Supporting Information

Preparation of York-Shell Urchin-Like Porous Co_3O_4/NiO@C Microspheres with Excellent Lithium Storage Performance

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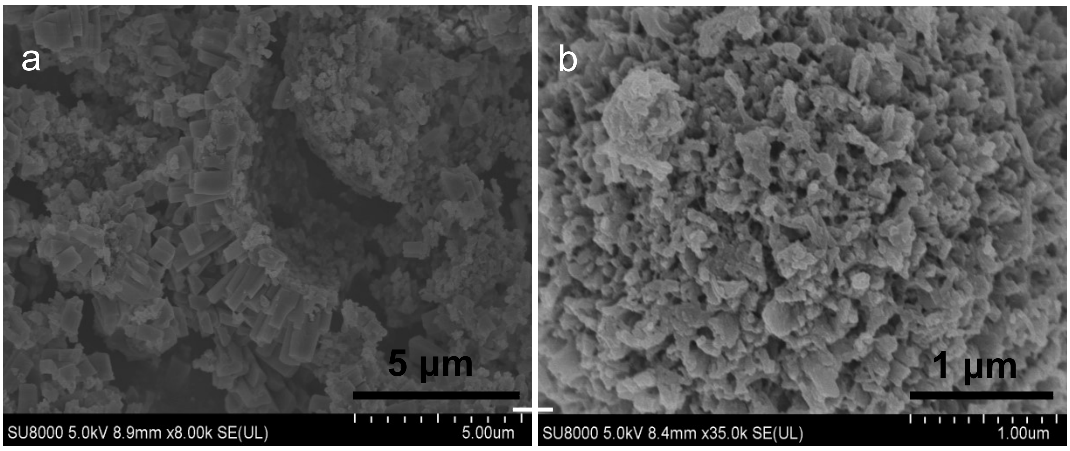

Fig.S1 SEM images of (a) YSUCNO@C, and (b) CNO microspheres

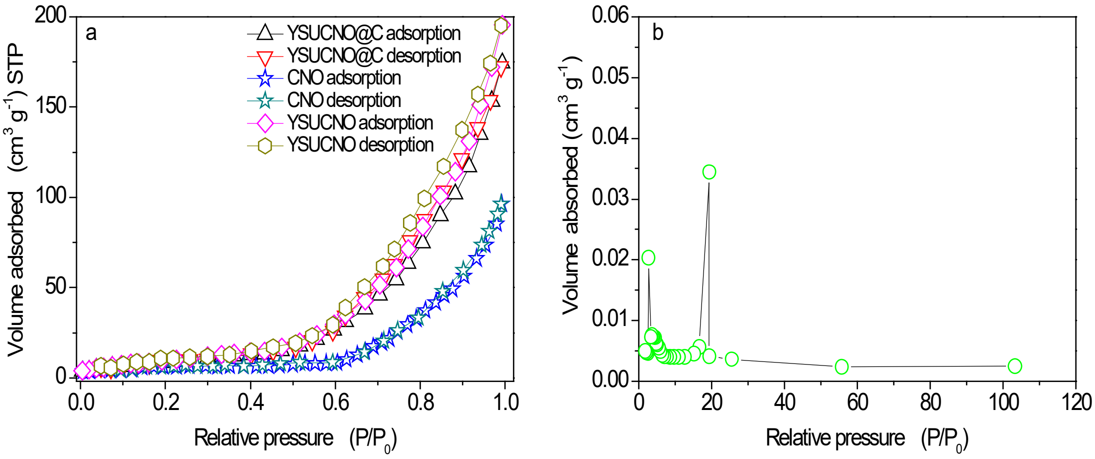

Fig.S2 (a) Nitrogen adsorption/desorption curves of YSUCNO@C, YSUCNO, and CNO microspheres, (b) pore size distribution of YSUCNO@C microspheres

