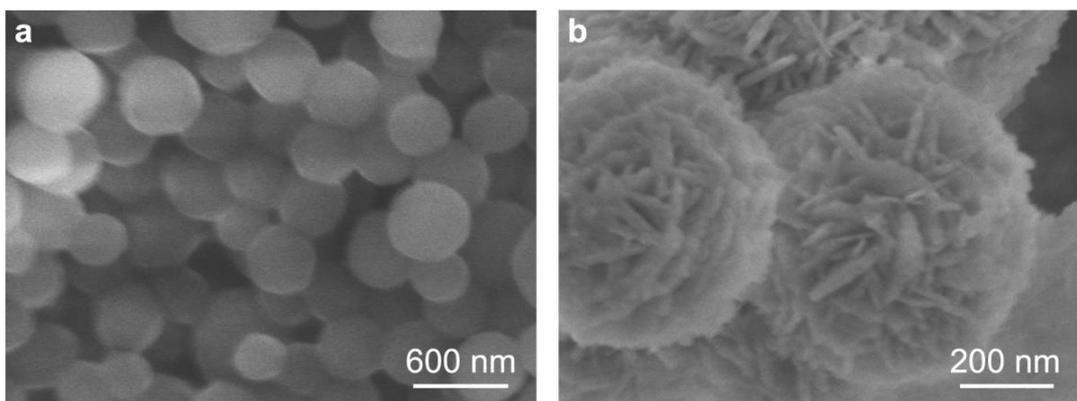


# Supporting Information

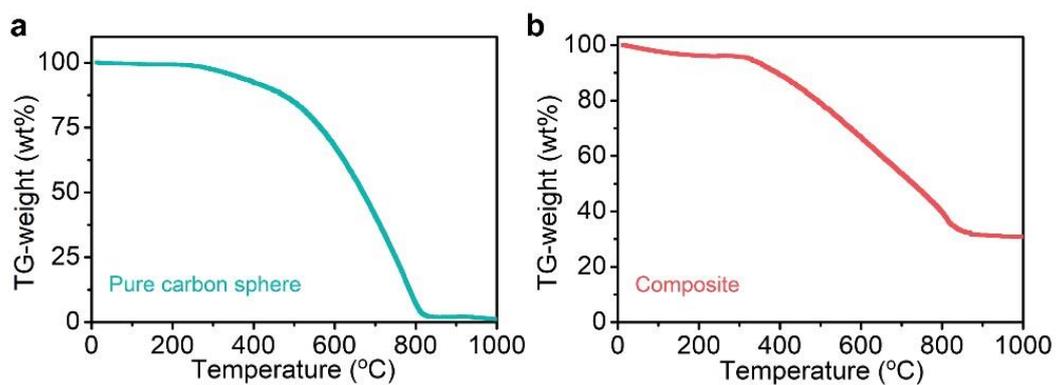
## **Multiple Effects of High Surface Area Hollow Nanospheres Assembled by Nickel Cobaltate Nanosheets on Soluble Lithium Polysulfides**

*Jun Pu\**, Xiaomei Zhu, Jie Wang, Shaomeng Yu

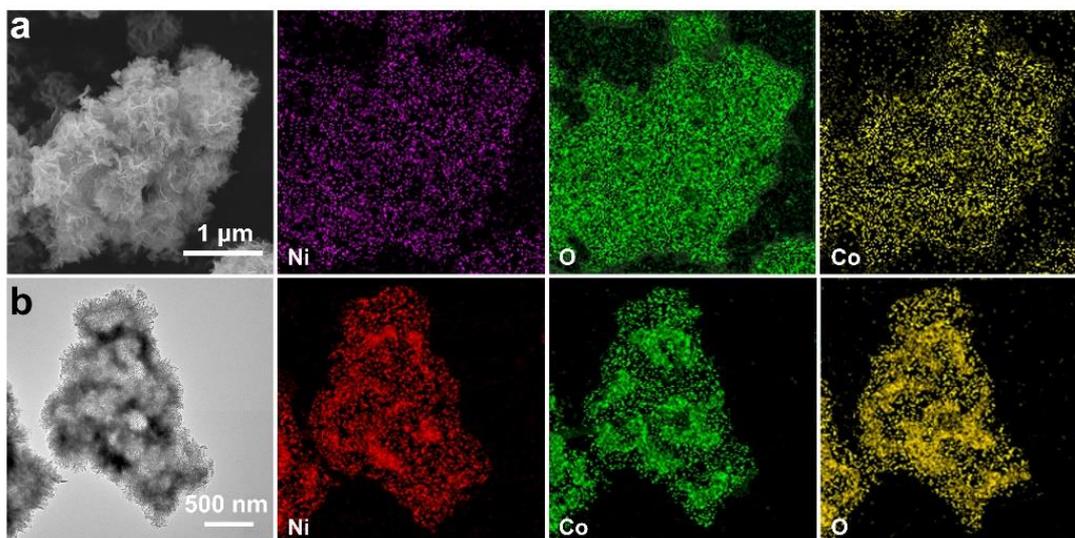
Correspondence: [jpu@ahnu.edu.cn](mailto:jpu@ahnu.edu.cn) (J.P.)



