Supporting Information

Synthesis of Novel Nitrogen-Noped Lithium Titanate with Ultra-High Rate Capability Using Melamine as A Solid Nitrogen Source

Min Guo[a], Suqing Wang[a]*, Liang-Xin Ding[a], Long Zheng[a], Haihui Wang[a,b]*

[a] School of Chemistry & Chemical Engineering, South China University of Technology, Wushan Road, Guangzhou 510640, China

[b] School of Chemical Engineering, The University of Adelaide, Adelaide, SA 5005, Australia

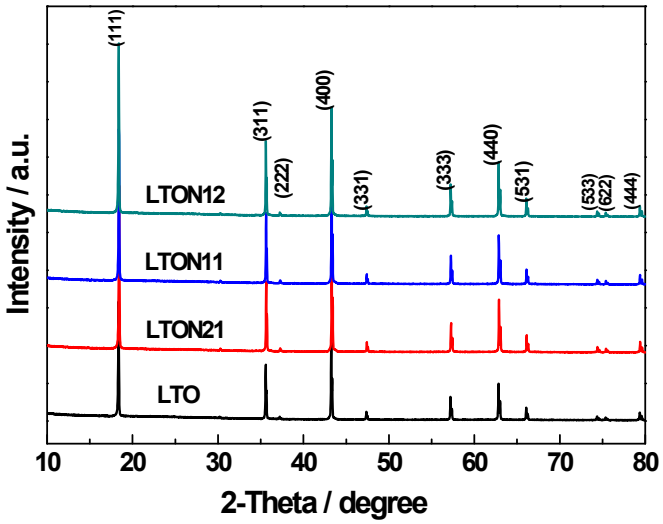

Figure S1. XRD of the pristine LTO and the N-doped LTO samples.

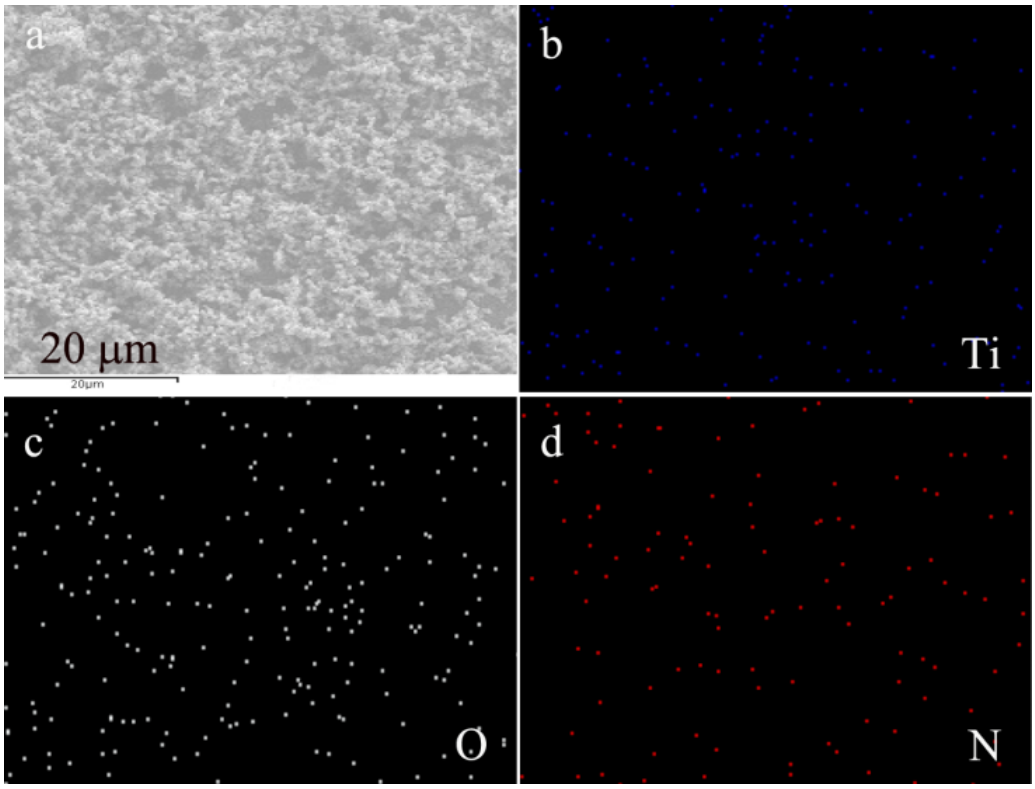

Figure S2. (a) SEM image of LTON12; EDX element distribution mapping of (b) Ti, (c) O, (d) N elements for LTON12 sample.