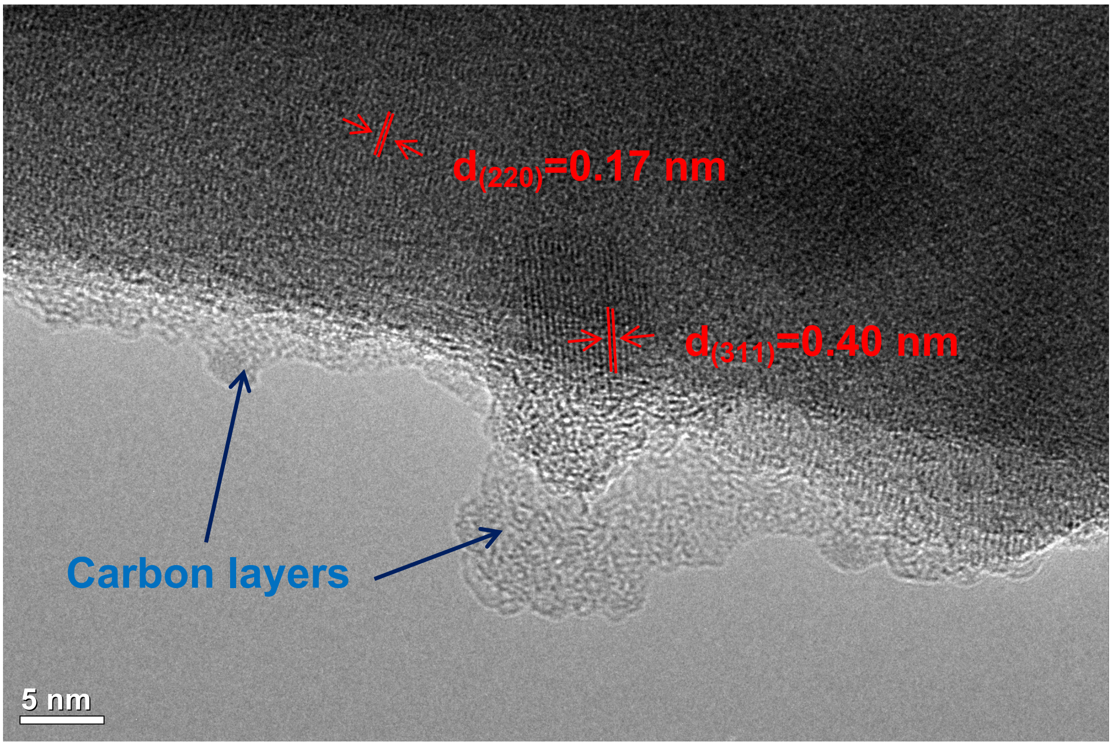

Fig.S3 HRTEM image of YSUCNO@C microspheres

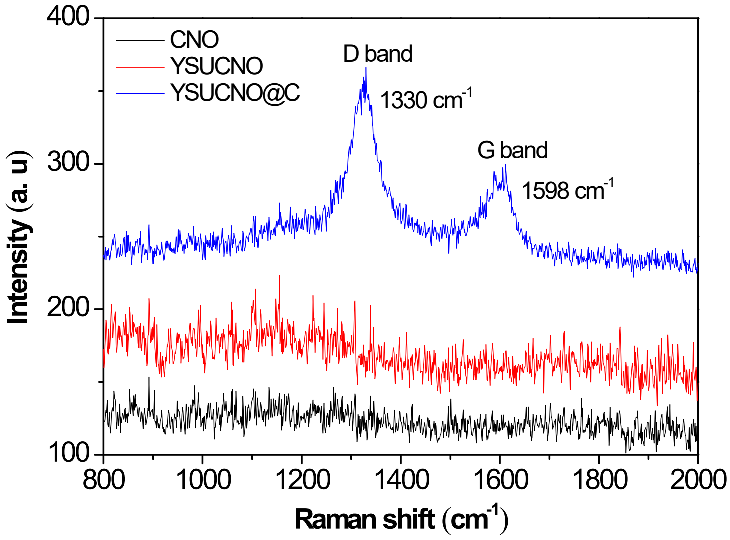

Fig.S4 Raman curves of YSUCNO, YSUCNO@C, CNO microspheres

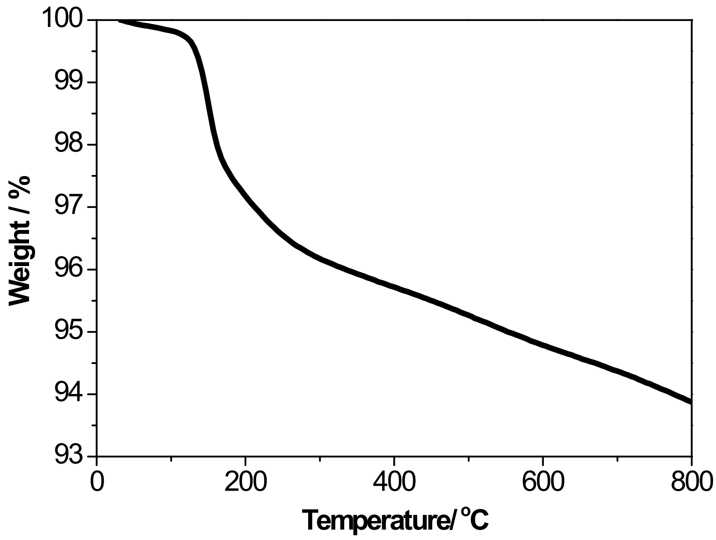

Fig.S5 Thermogravimetry curve of YSUCNO@C microspheres

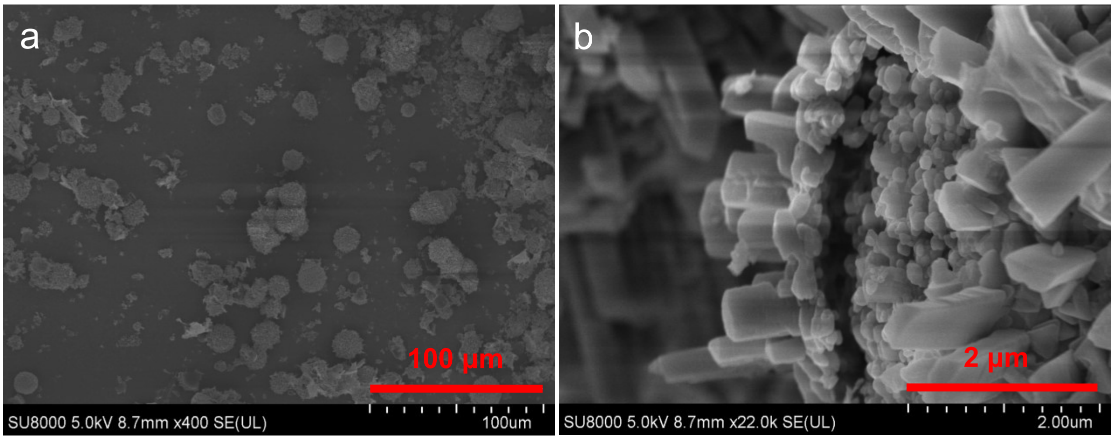

Fig.S6 (a) Low magnification, (b) high magnification SEM images of YSUCNO@C microspheres after 1000 cycles at 5 C

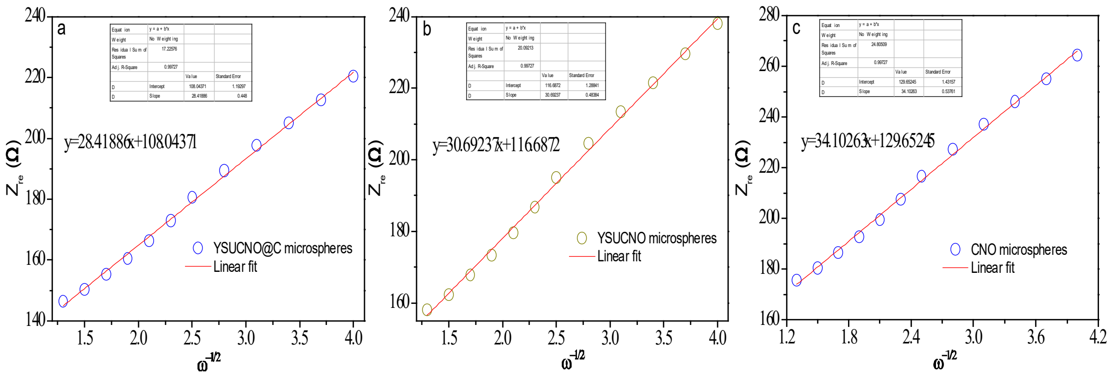

Fig.S7 σ values of YSUCNO, YSUCNO@C, and CNO microspheres

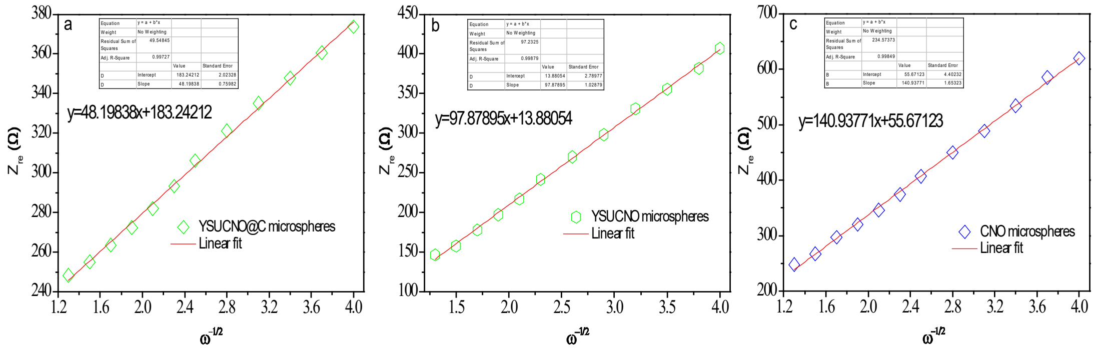

Fig.S8 σ values of YSUCNO, YSUCNO@C, and CNO microspheres after 100 cycles

Table S1 The rate capability comparison of the reported cobalt nickel oxide materials and YSUCNO@C microspheres

Materials	Specific capacity (mA h g^{-1})	Current density (mA g^{-1})	Reference
Co_3O_4/NiO/C	421	4000	30
Co_3O_4/NiO/NC	493	5000	37
CoO/NiO/CoNi	267	2000	38
YSUCNO@C	**656**	**8040**	**This work**

Table S2 The TMO-based cell performance comparison between YSUCNO@C microspheres and other reported work at high rate~~.~~[~~40~~1-~~45~~6]

Materials	Specific capacity ($mA\ h\ g^{-1}$)	Current density ($mA\ g^{-1}$)	Reference
TiO_2@C@MnO_2	186	6700	~~40~~1
3DG/Fe_2O_3 aerogel	534.2	5000	~~41~~2
CSHCo_3O_4@C microspheres	332.6	8900	~~42~~3
CoO nanoflakes	494	5000	~~43~~4
MnO-doped Fe_3O_4@C	430	800	~~44~~5
CoO@N-C nanocubes	309	1000	~~45~~6
YSUCNO@C	**656**	**8040**	**This work**

References

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