Electronic Supplementary Material (ESI) for Sustainable Energy & Fuels.

Supporting Information

Structure and Primary Particle Double-tuning by Trace Nano-TiO_2 for High-performance $LiNiO_2$ Cathode Material

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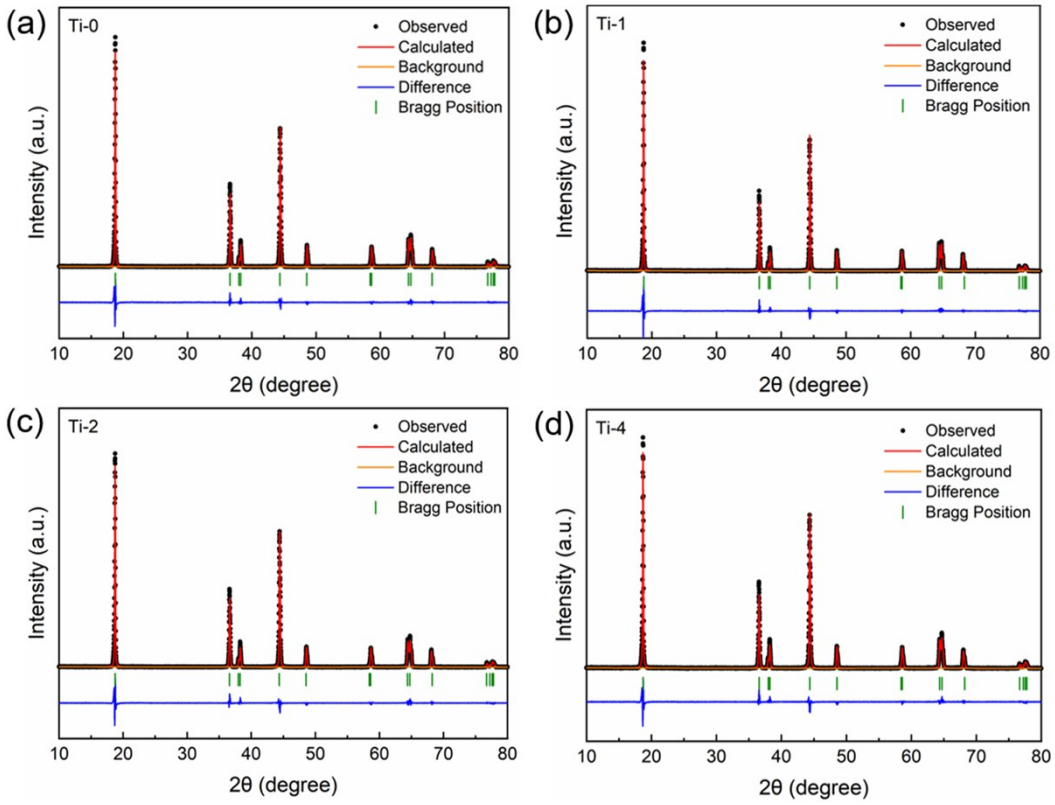

Fig. S1. Rietveld refinement results of the preparative samples: (a) Ti-0, (b) Ti-1, (c) Ti-2 and (d) Ti-4.

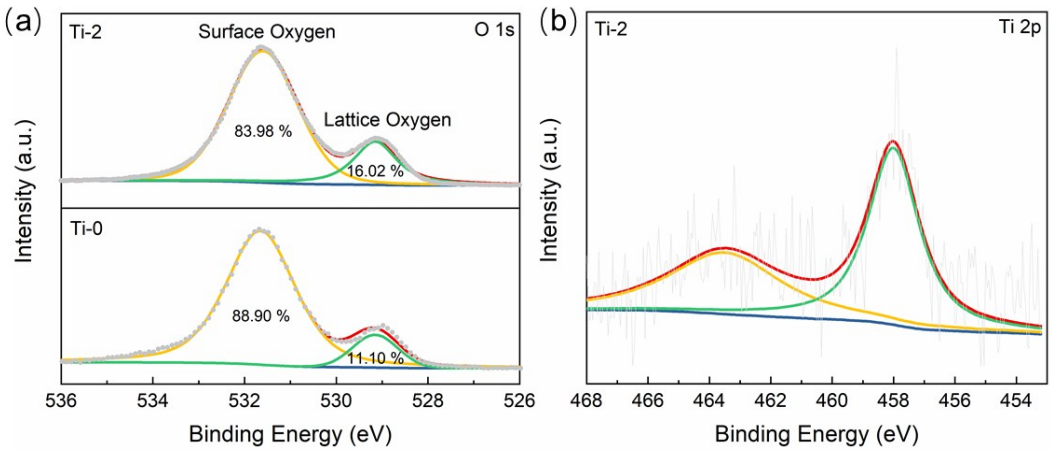

Fig. S2. XPS (a) O1s spectra for Ti-0 and Ti-2 samples; (b) Ti 2p spectrum for Ti-2 sample.

