Electronic Supplementary Material (ESI) for RSC Advances

Supporting information for

Direct synthesis of carbon-coated $Li_4Ti_5O_{12}$ mesoporous nanoparticles for high-rate lithium-ion batteries

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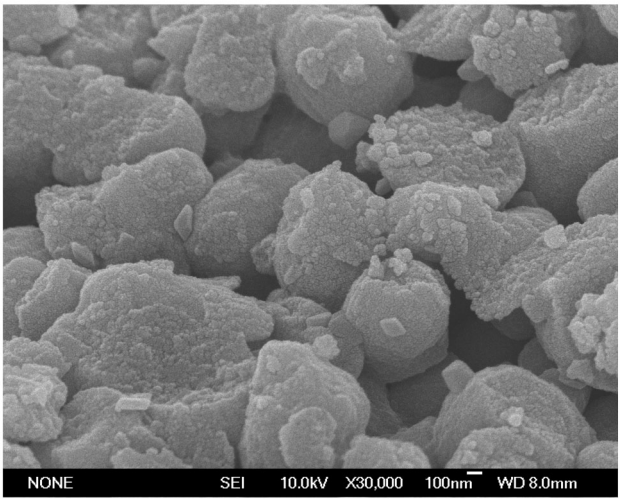

Figure S1 Typical SEM image for LTO-0

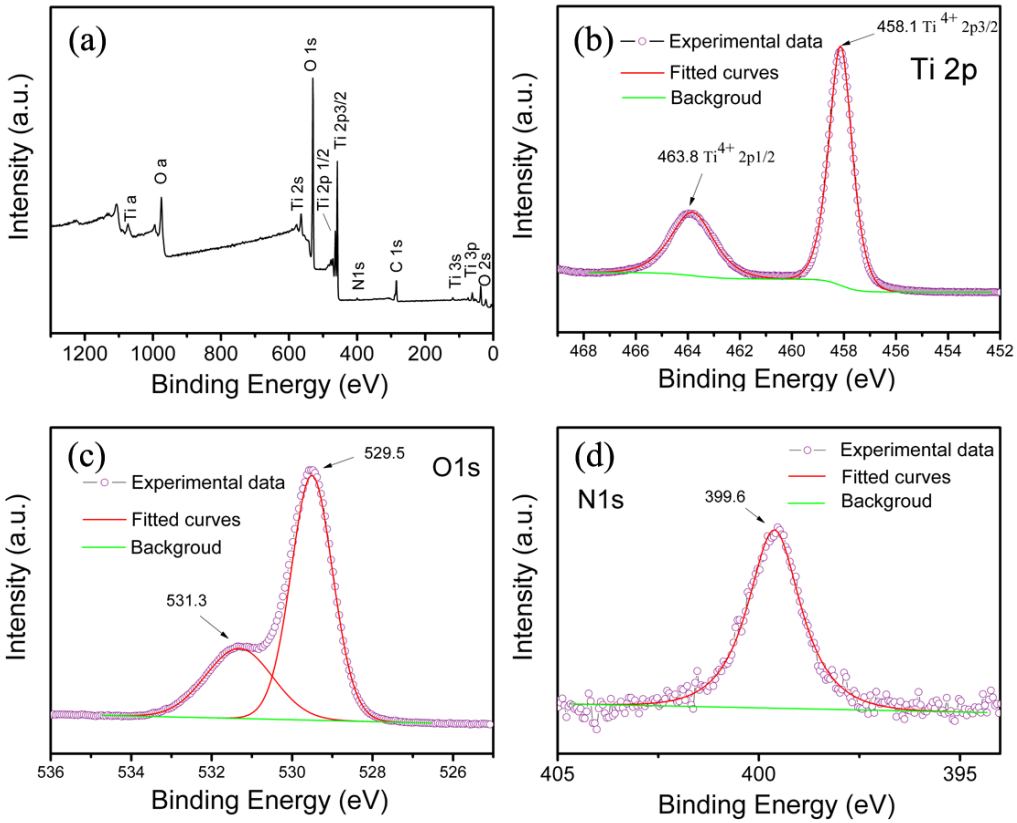

Figure S2 XPS spectra of LTO-0..05: (a) Fully scanned spectra, (b) Ti2p, (c) O1s, and (d) N1s

