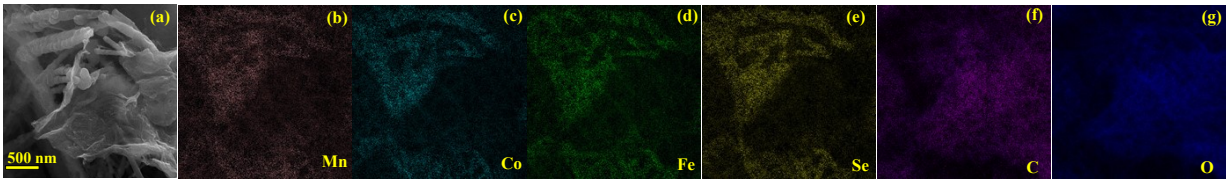

Fig. S3 FESEM mapping images of the NF@MCFS500-rGO.

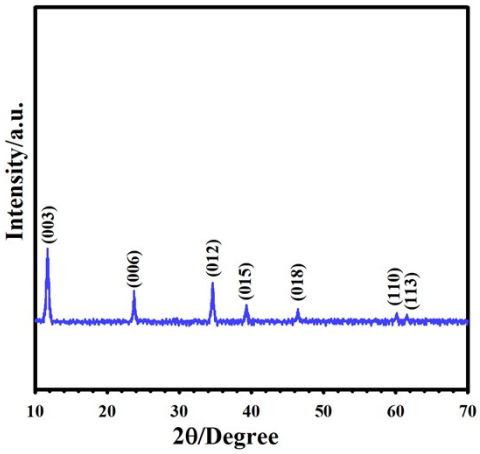

Fig. S4 XRD pattern of the MCFLDH.

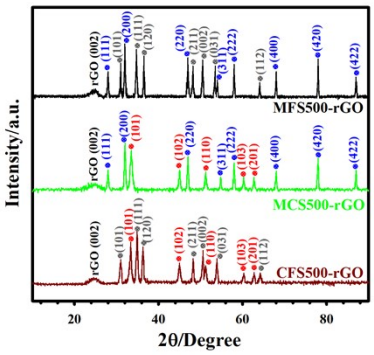

Fig. S5 XRD patterns of the MFS500-rGO, CFS500-rGO, and MCS500-rGO.

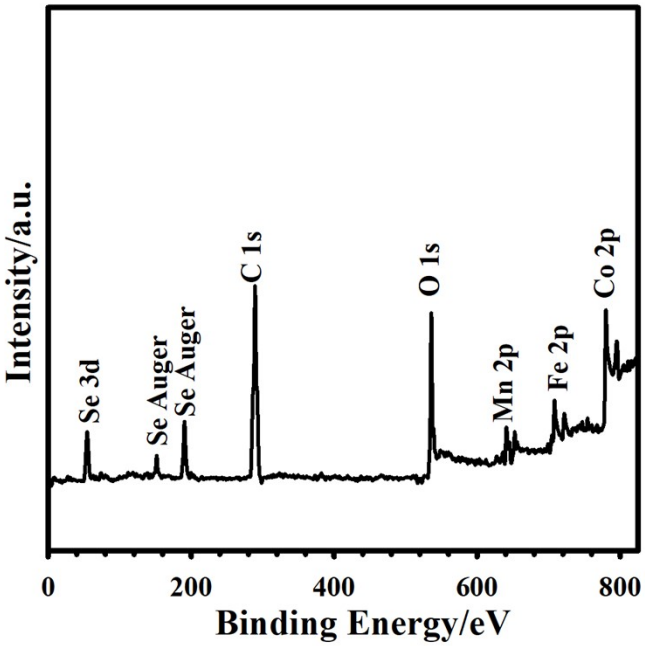

Fig. S6 Comprehensive XPS profile of the MCFS500-rGO.

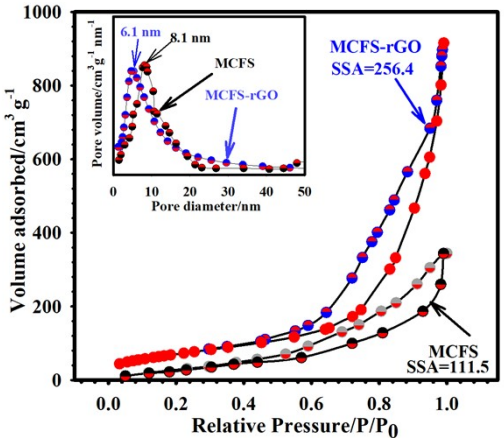

Fig. S7 BET graphs of the MCFS500-rGO and MCFS500 along with their corresponding BJH graphs (inset).

