

## Shape-controlled MnO<sub>2</sub> as sulfur host for high performance

### Lithium-Sulfur Batteries

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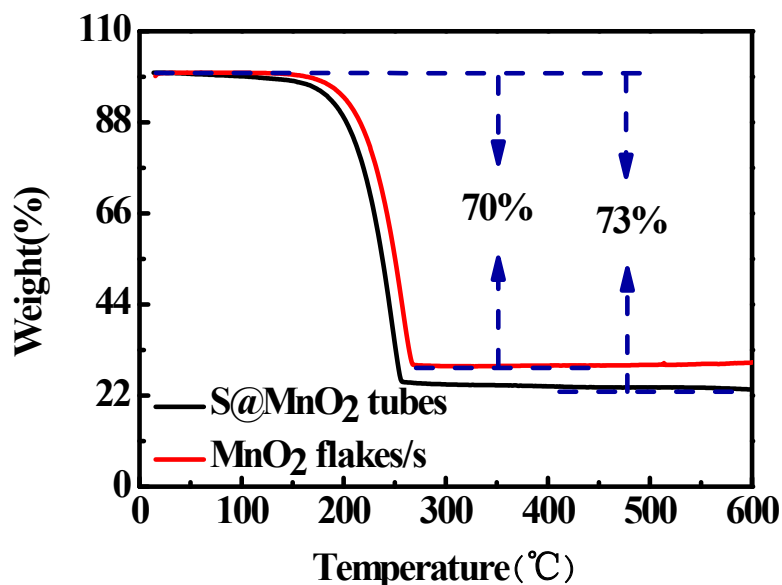


Fig.S1 The thermal gravimetric analysis (TGA) curves of the MnO<sub>2</sub> flakes/S and MnO<sub>2</sub> tubes/S.

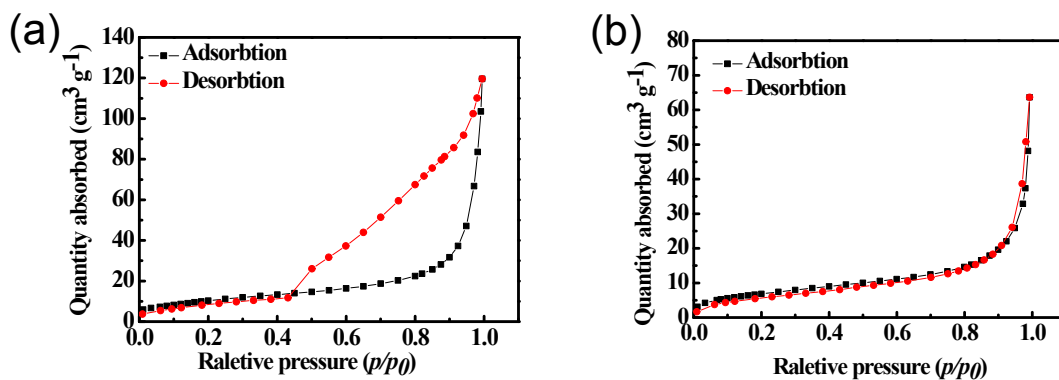


Fig.S2 BET surface area analysis of (a) MnO<sub>2</sub> flakes and (b) MnO<sub>2</sub> tubes.

