Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Supporting Information

Hierarchical Porous $Li_4Ti_5O_{12}$-TiO_2 Composite Anode Materials with Pseudocapacitive Effect for High-Rate and Low-Temperature application

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Supplementary Figures

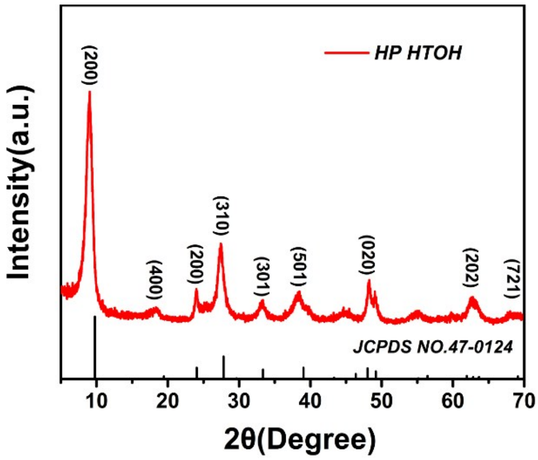

Figure S1. The XRD patterns of as-prepared hierarchical hydrogen porous titanium oxide hydrate (HP HTOH) microspheres.

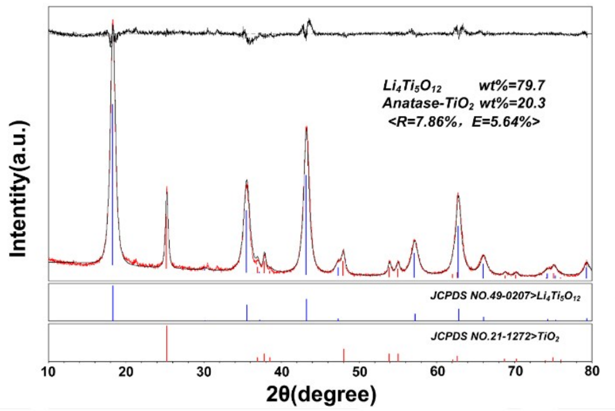

Figure S2. The XRD refinement data of HP LTO-TO microspheres.

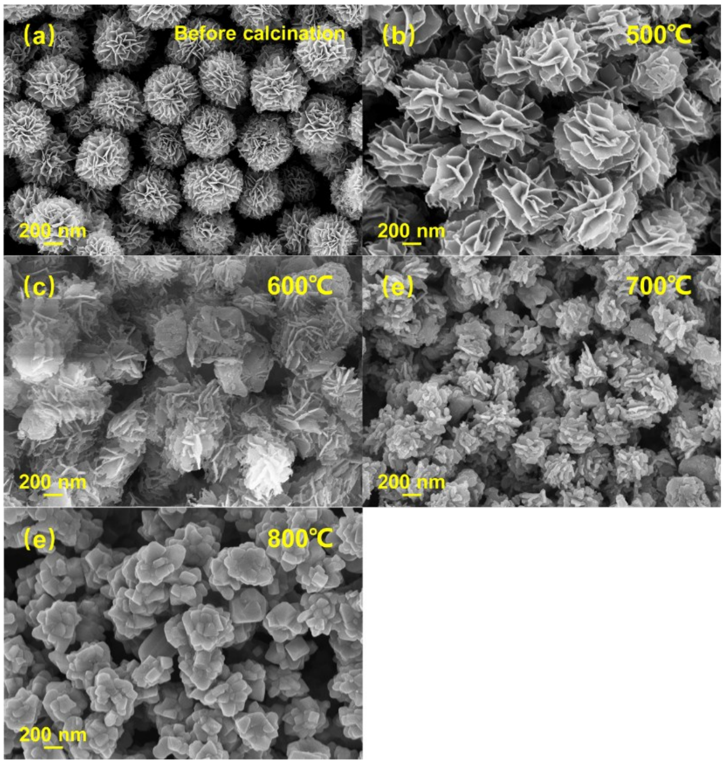

Figure S3. The SEM images of HP LHTO (a) before and (b-f) after calcined at 500, 600, 700 and 800 °C for 2h in air.

