Supporting Information

A novel gelatin-guided mesoporous bowknot-like Co_3O_4 anode material for high-performance lithium-ion batteries

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1. Additional figures

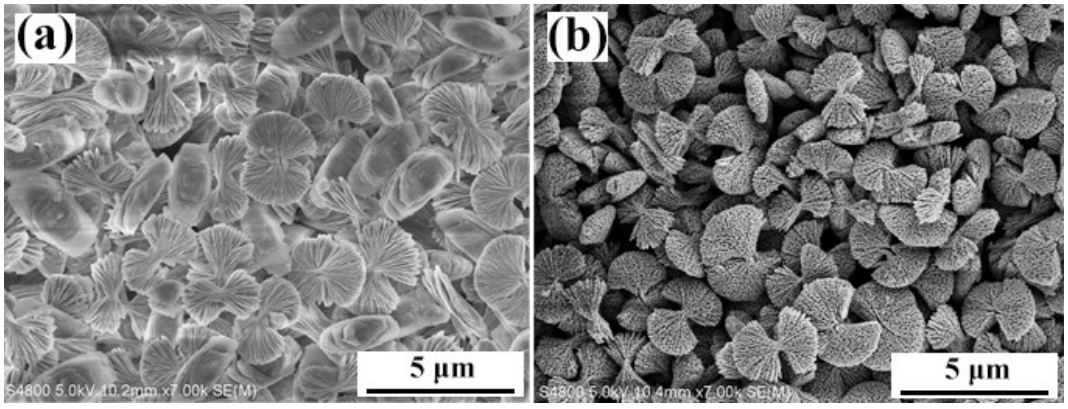

Fig. S1 SEM images of (a) precursor (b) Co_3O_4 at low magnification.

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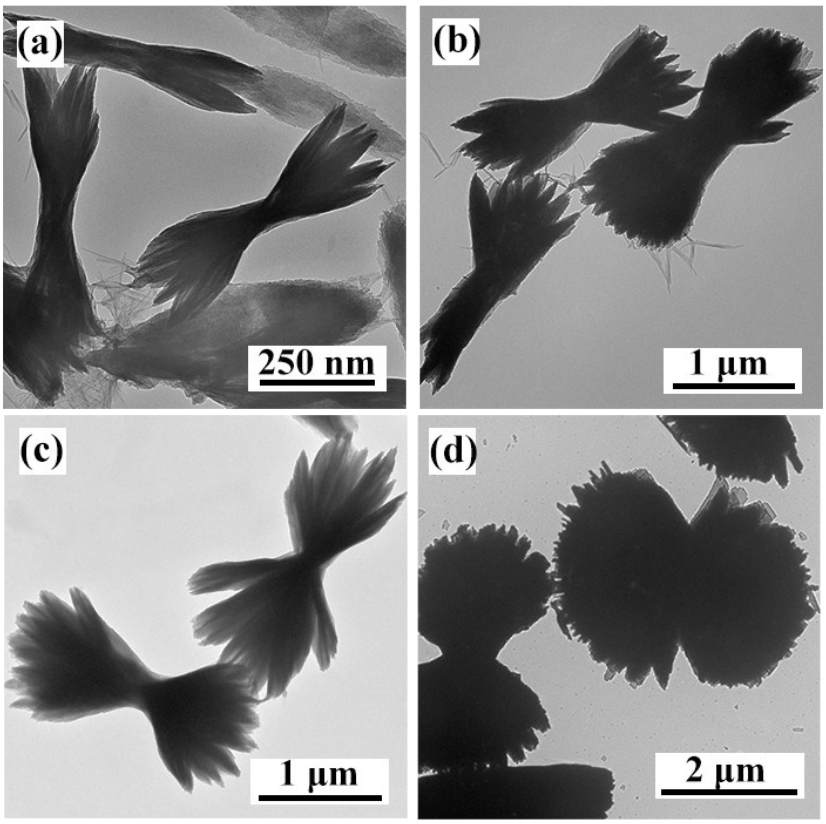

Fig. S2 TEM images of precursor in different hydrothermal reaction time. (a) 5 h, (b) 10 h, (c) 15 h , and (d) 21h.

