Electronic Supplementary Material (ESI) for New Journal of Chemistry.

Supporting Information:

Morphological evolution of hollow $NiCo_2O_4$ microsphere and its high pseudocapacitance contribution for Li/Na-ion batteries Anode

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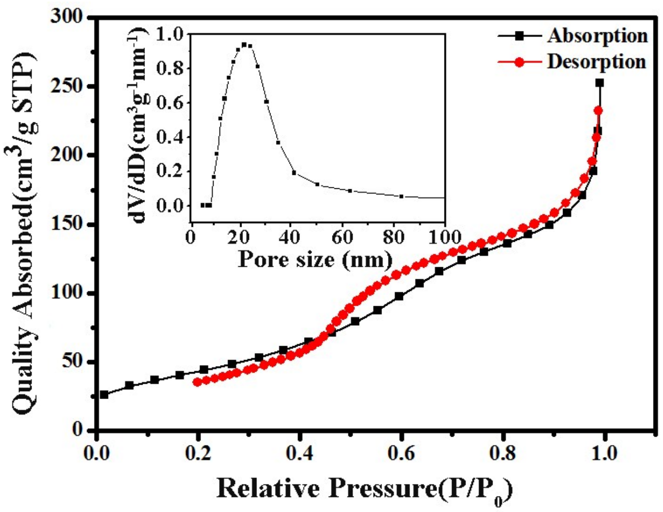

Fig.S1 N_2 adsorption–desorption isotherm and pore size distribution curve of hollow $NiCo_2O_4$ microspheres.

Table S1 Comparison of electrochemical Li-storage performance of our sample with some reported cobalt-based anodes for LIBs.

Ref.	**Materials**	**Current density/mA g^{-1}**	**Cycles**	**Initial capacity/mAh g^{-1}**	**Last capacity/ mAh g^{-1}**
[1]	$rGO/NiCo_2O_4$	100	70	985	816
[2]	$C/NiCo_2O_4@SnO_2$	100	100	1083	654
[3]	$NiCo_2O_4$ flows	100	60	1146	939
[4]	$NiCo_2O_4$ sheets	100	50	891	767
[5]	$NiCo_2O_4$ flakes	80	100	1056	981
[6]	$NiCo_2O_4@C$	40	50	914.2	715.8
[7]	Plum-like $NiCo_2O_4$	100	50	855	820
[8]	$NiCo_2O_4$ nanosheets	200	100	1029.3	804.8
This work	**hollow urchin-like $NiCo_2O_4$**	**100**	**50**	**1004.7**	**991**

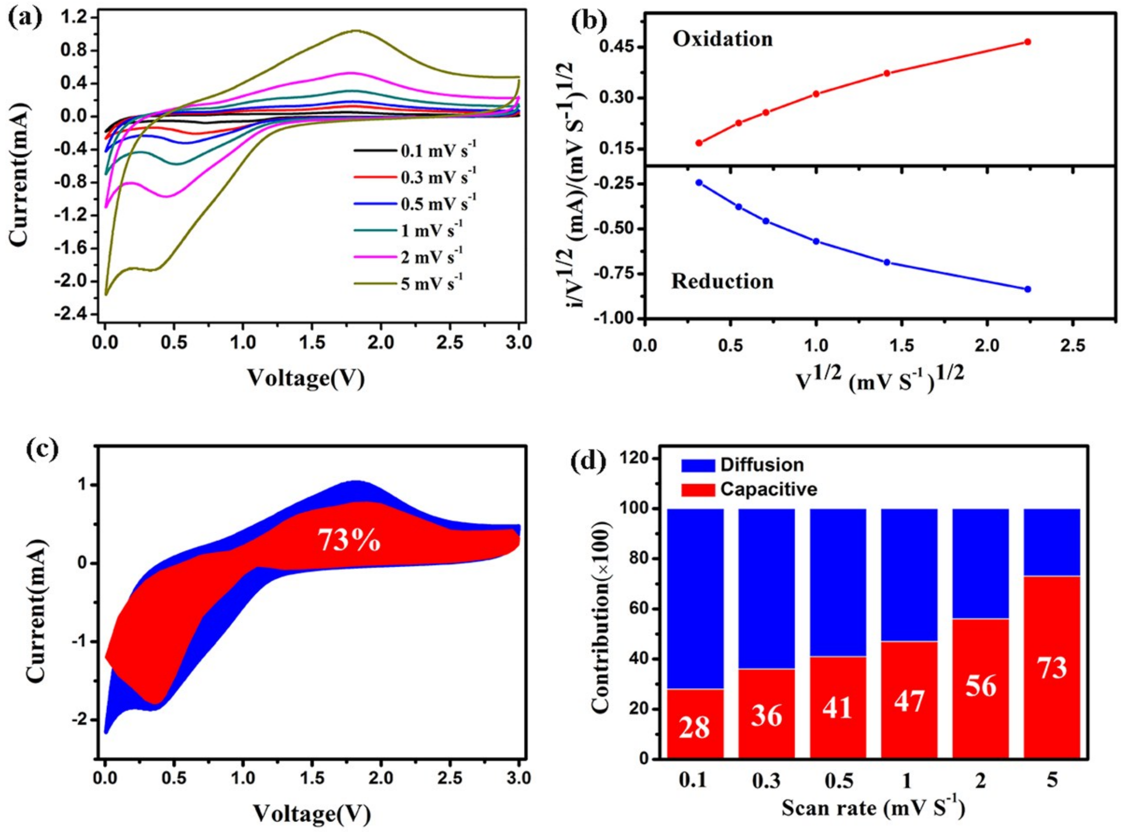

Fig.2 (a) CV curves at different sweep rates. (b) $i/v^{1/2}$ vs $v^{1/2}$ relationship (c) Capacitive (red) and diffusion-controlled (blue) contribution to charge storage at 0.3 mV s^{-1}. (d) Capacitive contribution of hollow $NiCo_2O_4$ microsphere at different scan rates as anode for SIBs.

Table S2 Comparison of electrochemical Na-storage performance of our sample with some reported cobalt-based anodes for SIBs.

Ref.	Materials	Current density/mA g^{-1}	Cycles	Capacity retention/mAh g^{-1}
[9]	$NiCo_2O_4$@nanosheets	100	50	207
		200	50	203
[10]	$NiCo_2O_4$@nanoneedle array	100	50	215
[11]	$NiCo_2O_4$@CFC nanowire	50	50	542
		400	20	363
This work	**hollow urchin-like $NiCo_2O_4$**	**100**	**50**	**322.3**

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