

## Electronic Supplementary Information

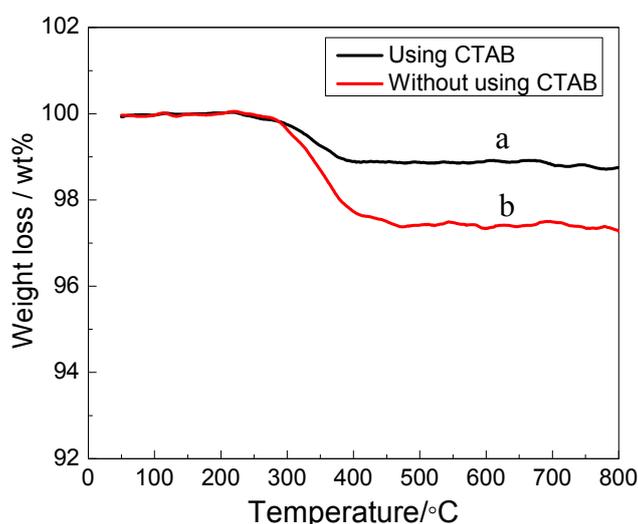
### Facile synthesis of $\text{Li}_4\text{Ti}_5\text{O}_{12}/\text{C}$ composite with super rate performance

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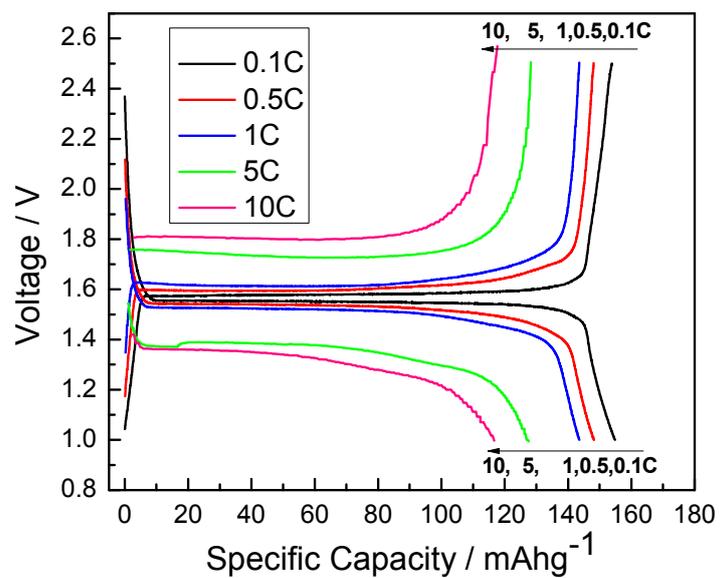
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**Fig. S1** TG curves (Air atmosphere) of the obtained  $\text{Li}_4\text{Ti}_5\text{O}_{12}/\text{C}$  using CTAB (a) and without (b) using CTAB. The samples were subjected to an overnight drying to remove the adsorbed water before the TG measurements at a heating rate of  $10\text{ }^\circ\text{C min}^{-1}$  using Netzsch STA449F3 system (Germany). Based on the TG results, the amount of residual carbon in the  $\text{Li}_4\text{Ti}_5\text{O}_{12}/\text{C}$  material was roughly estimated ( $\sim 1.2\text{ wt}\%$  for the CTAB case and  $\sim 2.6\text{ wt}\%$  for the case without using CTAB).



**Fig. S2** Rate charge and discharge curves of  $\text{Li}_4\text{Ti}_5\text{O}_{12}/\text{C}$  prepared in presence of CTAB (CTAB concentration:  $6.5\text{g L}^{-1}$ ).