Supporting Information

Nanostructured TiO2 Anatase Micro Patterned 3D Electrodes for High Performance Li-ion Batteries

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1. TiO_2 Sample calcined at 400 °C

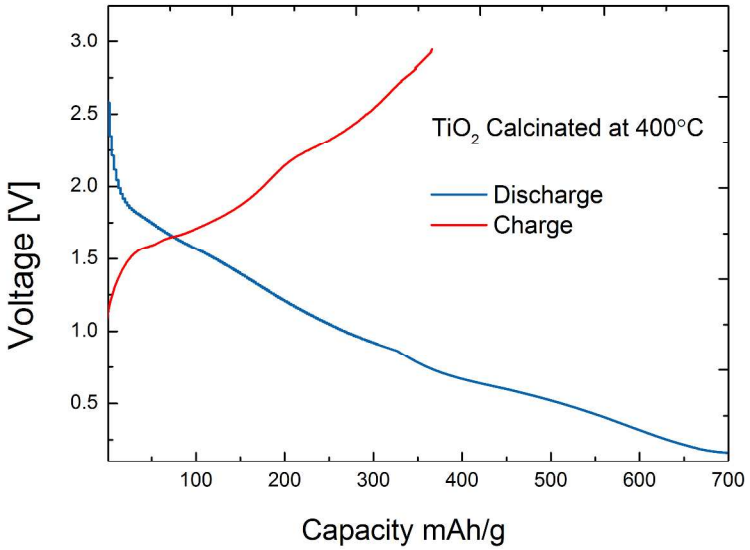

Figure S1: *Electrochemical charging profiles at constant charge-discharge rate (C/10) with 0V cut-off.*

2. TiO_2 Sample calcined at 550 °C :

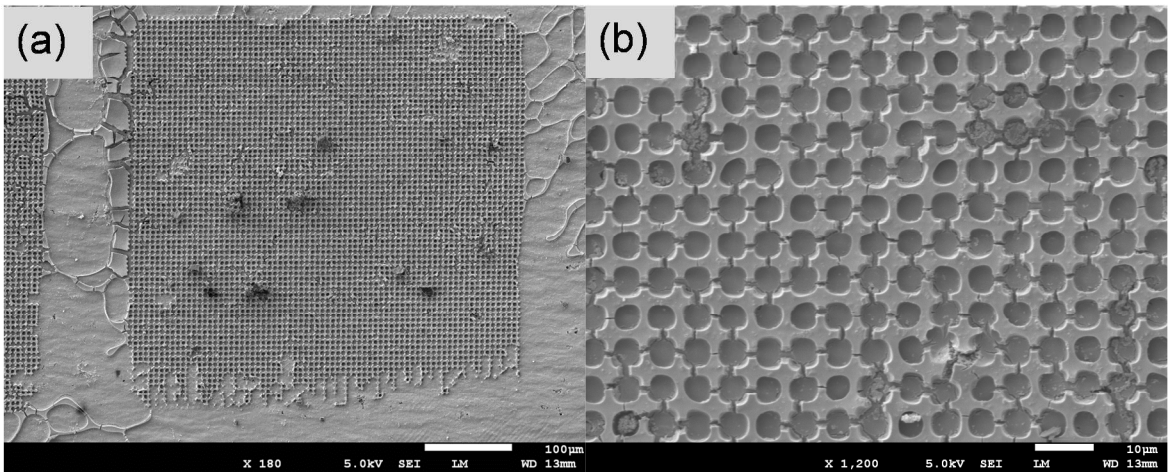

Figure S2: *(a)-(b) SEM images of 3D micro patterns of TiO_2 anatase electrodes at various magnifications prepared at 550 ^oC.*

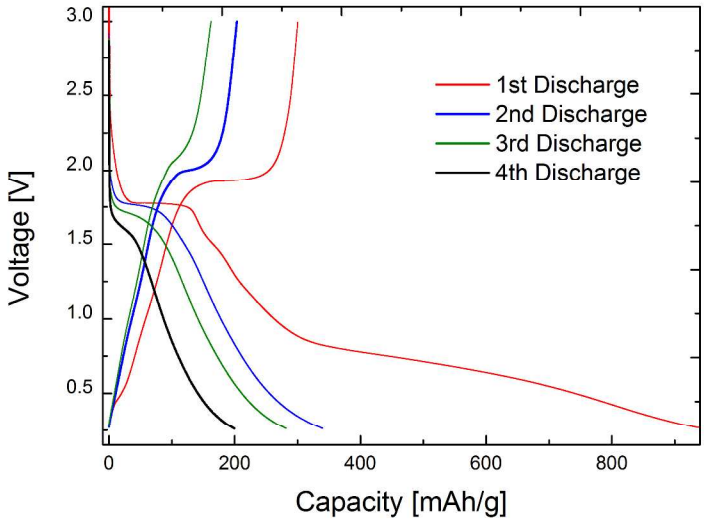

Figure S3: *Electrochemical charging profiles constant charge-discharge rate (C/10).*

