

Supporting Information

Mesoporous NiCo₂O₄ nanospheres with high specific surface area as electrode materials for high-performance supercapacitors

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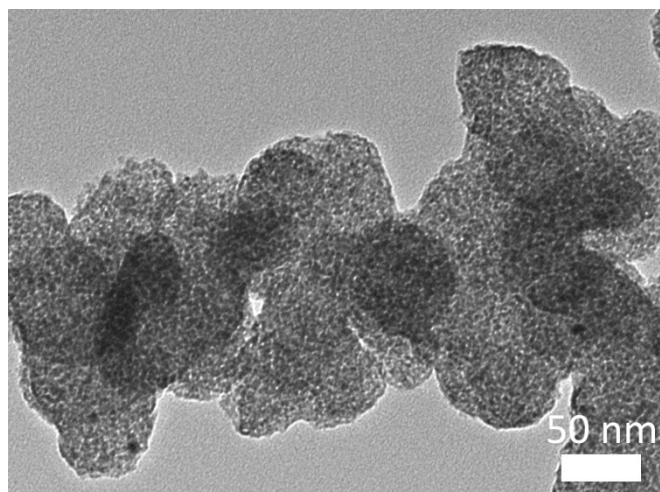


Fig. S1 High resolution TEM images of NiCo₂O₄ nanospheres

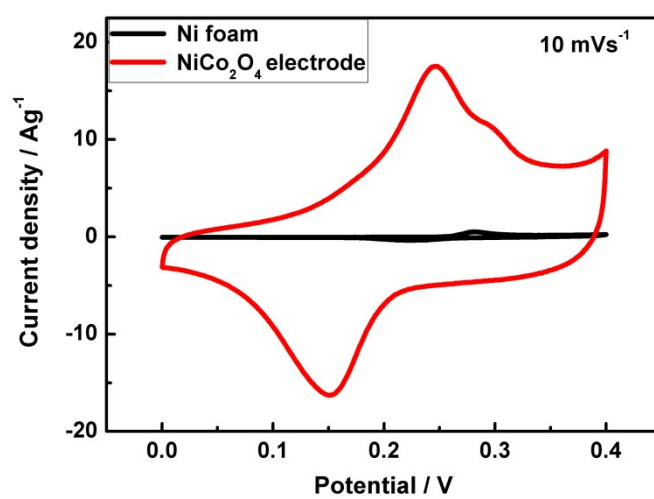


Fig. S2 CV curves of NiCo₂O₄ electrode and Ni foam substrate at 10mVs⁻¹

Table S1 Comparison of the electrochemical performances of the as-prepared AC//NiCo₂O₄ ASC with previously reported NiCo₂O₄-based ASCs

| Sample | Energy density (maximum) | Power density | Ref. |
|--|----------------------------------|--------------------------------|------------------|
| RGO// NiCo ₂ O ₄ | 23.9 W h kg ⁻¹ | 650 W kg ⁻¹ | 13 |
| AC//C/CoNi ₃ O ₄ | 29.1 W h kg ⁻¹ | 130.4 W kg ⁻¹ | 20 |
| AC//CQDs/NiCo ₂ O ₄ | 27.8 W h kg ⁻¹ | 128 W kg ⁻¹ | 47 |
| AC//CNT@NiCo ₂ O ₄ | 19.7 W h kg ⁻¹ | 62.5 W kg ⁻¹ | 49 |
| AC// NiCo ₂ O ₄ | 27.2 W h kg ⁻¹ | 102 W kg ⁻¹ | 50 |
| AC// Ni-Co oxide | 12 W h kg ⁻¹ | 95 W kg ⁻¹ | 1 |
| RuO ₂ //RuO ₂ | 18.77 Wh kg ⁻¹ | 500 W kg ⁻¹ | 2 |
| Fe ₂ O ₃ /FGS//MnO ₂ /FGS | 50.7 Wh kg ⁻¹ | 100 W kg ⁻¹ | 3 |
| AC// NiCo₂O₄ | 29.76 W h kg⁻¹ | 159.4 W kg⁻¹ | This work |

Reference

1. C. H. Tang, Z. Tang and H. Gong, *J. Electrochem. Soc.*, 2012, **159**, A651-A656.
2. H. Xia, Y. S. Meng, G. L. Yuan, C. Cui, L. Lu, *Electrochem. Solid-State Lett.*, 2012, **15**, A60-A63.
3. H. Xia, C. Y. Hong, Bo Li , B. Zhao, Z. X. Lin , M. B. Zheng, S. V. Savilov, S. M.. Aldoshin, *Adv. Funct. Mater.* 2015, **25**, 627–635.