

Supporting Information for

Ultrahigh Energy Density Asymmetric Electrochemical Capacitors Based on Flower-like ZnO/Co₃O₄ Nanobundles and Stereotaxically Constricted Graphene

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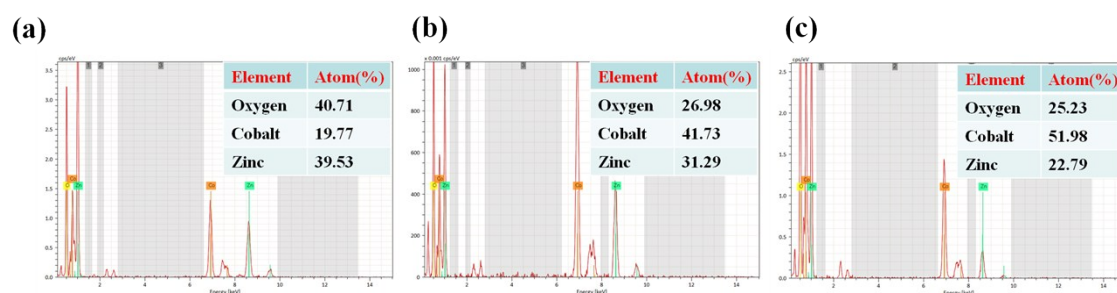


Fig.S1 EDS spectrum of (a) ZnO/Co₃O₄ NBs-1 (b) ZnO/Co₃O₄ NBs-2(c) ZnO/Co₃O₄ NBs-3

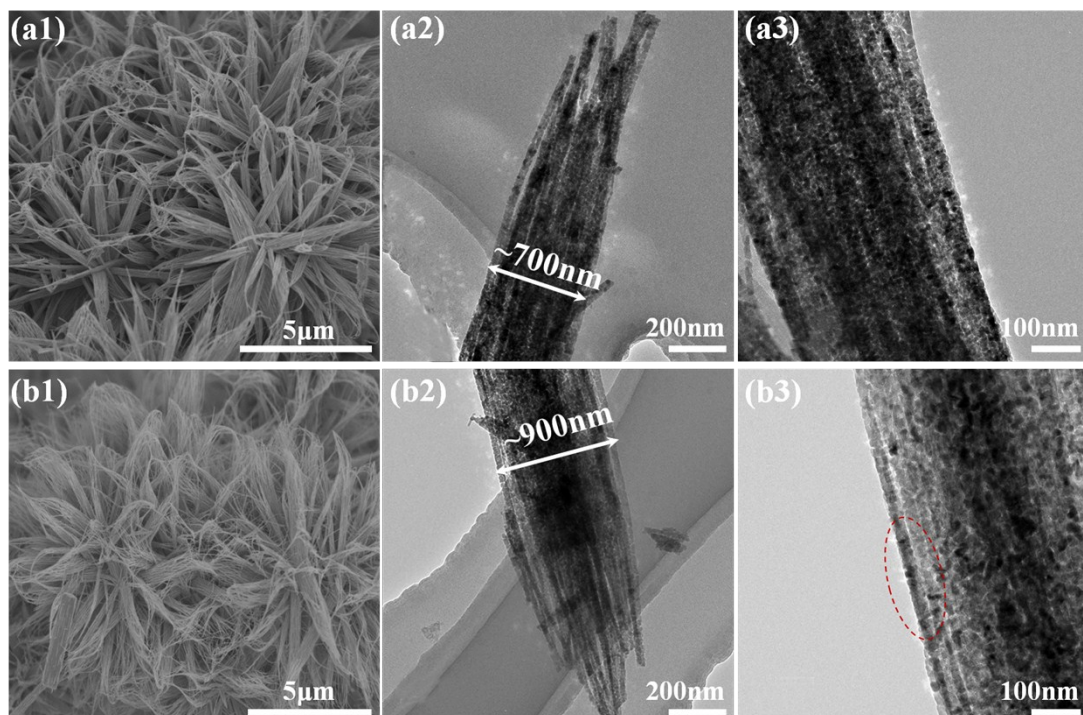


Fig.S2 (a1-a3)SEM and TEM images of ZnO/Co₃O₄ NBs-2 (b1-b3) SEM and TEM images of ZnO/Co₃O₄ NBs-3

