Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information:

Glucose-assisted hydrothermal synthesis of few-layer reduced graphene oxide wrapped mesoporous TiO_2 submicrospheres with enhanced electrochemical performance for lithium-ion batteries

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Table S1 Zeta potentials of the amorphous TiO_2 submicrospheres and grapheme oxide in aqueous solutions under the specified conditions

	GO solution	TiO_2 solution (pH=2)	TiO_2 solution (pH=6.5)
Zeta-potential (mV)	-32.50	14.37	0.004

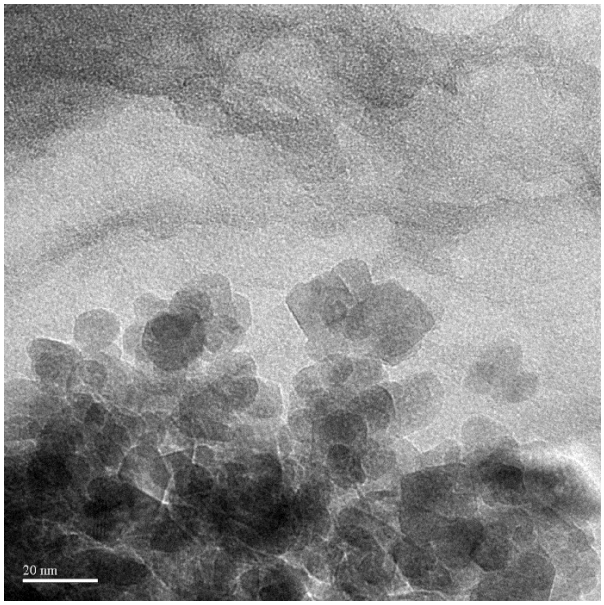

Fig. S1 TEM images of m-TiO_2@FL-RGO composite synthesized in the absence of glucose.

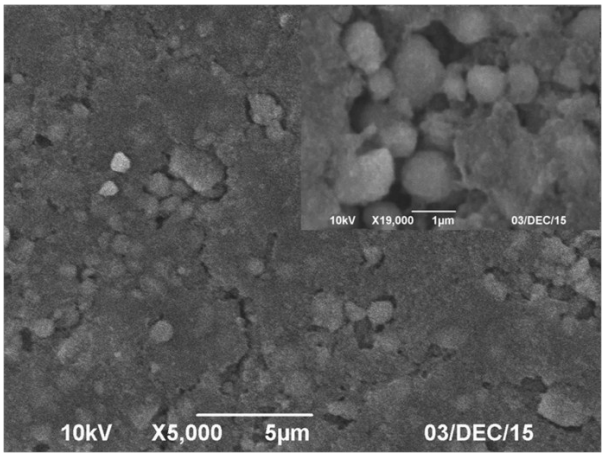

Figure S2 SEM image of the m-TiO_2@RGO electrode at 0.6C after 100 cycles

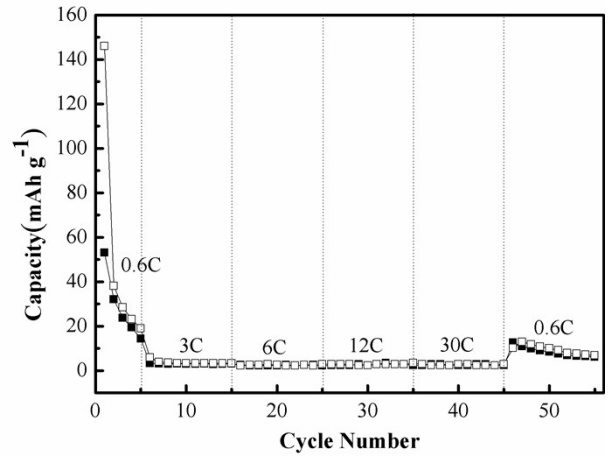

Figure S3 Rate performance of RGO at various current densities between 0.6C and 30C (1C = 168 mA g^{-1})