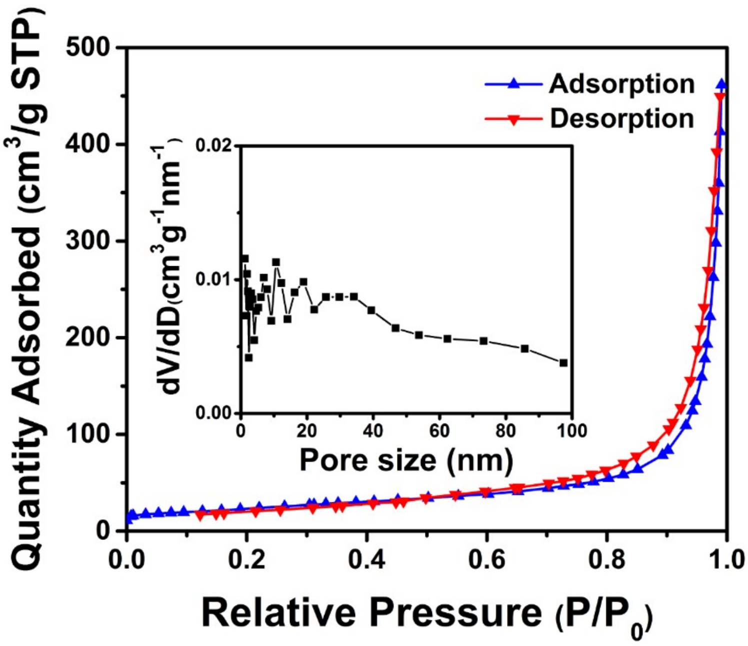

Figure S4. Nitrogen adsorption-desorption isotherms and the Barrett-Joyner-Halenda (BJH) pore size distributions of the HP LTO-TO microspheres sample of Li: Ti=5:5 calcined at 500 °C for 2 h.

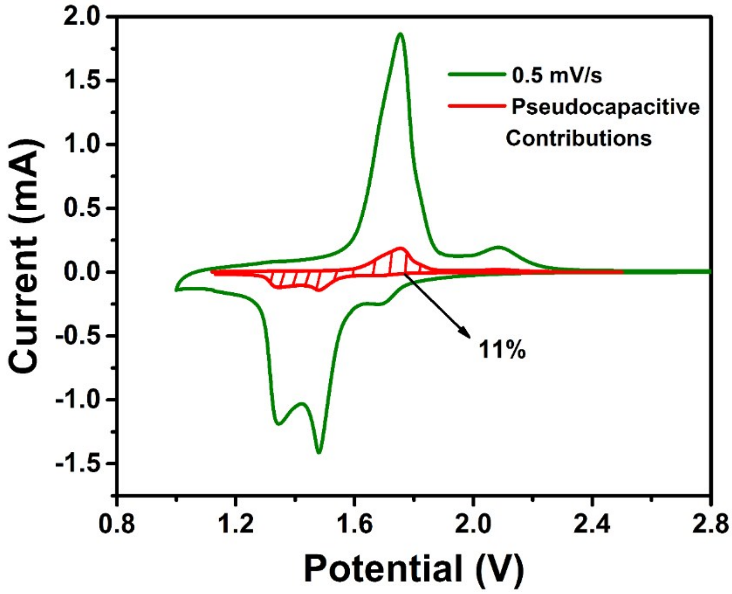

Figure S5. the ratios of the faradaic pseudocapacitive effect and diffusion-limited reaction benefiting enhancement of capability. The data were taken at the slow sweep rate of 0.5 mV/s.