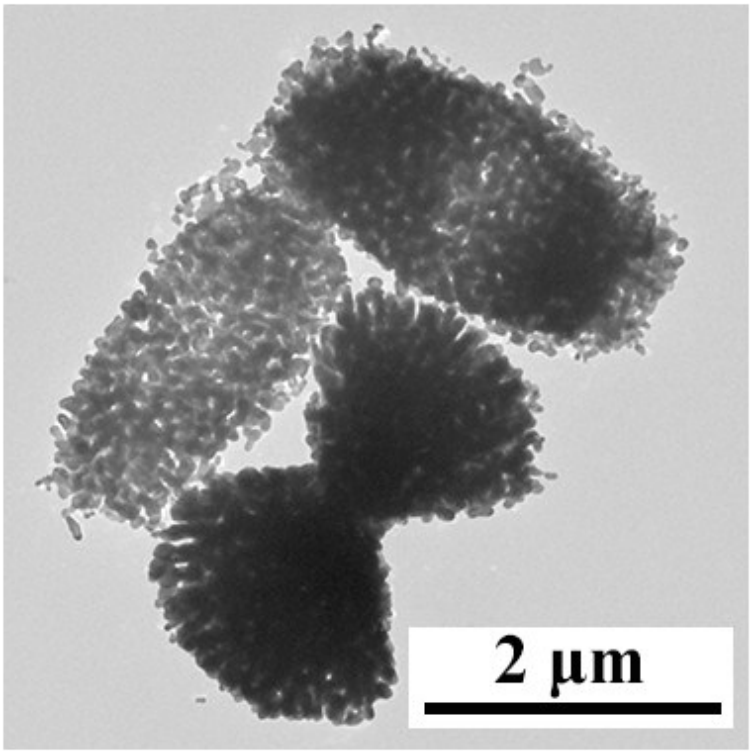

Fig. S3 TEM image of Co_3O_4 at low magnification.

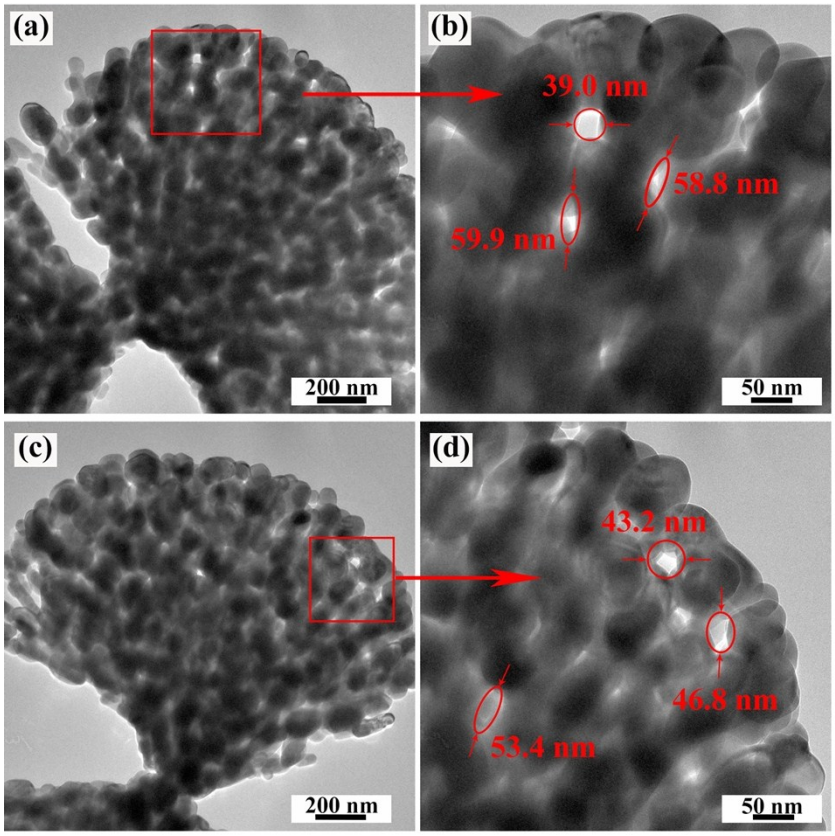

Fig. S4 TEM images of Co_3O_4 at different magnification.

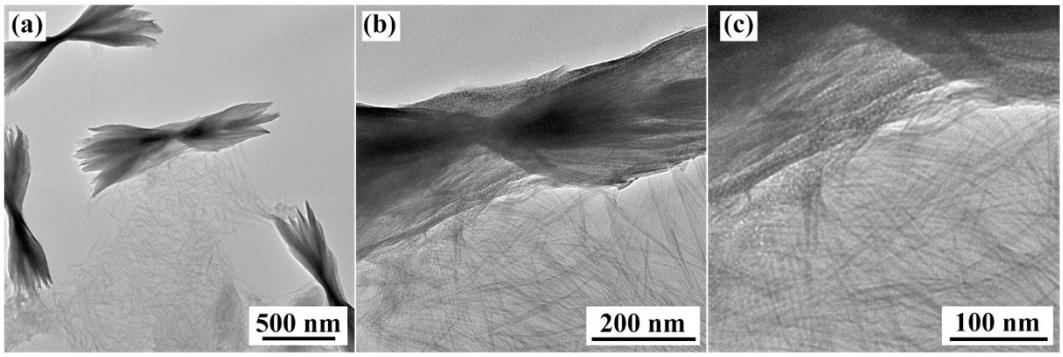

Fig. S5 TEM image of fibers coating on precursor after 5 h hydrothermal reaction at different magnification.