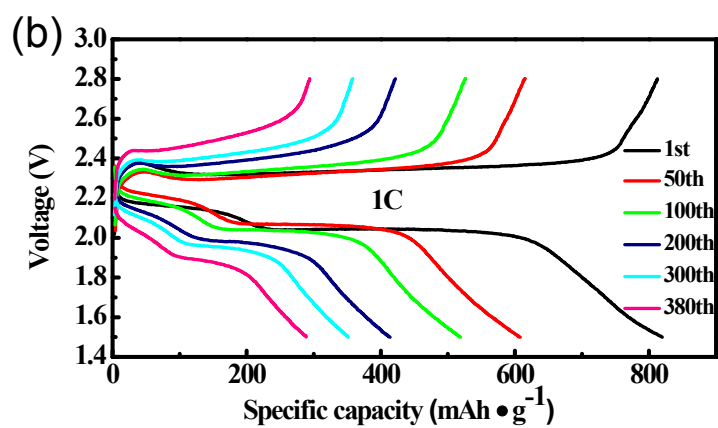
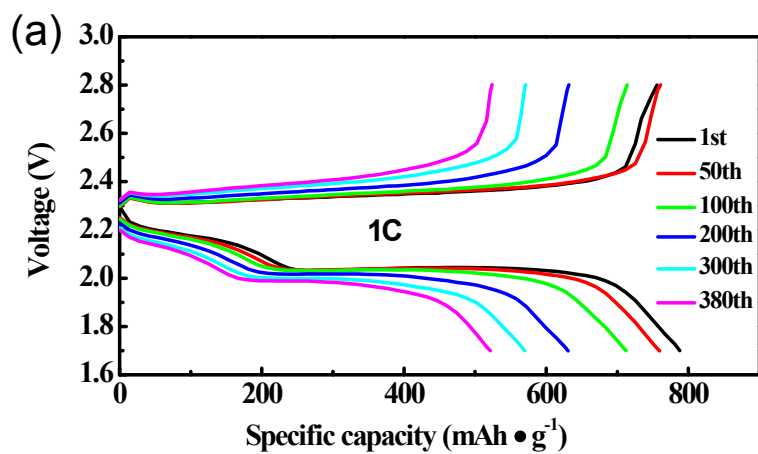
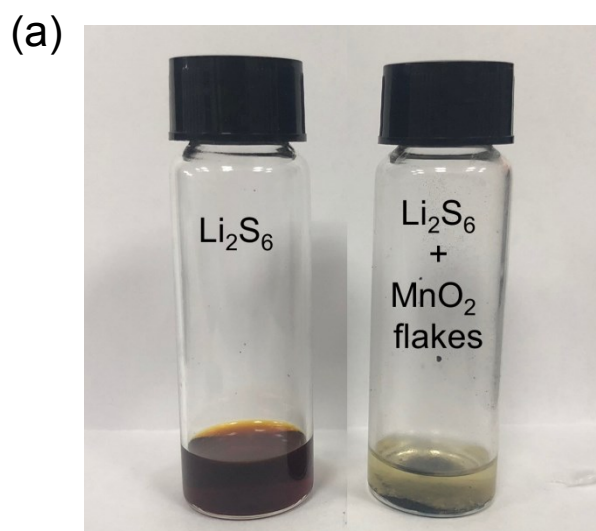


Fig.S3 The discharge/charge voltage profiles of (a)  $\text{MnO}_2$  flakes/S and (b)  $\text{MnO}_2$  tubes/S electrodes with increasing cycles at 1.0C



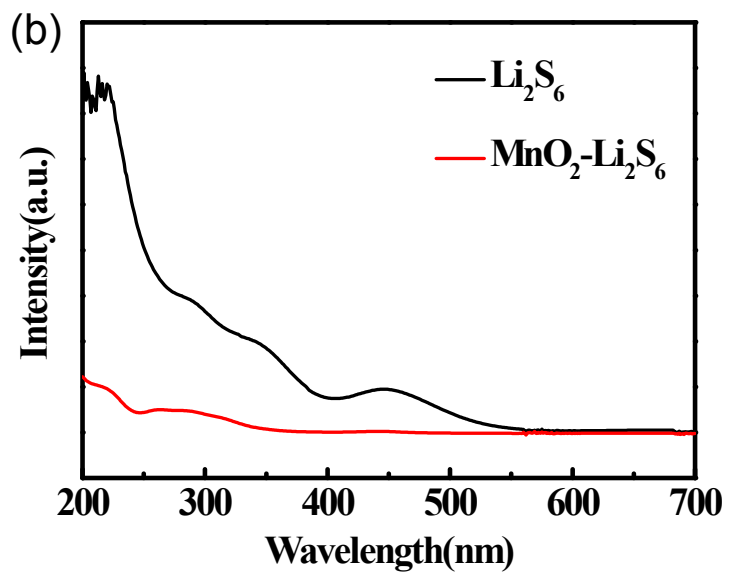


Fig.S4 (a) Digital photographs of  $\text{Li}_2\text{S}_6$  and  $\text{Li}_2\text{S}_6$  solution with  $\text{MnO}_2$  flakes; (b) UV-Vis spectra of  $\text{Li}_2\text{S}_6$  solution and the  $\text{Li}_2\text{S}_6\text{-MnO}_2$  flakes.