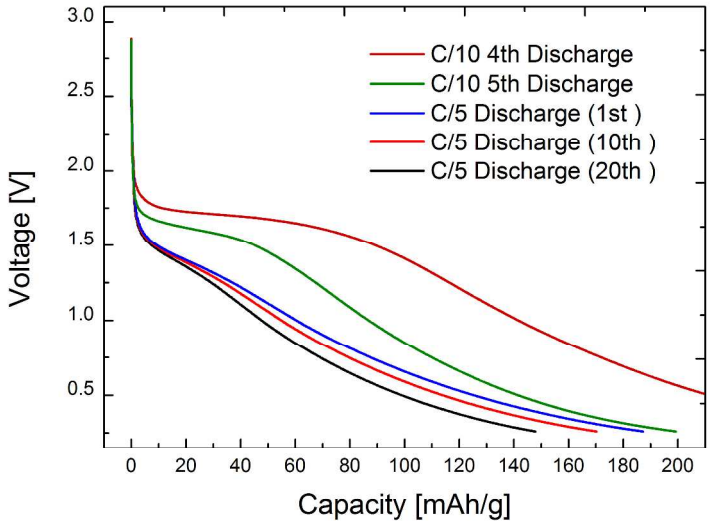

Figure S4: *Electrochemical discharge at C/10 and C/5 rate and 0V cut-off.*

3. TiO_2 Sample calcined at 650 °C :

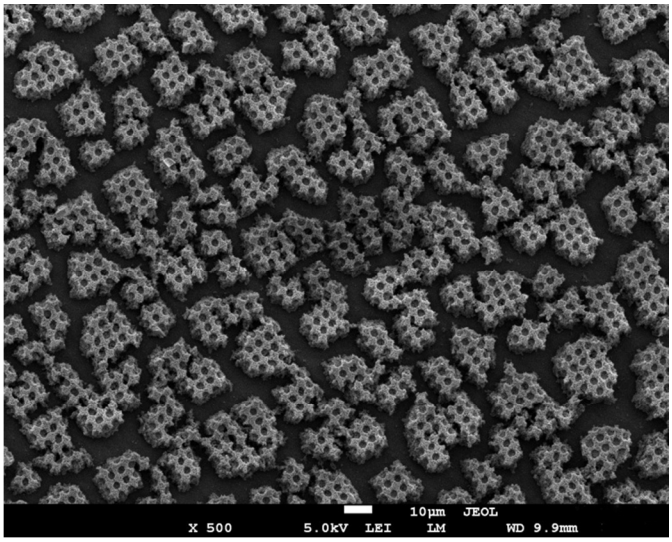

Figure S5: *SEM images of 3D micro patterns of TiO_2 anatase electrode prepared at 650 ^{o}C.*

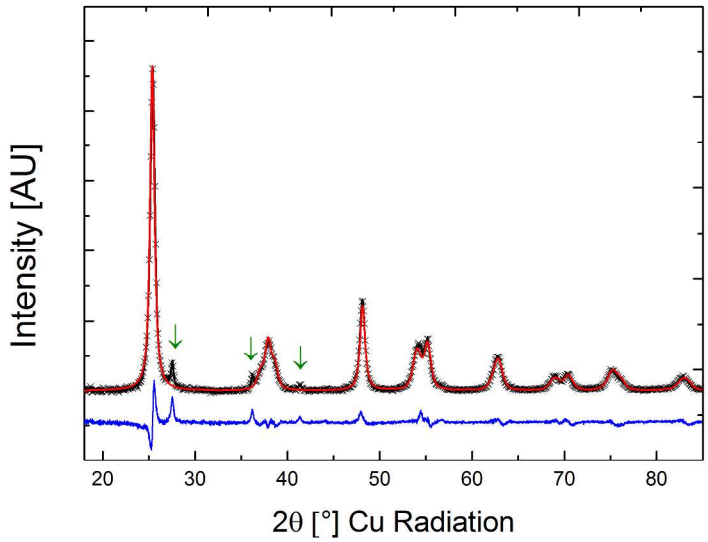

Figure S6: *Rietveld Refinement of X-ray diffraction pattern for anatase TiO_2 calcined at 650 ^oC for 2 h. Addition peaks for rutile phase are marked with green arrow.*