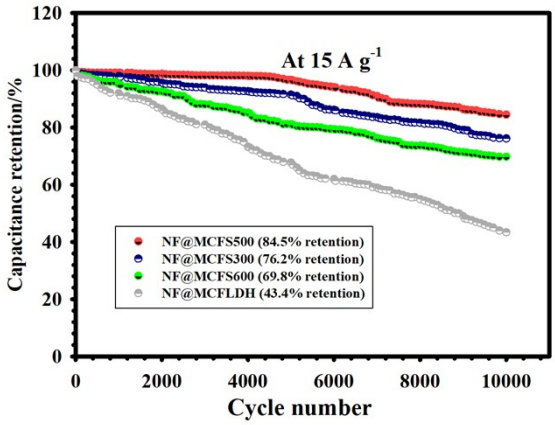

Fig. S8 Longevity of the NF@MCFLDH, NF@MCFS300, NF@MCFS500, and NF@MCFS600 electrodes at 15 A g^{-1}.

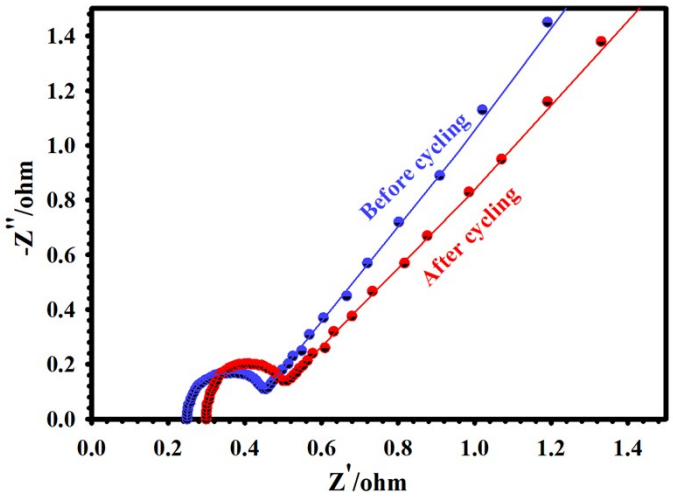

Fig. S9 EIS curves of the NF@MCFS500-rGO before and after 10000 cycles.

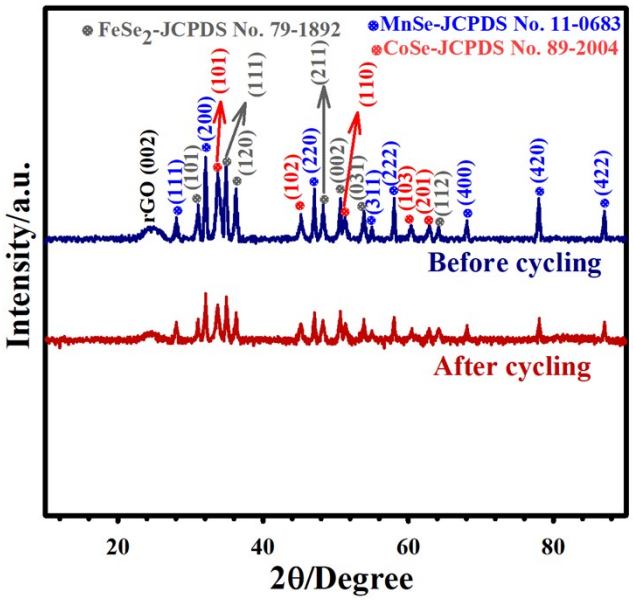

Fig. S10 XRD pattern of the MCFS500-rGO before and after 10000 GCD cycles.

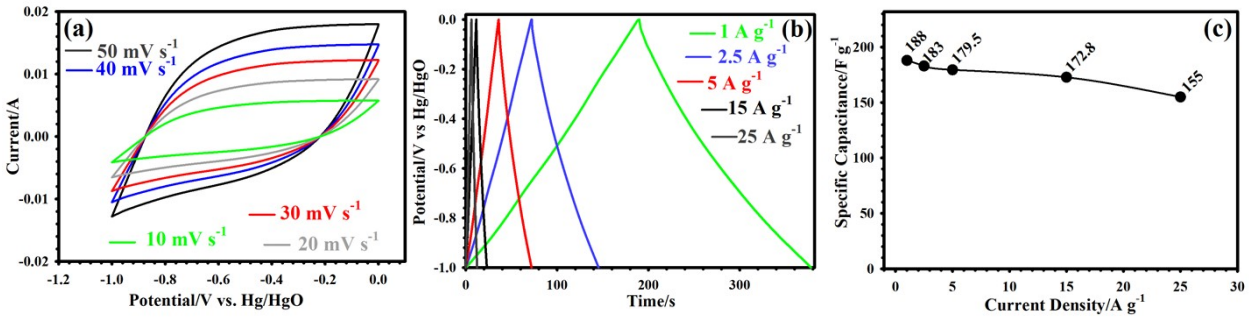

Fig. S11 (a) CV plots of the AC from 10 to 50 mV s^{-1}. (b) GCD plots of the AC from 1 to 25 A g^{-1}. (c) Rate capability of the AC electrode.

