## **Supplementary Information**

Hydrothermal synthesis of layered  $Li_{1.81}H_{0.19}Ti_2O_5 \cdot xH_2O$  nanosheets and their transformation to single-crystalline  $Li_4Ti_5O_{12}$  nanosheets as the anode materials for Li-ion batteries

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Fig. S1 The XRD pattern of the products after heat treatment at 350, 500 and 600 °C.



Fig. S2 SEM images of the samples calcined at 350 °C (a), 500 °C (b), and 600 °C (c).



Fig. S3 Galvanostatic charge/discharge curves for  $Li_4Ti_5O_{12}$  prepared at 350, 500 and 600 °C between 1.0 and 3.0 V at a rate of 1 C.



Fig. S4 N<sub>2</sub> adsorption-desorption BET isotherm.