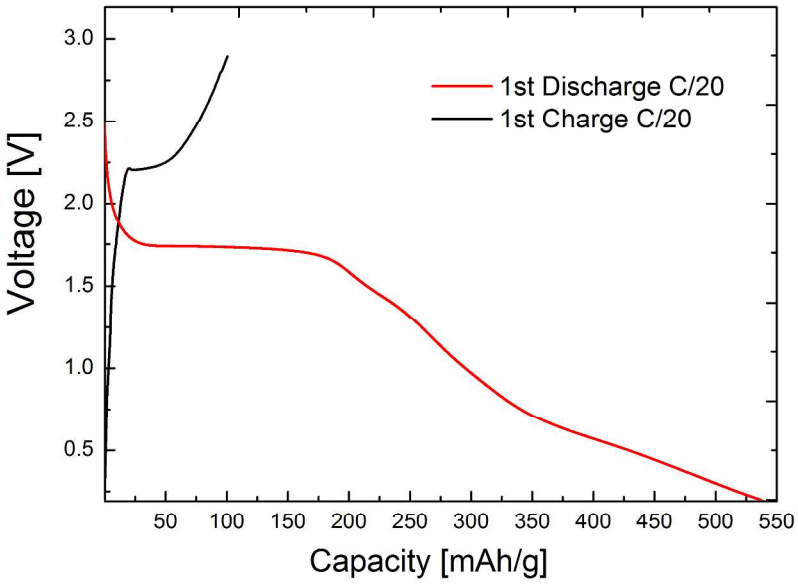

Figure S7 : *Electrochemical (dis)charge profiles at constant charge-discharge rate (C/20). (Sample calcinated at 650 ^oC for 2 hrs.)*

4. Cross Sectional SEM of TiO_2 Micro pattern after Cycling at variable C Rate (C/10 to 60C)

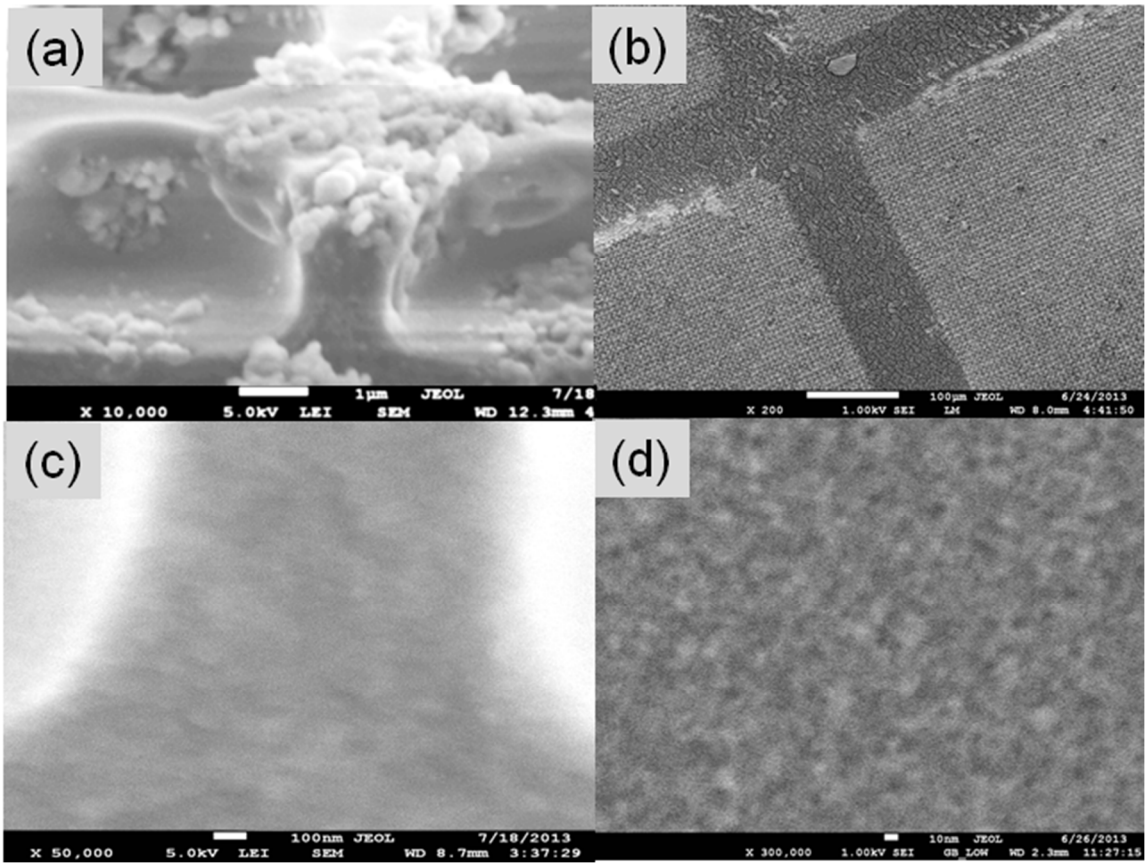

Figure S8*: Cross sectional SEM of TiO2 Micro pattern after cycling at variable C rate (C/10 to 60C)*