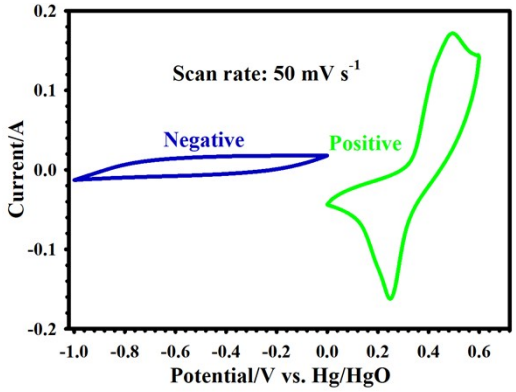

Fig S. 12 CV plots of AC (negative electrode) and NF@MCFS500-rGO (positive electrode) at 50 mV s^{-1}in three-electrode cell.

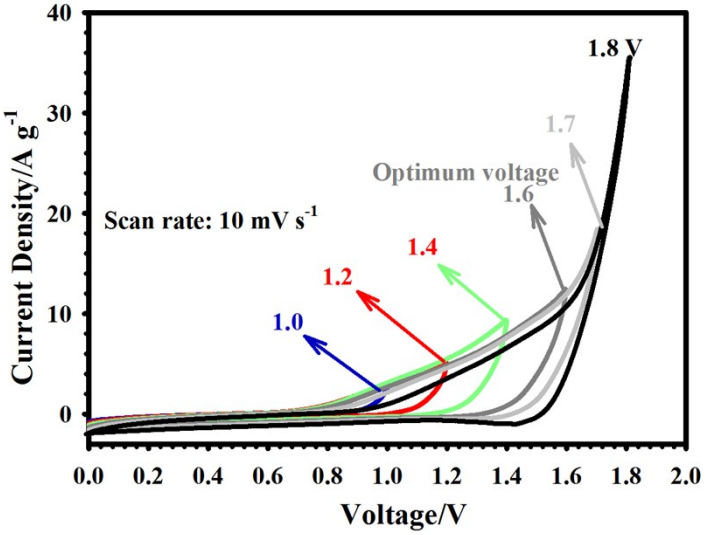

Fig. S13 CV plots of the AC\\NF@MCFS500-rGO at various potential window at 10 mV s^{-1} from 1.0 to 1.8 V.

Table S1. Comparison of the supercapacitive performance of the NF@MCFS500-rGO with other previously reported selenide based-electrodes.

Composition	Capacitance (F/g)	Cycles, retention	Rate capability	ED (Wh kg^{-1})	Reference
NiSe-$Ni_{0.85}Se$	1486.6 at 1 A g^{-1}	5000, 80%	69% at 20 A g^{-1}	41	1
CuSe@MnSe	1270.6 at 1 A g^{-1}	7000, 91.62%	60.3% at 30 A g^{-1}	19.54	2
Sn–$Co(OH)_2$	1441.8 at 1 A g^{-1}	5000, 84.3%	49.5% at 5 A g^{-1}	-	3
NiCoP/$Co(OH)_2$	1604 at 1 A g^{-1}	5000, 91.1%	81.8% at 20 A g^{-1}	38.4	4
$Ni_{0.85}Se$	1354 at 1 A g^{-1}	300, 90%	49.55% at 30 A g^{-1}	40.7	5
$MnCo_2O_4/MnO_2$	1539 at 1 A g^{-1}	10000, 95.5 %	51.2% at 20 A g^{-1}	48.78	6
$CoSe_2$/NC-NF	1236.5 at 1 A g^{-1}	10000, 92%	61.2% at 20 A g^{-1}	40.9	7
Cerium Selenide	451.4 at 1 A g^{-1}	4000, 70.7%	65% at 15 A g^{-1}	36.1	8
$Co_xNi_{1-x}Se$	918.8 at 1 A g^{-1}	4000, 83.9%	47% at 10 A g^{-1}	-	9
3DG/ZnSe–$SnSe_2$	1515.2 at 1 A g^{-1}	3000, 90.1% (3 E)	64.5% at 20 A g^{-1}	25.3	10
$MnCo_2O_4$@MoS_2	512 at 1 A g^{-1}	5000, 99.57% (3 E)		36	11
$NiCo_2S_4$@DCCNF)	1474 at 1 A g^{-1}	5000, 90.2% (3 E)	80% at 20 A g^{-1}	55.6	12
NF@MCFS-rGO	1830 at 1 A g^{-1}	10000, 93.25% (3 E)	78.5% at 25 A g^{-1}	64.6	This work

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