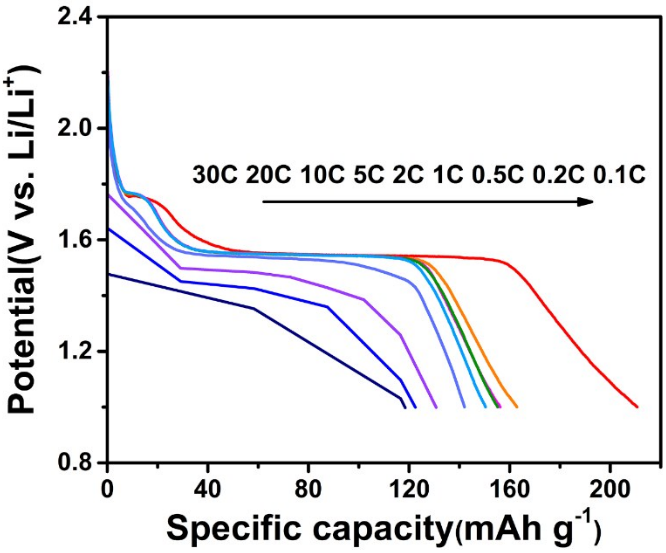

Figure S6. The discharge voltage profiles of HP LHTO at various current density from 0.1 C to 30 C (broken line is due to the test program take less points at larger rate).

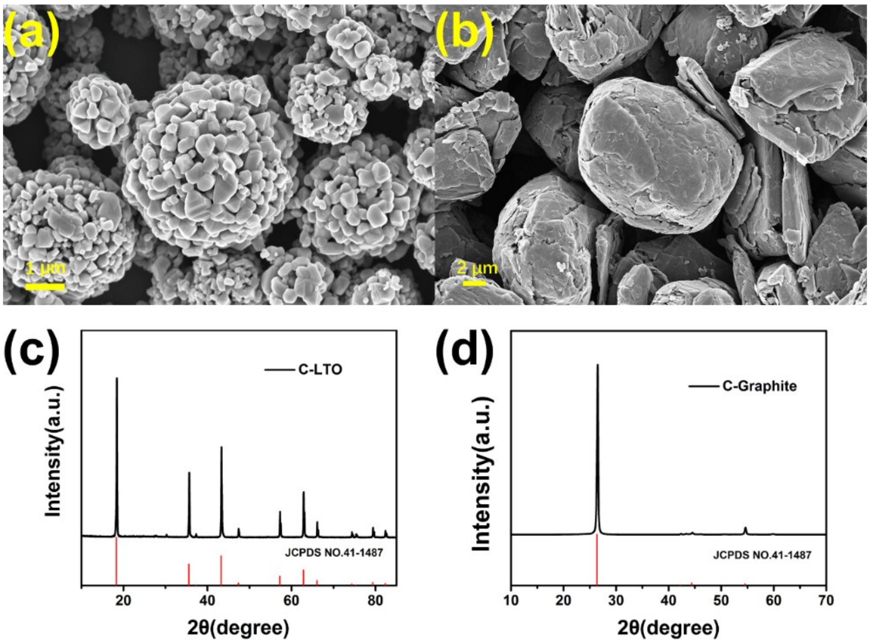

Figure S7. The XRD patterns and SEM images of (a,c) a commercial LTO (b,d) a commercial graphite.

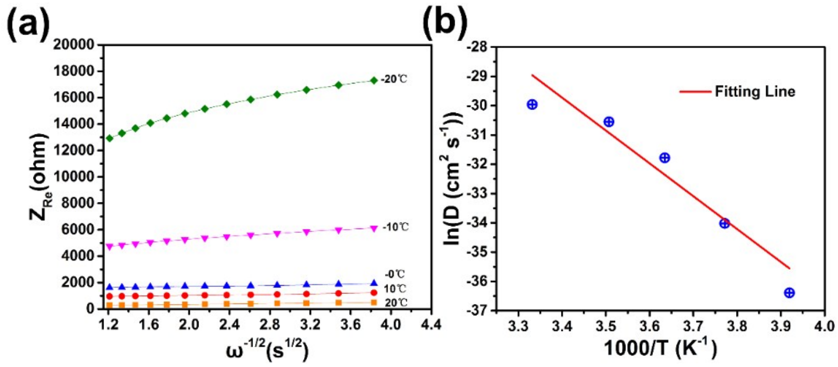

Figure S8. (a) Graph of Z_{Re} plotted against $\omega^{-1/2}$ at low frequency section of C-LTO. (b) The linear relationship between lnD and 10^3/T at different temperature.