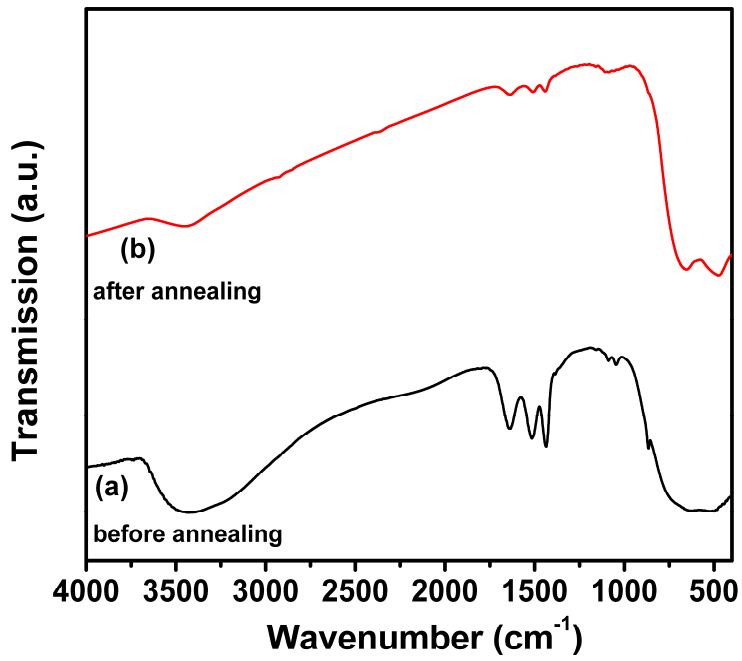

Figure S3 FTIR spectra of the samples prepared at different conditions

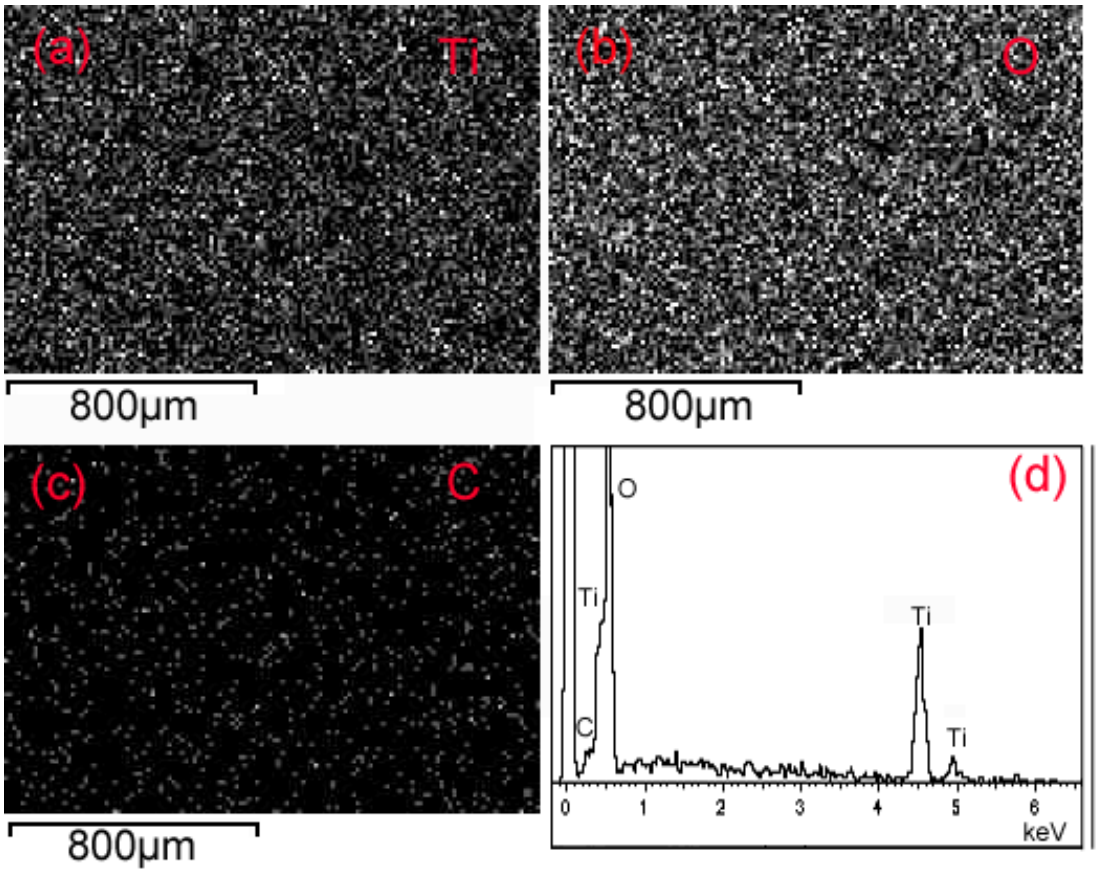

Figure S4 X-ray mapping of Ti(a), O(b), and C (c), and EDS spectrum (d) of LTO-0.05