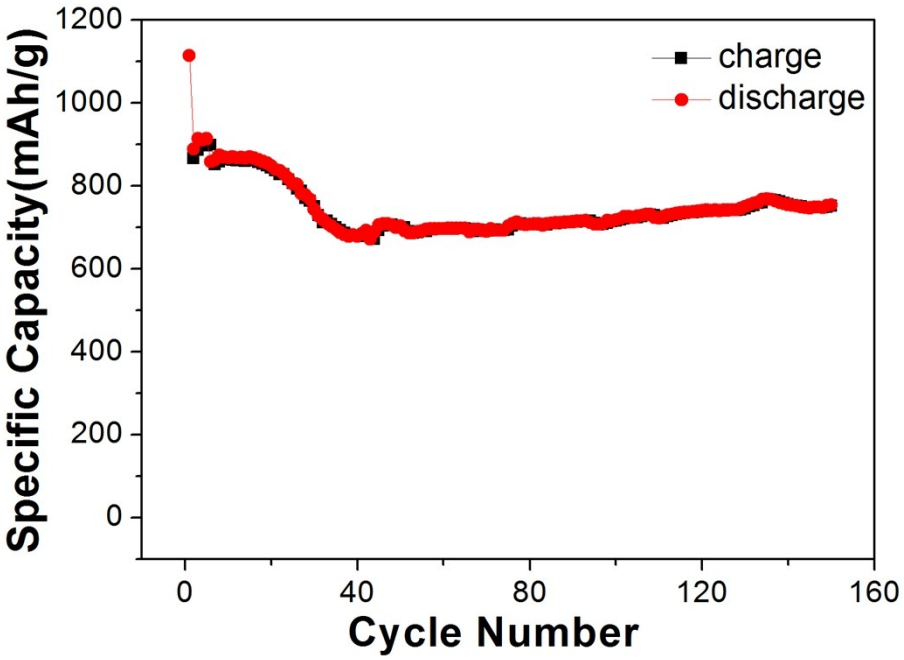

Fig. S6 The cycling performance of bowknot-like Co_3O_4 at 2 C.

2. Additional table

Table S1 Comparison of electrochemical performance of Co_3O_4 as anode material for the LIBs

Materials	First discharge capacity	Initial coulombic efficiency	Cycle performance	Rate performance	Ref.
Star-like Co_3O_4	1324 mAh/g (0.05 A/g)	78%	1200 mAh/g (0.05 A/g, 100th)	976 mAh/g (2 A/g, 10th)	6
Snowflake-shaped Co_3O_4	1240 mAh/g (0.5 A/g)	77%	1044 mAh/g (0.5 A/g, 100th)	1117 mAh/g (2 A/g, 10th)	21
Porous Co_3O_4 nanocage	1557 mAh/g (0.3 A/g)	~	1465 mAh/g (0.3 A/g, 50th)	~940 mAh/g (3 A/g, 5th)	22
Co_3O_4 hexagonal nanoring	1324 mAh/g (0.1 A/g)	78%	1370 mAh/g (0.1 A/g, 30th)	~1300 mAh/g (1 A/g, 5th)	23
Porous Co_3O_4 nanosheets	1354 mAh/g (0.1 A/g)	73%	1380 mAh/g (0.5 A/g, 240th)	977 mAh/g (2 A/g, 5th)	26
Co_3O_4 microframes	1446 mAh/g (0.1 A/g)	72%	1296 mAh/g (0.5 A/g, 200th)	757 mAh/g (5 A/g, 4000th)	27
CNT/Co_3O_4 microtubes	1840 mAh/g (0.1 A/g)	70%	782 mAh/g (1 A/g, 200th)	577 mAh/g (4 A/g, 200th)	29
Layer-by-layer Co_3O_4/graphene	~	~	851 mAh/g (2 A/g, 2000th)	509.3 mA/g (5 A/g, 10th)	30
Fusiform Co_3O_4	1347 mAh/g (0.1 A/g)	73%	~1000 mAh/g (0.1 A/g, 70th)	844 mAh/g (2 A/g, 70th)	46
C-doped Co_3O_4 hollow nanofiber	1385 mAh/g (0.2 A/g)	70%	1121 mAh/g (0.2 A/g, 100th)	~780 mAh/g (2 A/g, 10th)	57
Porous Co_3O_4 parallelepipeds	1608 mAh/g (0.1 A/g)	67%	1100 mAh/g (0.1 A/g, 50th)	738 mAh/g (1 A/g, 10th)	59
Bowknot-like Co_3O_4	1841 mAh/g (0.178 A/g)	78%	1388.8 mAh/g (0.178 A/g, 100th)	751.3 mAh/g (1.78 A/g, 150th)	This work