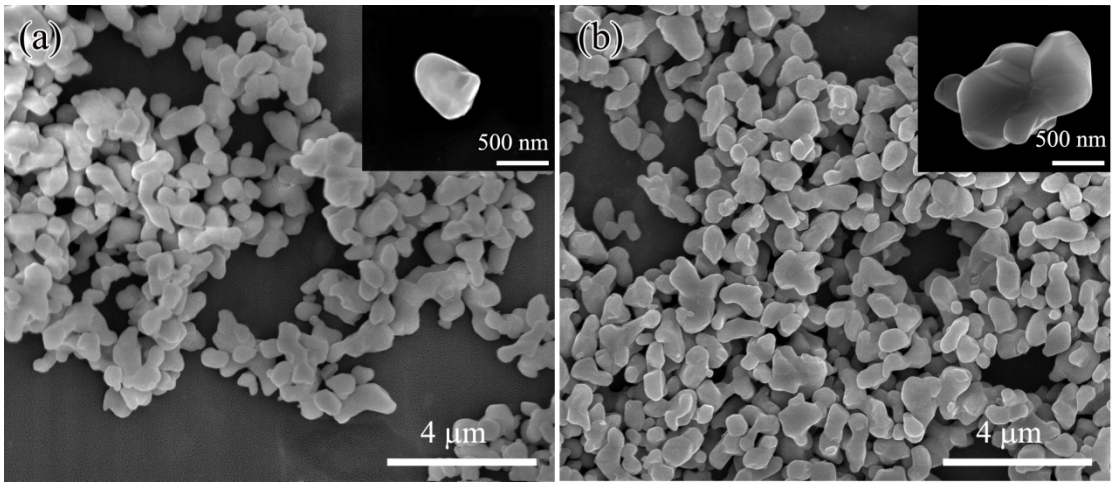

Figure S3. SEM images of the as-prepared samples: (a) LTON21, (b) LTON11.

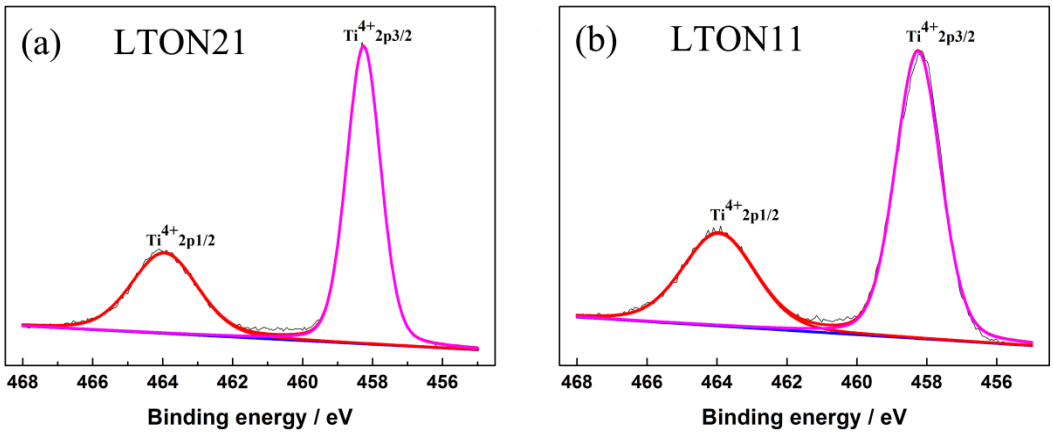

Figure S4. XPS of (a) LTON21 and (b) LTON11.

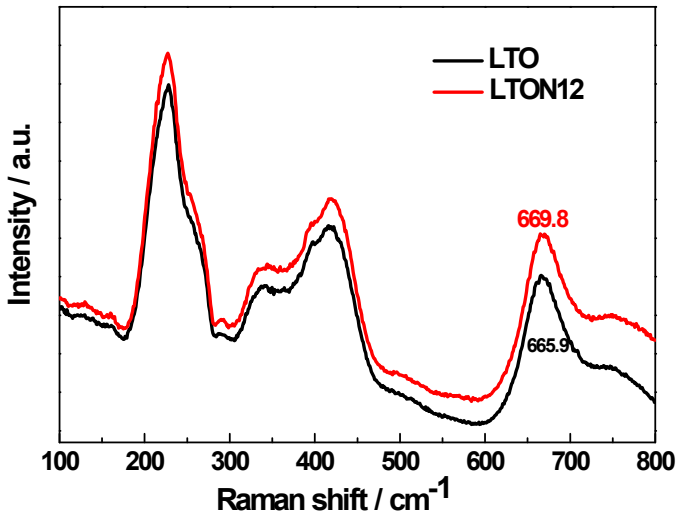

Figure S5. Raman spectra of LTO and LTON12 powders.

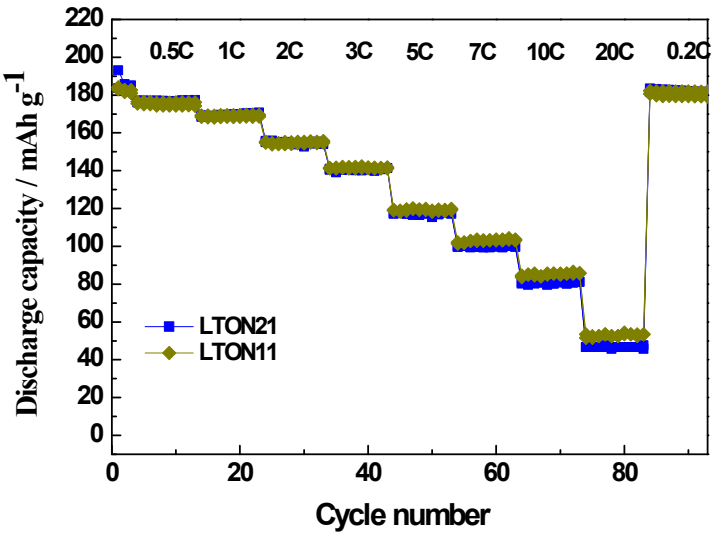

Figure S6. Rate capabilities of the N-doped LTO samples (LTON21 and LTON11) under various current densities ranging from 0.2C to 20C.

Table S1. The quantification results of EDX elemental mapping.

Element	Weight %	Atomic %	Uncert. %	Correction	k-Factor
N(K)	8.40	14.67	1.15	0.28	3.466
O(K)	38.70	59.17	1.55	0.51	1.889
Ti(K)	45.92	23.45	1.20	0.98	1.227
Cu(K)	6.96	2.68	0.58	0.99	1.663