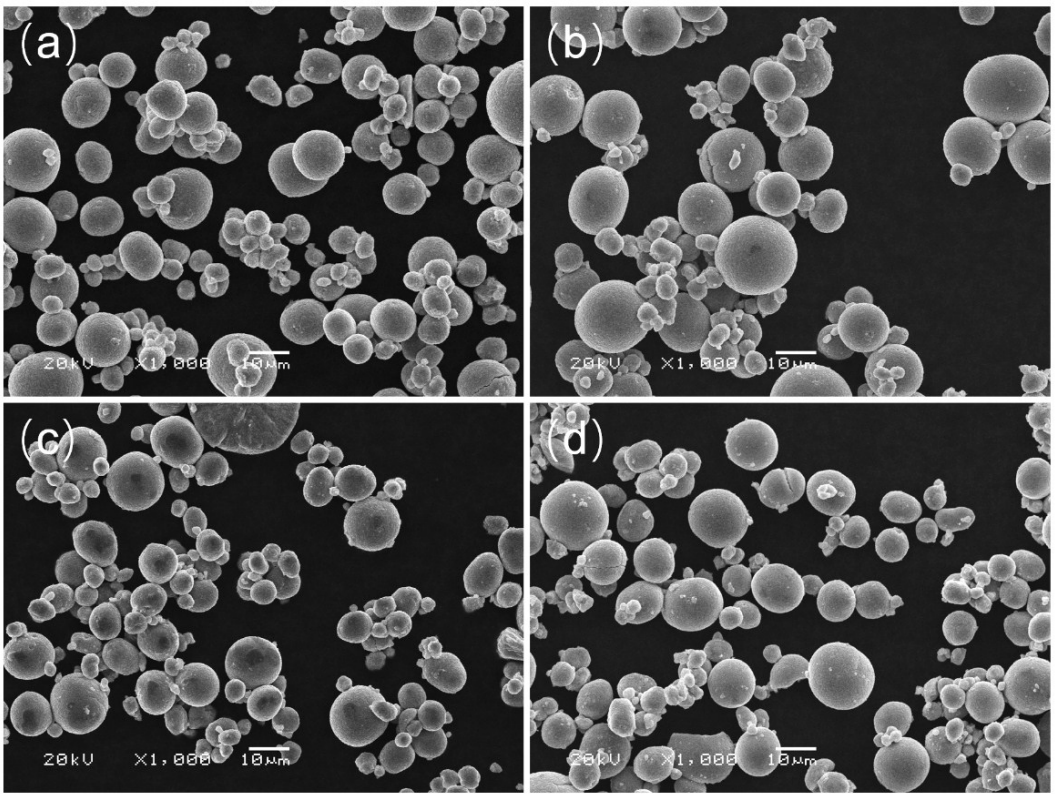

Fig. S3. SEM images for (a) Ti-0, (b) Ti-1, (c) Ti-2 and (d) Ti-4 samples with low magnification.

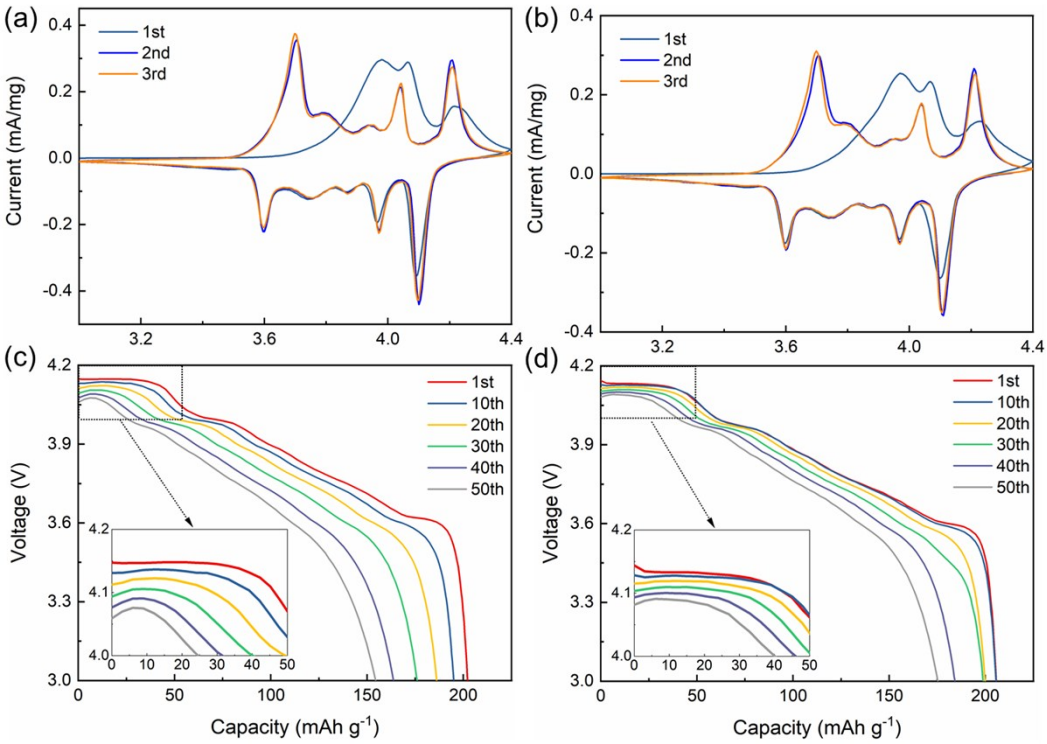

Fig. S4. CV curves of the first three cycles for (a) Ti-0 and (b) Ti-2; Discharge profiles at 1 C for (c) Ti-0 and (d) Ti-2.

Table S1. Cyclic data for as-prepared samples over 3.0–4.2 V.

Sample No.	0.1 C 1st (mAh g^{-1})	1 C 1st (mAh g^{-1})	1 C 50th (mAh g^{-1})	Capacity Retention (%)
Ti-0	227.9	202.2	154.5	76.4
Ti-1	220.3	207.7	166.1	80.0
Ti-2	211.3	205.8	175.3	85.2
Ti-4	205.3	195.8	162.2	82.8