## **Supporting Information**

## Additive-free Synthesis of Unique TiO<sub>2</sub> Mesocrystals with Enhanced Lithium-ion Intercalation Properties

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**Figure S1.** Titanate nanowires: (a) XRD pattern, (b) SEM image, (c, d) TEM and HRTEM images. The inset in (c) is the related SAED pattern.



**Fig. S2.** (a) TEM and (b) HRTEM images of the rutile  $TiO_2$  mesocrystals obtained at 50 °C for 7days. The inset in (b) is an enlarged HRTEM image.



Figure S3. N<sub>2</sub> adsorption-desorption isotherms of the rutile TiO<sub>2</sub> mesocrystals.