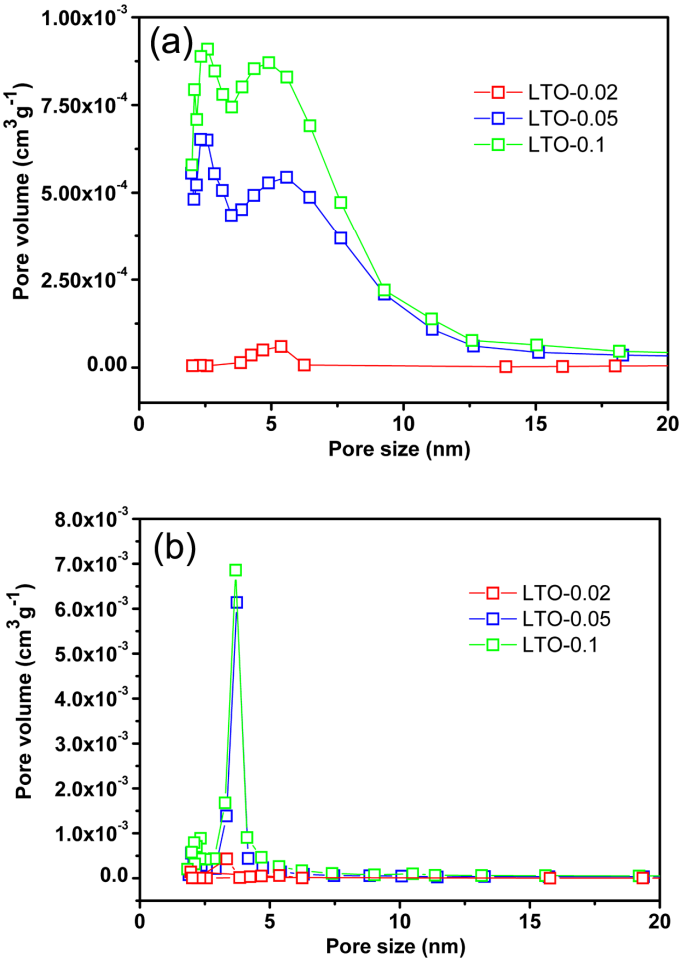

Figure S5 (a) BJH adsorption and (b) desorption size distribution curves of the samples.

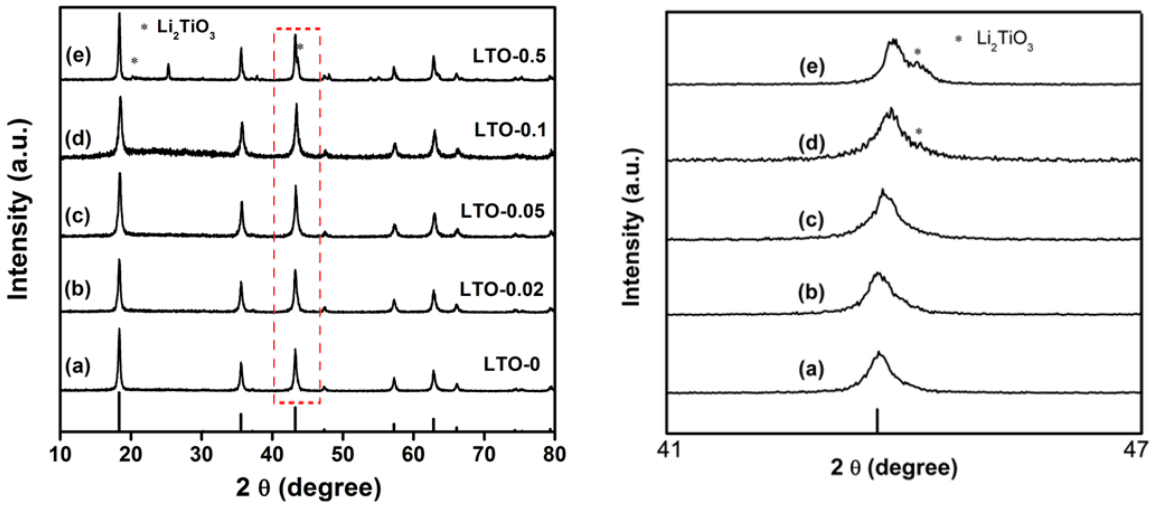

Figure S6 XRD patterns of the obtained samples with different amounts of glycine.