Table S2 The representative TiO_2/graphene composites for LIBs anode materials

Strategies	Materials	Rate Performance*	Ref.
Wrapped Model	m-TiO_2@FL-RGO	202.5 mAh g^{-1} (100 cycles) at 0.6C 159.3 mAh g^{-1} (100 cycles) at 6C 113.5 mAh g^{-1} (10 cycles) at 30C	Our work
	TiO_2/RGO	150 mAh g^{-1} (100 cycles) at 5C	1
	G-TiO_2	170 mAh g^{-1} (100 cycles) at 10C	2
	MTO-G	197 mAh g^{-1} (100 cycles) at 0.5C	3
	UTO/NGF	168 mAh g^{-1} (50 cycles) at 1C	4
	TiO_2(B)-G scrolls	~ 153 mAh g^{-1} (300 cycles) at 10C	5
	GS-TiO_2	150 mAh g^{-1} (100 cycles) at 1C	6
	SA-TiO_2@graphene	205.1 mAh g^{-1} (100 cycles) at 0.5C	7
Anchored model	TiO_2/GAs	200 mAh g^{-1} (50 cycles) at 0.59C	8
	G@mTiO_2	237 mAh g^{-1} (100 cycles) at 0.12C	9
	TiO_2-GNS	197 mAh g^{-1} after (50 cycles) at 0.3C	10
	TiO_2-RGO	210 mAh g^{-1} (100 cycles) at 0.6C	11
	TiO_2-G	160 mAh g^{-1} (100 cycles) at 0.36C	12
	TO/GS	150 mAh g^{-1} (100 cycles) at 10C	13
	NPG-T	155 mAh g^{-1} (100 cycles) at 36C	14
	G-TiO_2	200 mAh g^{-1} (30 cycles) at 0.2C	15
	TiO_2-QDs/GNs	~ 190 mAh g^{-1} (100 cycles) at 1 C	16
	G-TiO_2-N	288.6 mAh g^{-1} (1000 cycles) at 30C	17
	TiO_2/graphene	140.3 mAh g^{-1} (100 cycles) at 30C	18
	TiO_2-RGO	112.3mAh g^{-1} (100 cycles) at 10C	19
	TiO_2@rGO	186.6mAh g^{-1} (100 cycles) at 0.6C	20

*1C = 168 mA g^{-1}

Reference

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Table S3 The relative graphene compositions of graphene-wrapped m-TiO_2 samples. The carbon contents were measured by a CHNS elemental analyzer.

Sample	The adding amounts of GO ($mg\ mL^{-1}$)	C contents (wt. %)
2.2 wt.% graphene-wrapped m-TiO_2	2.5	2.21
4.8 wt.% graphene-wrapped m-TiO_2	5	4.77
8.4 wt.% graphene-wrapped m-TiO_2	10	8.43

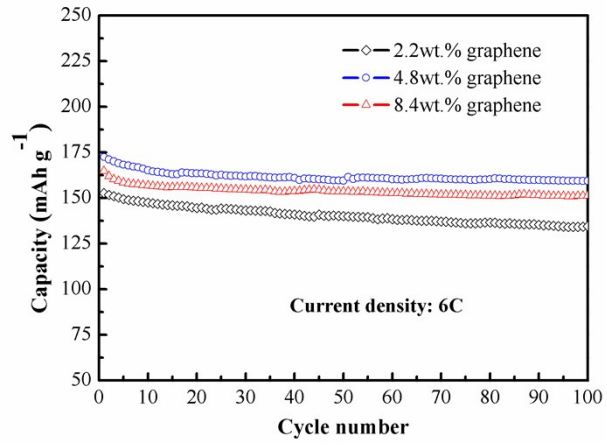

Fig. S4 Cycling performance of m-TiO_2@RGO samples with different RGO contents at a current density of 6C.