5. XRD – TiO_2 and Li_xTiO_2 Calcinated to 400°C

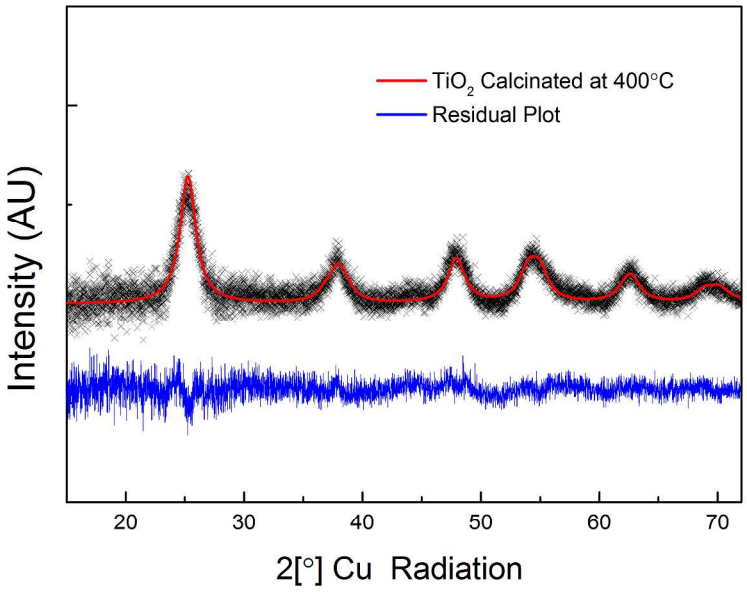

Figure S9: *Rietveld refinement of X-ray diffraction pattern for nano sized anatase TiO_2 calcined at 400 °C for 2 h.*

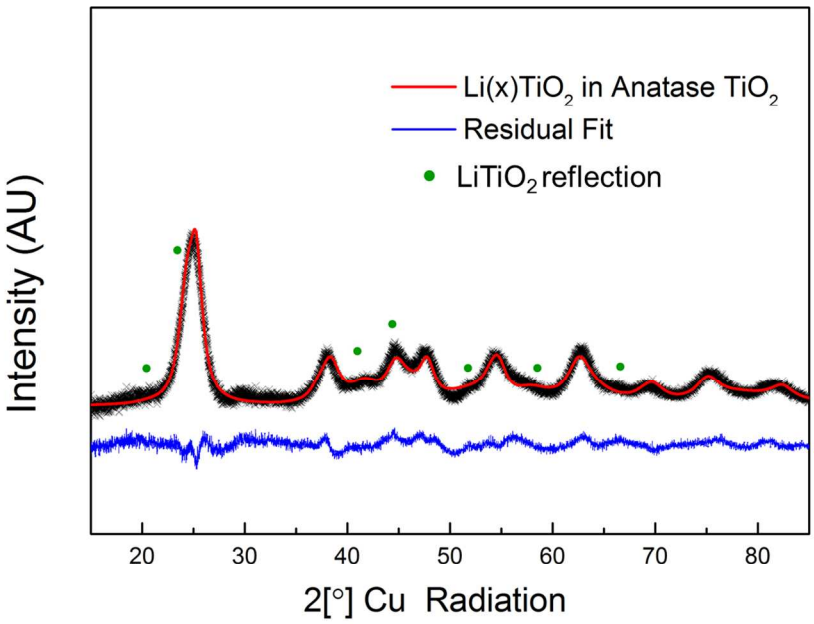

Figure S10: *Rietveld Refinement of X-ray diffraction pattern for lithiated TiO_2 for TiO_2 calcined at 400 ^oC for 2 h. The data is fitted with the orthorhombic $Li_{0.5}TiO_2$ phase (space group Imma, a=3.8186, b=4.0842, c=9.0656 Å) and the green dots indicate the position where the tetragonal $LiTiO_2$ phase would be expected. A small fraction of the material appears to have the $LiTiO_2$ phase.*