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Table S1 grain sizes, carbon contents and surface areas of the obtained samples.

glycine (g)	grain size (nm)	carbon content (%)	surface area (m^2 g^{-1})
0	26.0	0	
0.02	23.4	0.98	8.4
0.05	20.0	1.01	37.3
0.1	18.2	1.76	47.3

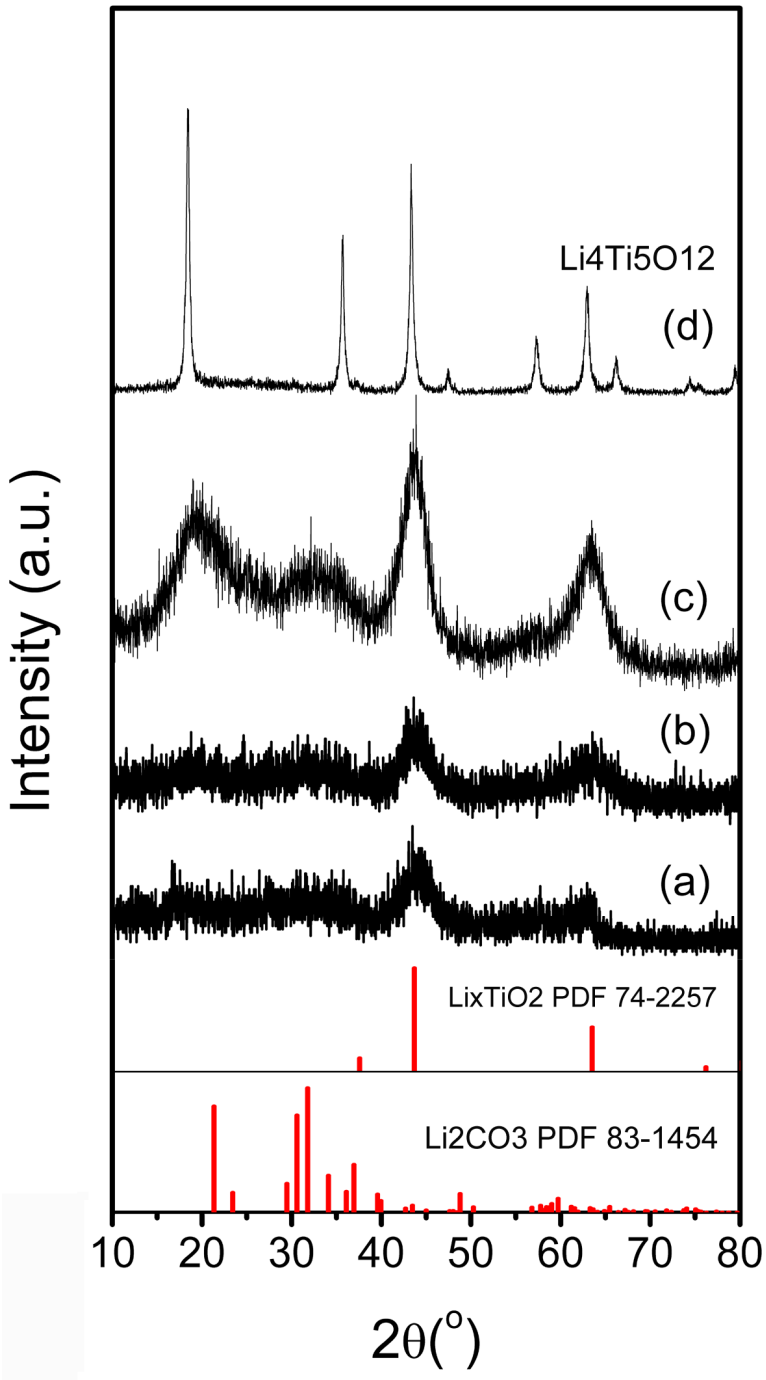

Figure S7 XRD patterns of the samples prepared at different conditions: (a) 200 ^{o}C for 1 h, (b) 200 ^{o}C for 10 h, (c) 200 ^{o}C for 20 h, and (d) after annealing