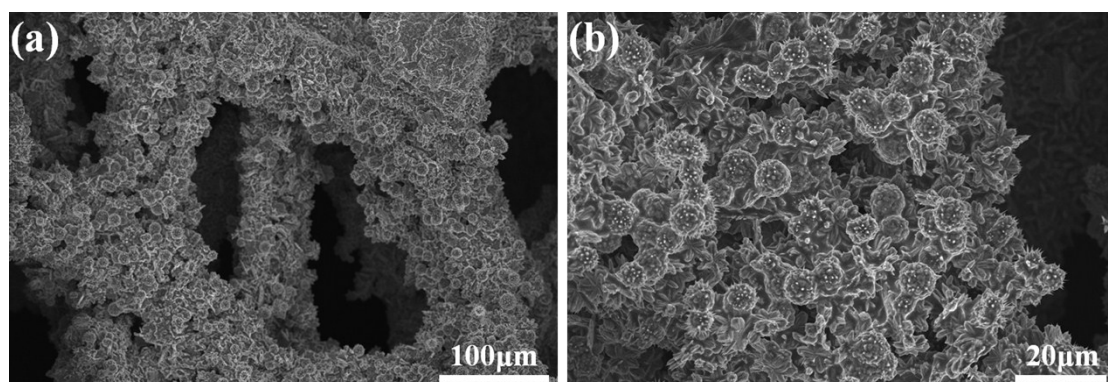


Fig.S3 (a-b) The SEM of Co₃O₄ electrode

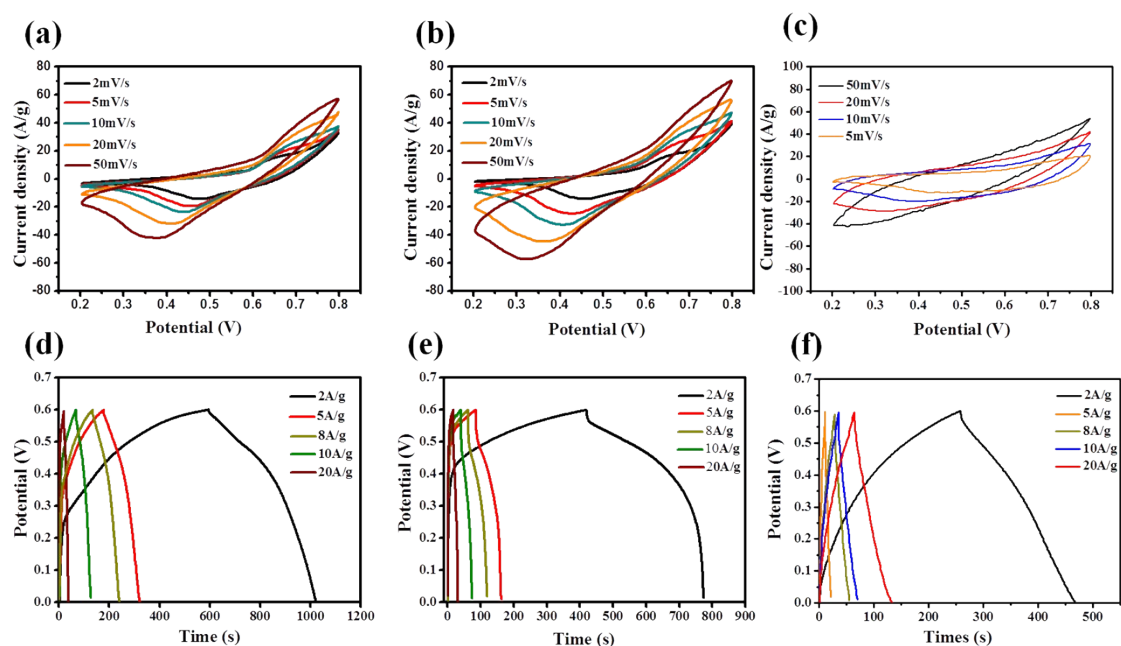


Fig.S4 (a-c) The CV curves of ZnO/Co₃O₄ NBs-2, ZnO/Co₃O₄ NBs-3 and Co₃O₄ electrode at different scan rate. (c-d) The GCD curves of ZnO/Co₃O₄ NBs-2, ZnO/Co₃O₄ NBs-3 and Co₃O₄ electrode at various current density.

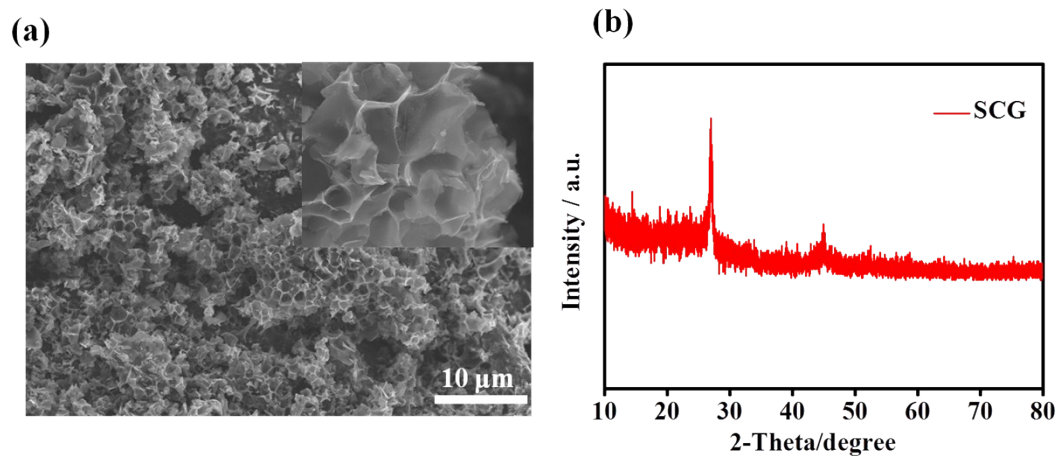


Fig.S5 (a-b)SEM images and XRD pattern of SCG negative.

