

Supporting information

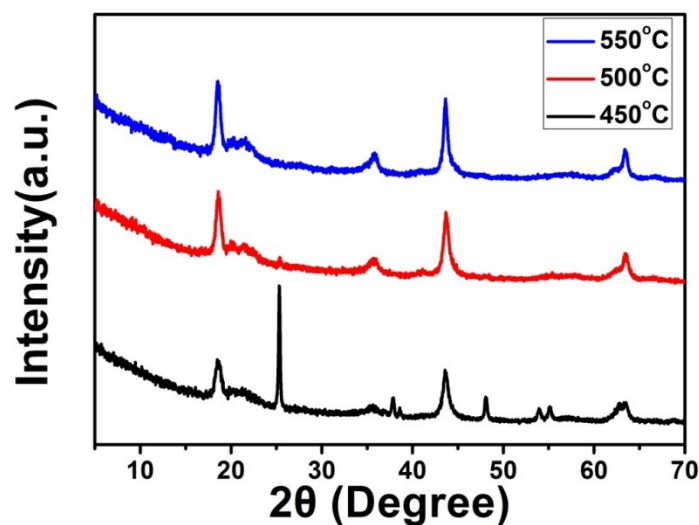


Fig. S1. Li_2TiO_3 samples of different temperature of calcination.

The diffraction peaks of c- Li_2TiO_3 gradually became sharper with the increase of calcination temperature from 450 °C to 550 °C, indicating that the crystallinity of c- Li_2TiO_3 was closely related to the calcination conditions.

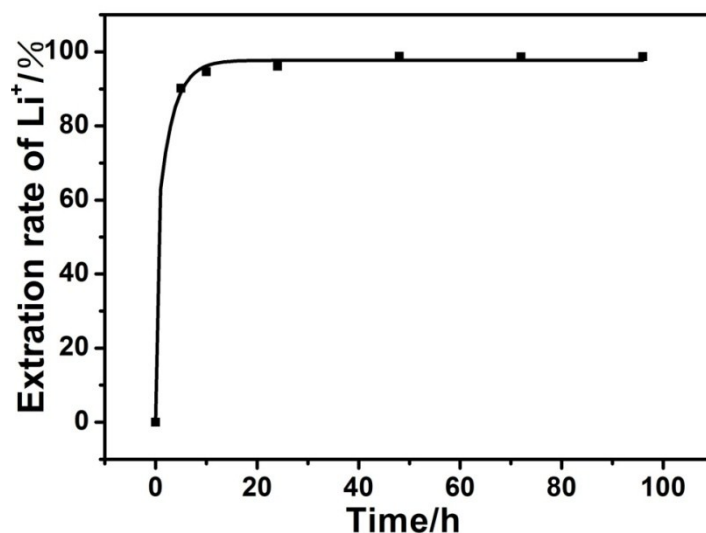


Fig. S2. Variation of Li^+ ions extraction rate with reaction time.

Figure S2 shows the relationship between the lithium extraction and the extracting time. As can be seen from Fig. S2, the rate of lithium extracted reached 97.87 % when Li_2TiO_3 was treated by pickling for 24 h. Then it increased slowly and reached 98.72% until the time extend to 30 hours. At the same time the content of the titanium ion in solution was almost zero through ICP-AES method, which suggested that titanium

was almost insoluble loss in the pickling process.

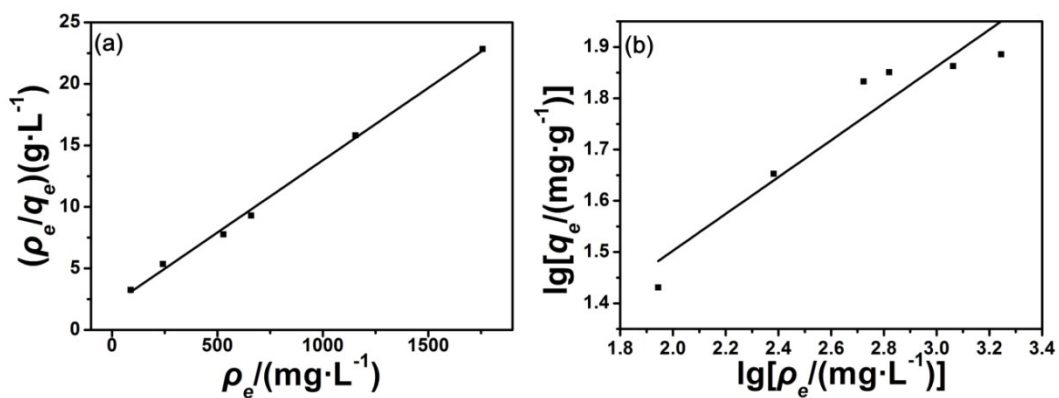


Fig. S3. Langmuir (A) and Freundlich (B) isotherms in LiOH solution

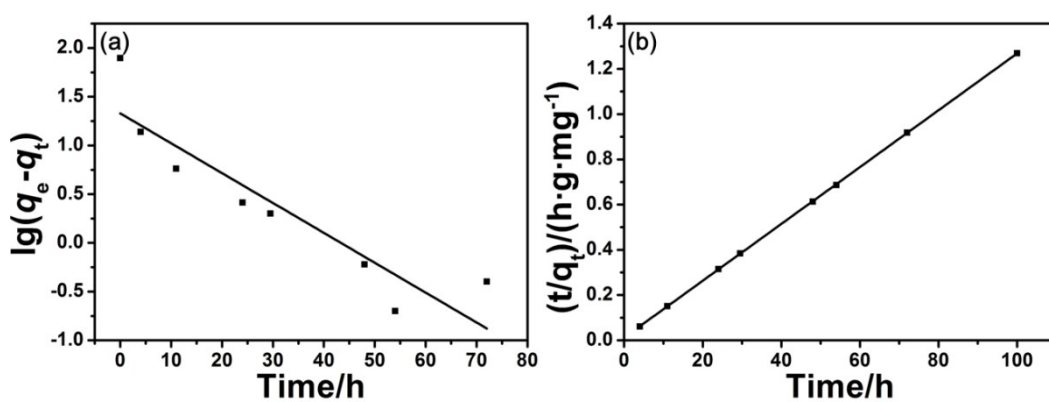


Fig. S4. Kinetic plots of lithium ion adsorption (A) Pseudo-first-order and (B) pseudo-second-order