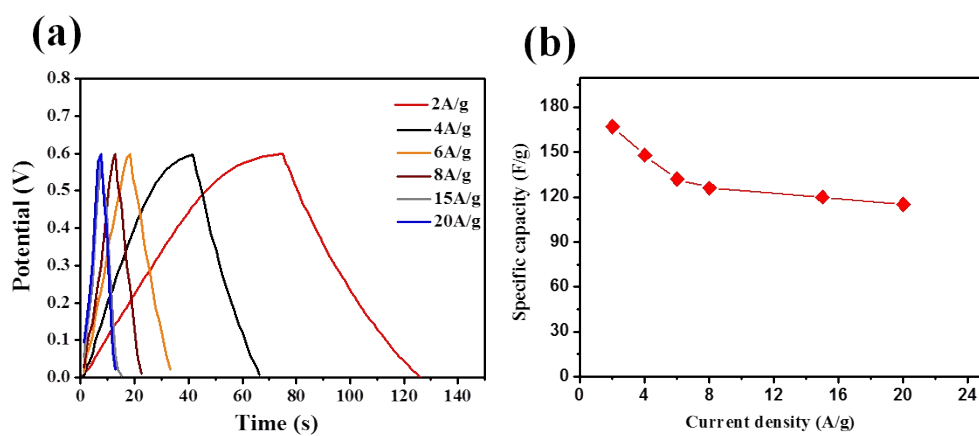


Fig.S6 (a-b)The GCD and specific capacitance of stereotaxically constricted graphene (SCG) as negative electrode

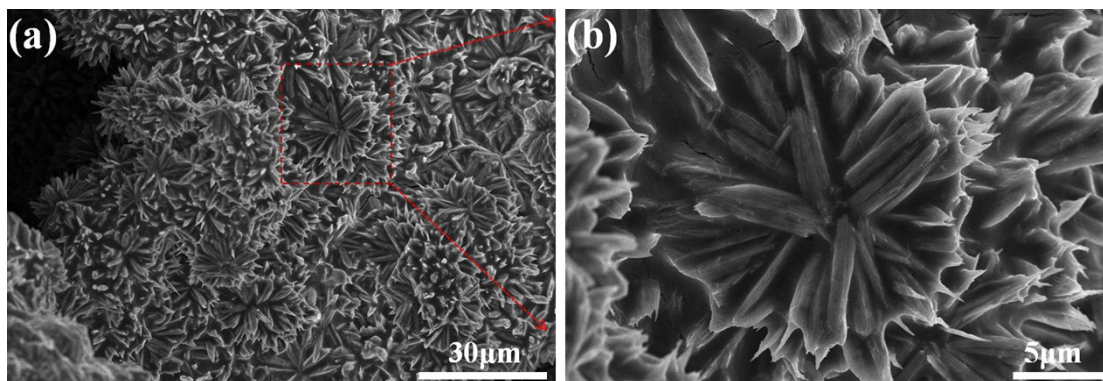


Fig.S7 (a-b) The SEM of ZnO/Co₃O₄ NBs-1 after 5000 cycles

Table.S1 The component content (wt%) of ZnO/Co₃O₄ compositions samples by EDS.

Samples	m _{ZnO} (wt%)	m _{Co₃O₄} (wt%)
ZnO/Co ₃ O ₄ -NAs-1	73.03	26.97
ZnO/Co ₃ O ₄ -NAs-2	51.48	48.52
ZnO/Co ₃ O ₄ -NAs-3	37.32	62.68

Table.S2 The specific capacitance of ZnO/Co₃O₄-NBs-1 electrode compared with Zn-based and Co-based metal oxides for supercapacitors reported in previous literatures.

Electrode materials	Electrolyte	Potential window	Current density	Capacitance	Referenc e
NiO/ZnO hollow spheres	3M KOH	0-0.55V	1.3A/g	497 F/g	1
Porous ZnCo ₂ O ₄ rodlikes	6M KOH	0-0.6V	1 A/g	604 F/g	2
ZnO@MnO ₂ nanofibers	1M Na ₂ SO ₄	0-1V	0.6 A/g	907 F/g	3
ZnO@C@NiO	3M KOH	0-0.65V	1.43 A/g	677C/g	4
Co ₃ O ₄ @NiCo ₂ O ₄	2M KOH	0-0.4V	1 A/g	1450 F/g	5
Co ₃ O ₄ @Au@CuO nanowires	1M Na ₂ SO ₄	0-0.45V	4.8 A/g	1141 F/g	6
Co ₃ O ₄ /Graphene	2M KOH	-0.05-0.45V	1 A/g	978 F/g	7
ZnO/Co ₃ O ₄ nanorod	1M KOH	0-0.55V	1 A/g	1135 F/g	8
ZnO/Co₃O₄ NBs-1	2M KOH	0.2-0.8V	2 A/g	1983 F/g	This work

References

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