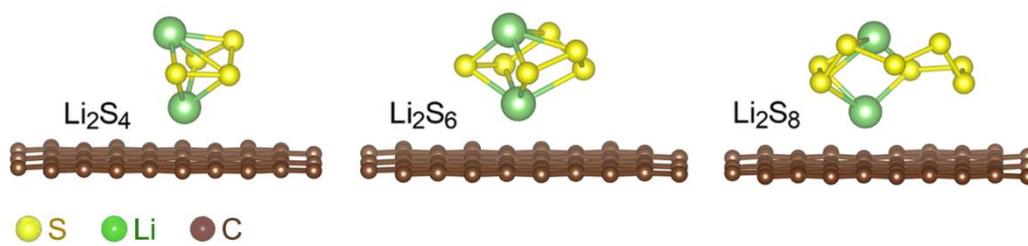
**Figure S1.** SEM images of (a) carbon sphere templates and (b) Co-Ni precursors.



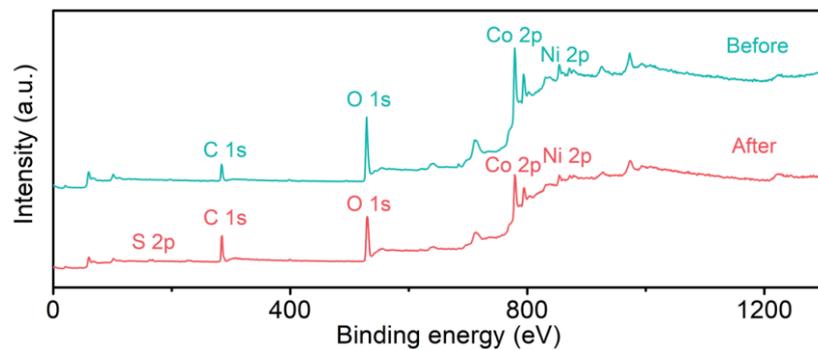
**Figure S2.** TGA results of (a) pure carbon sphere, and (b) precursor composite.



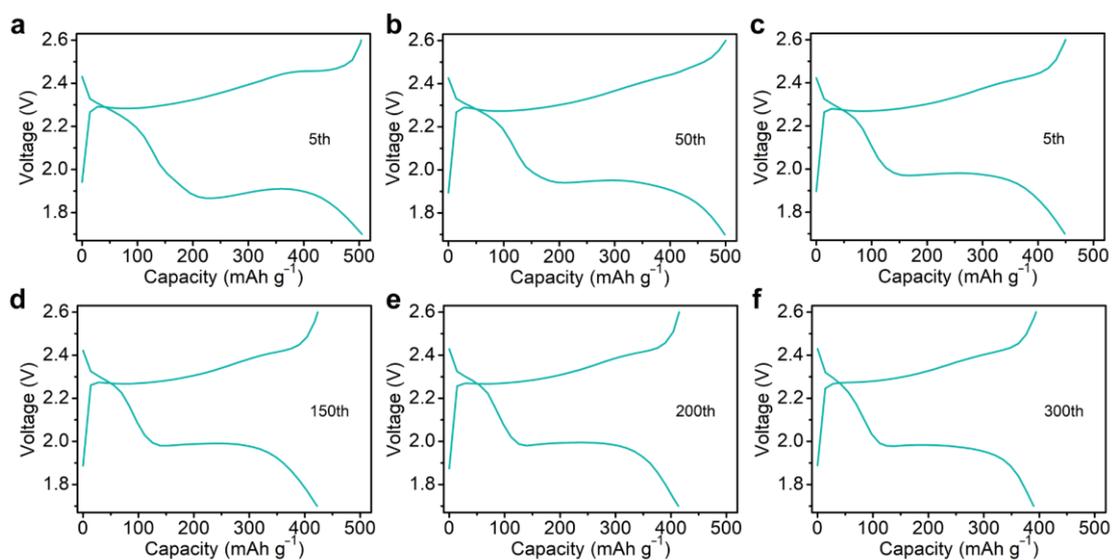
**Figure S3.** Elemental mapping of NiCo<sub>2</sub>O<sub>4</sub>: (a) SEM, (b) TEM.



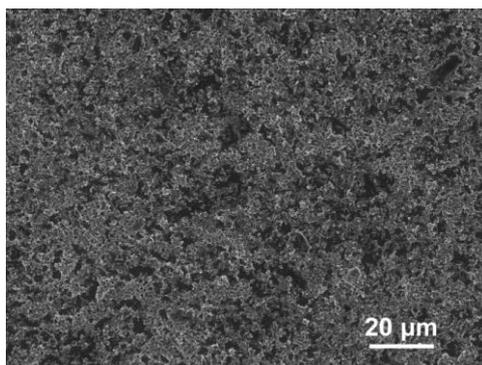
**Figure S4.** Mechanism diagram of interaction between carbon and LiPSs.



**Figure S5.** XPS survey spectra of NiCo<sub>2</sub>O<sub>4</sub> before and after Li<sub>2</sub>S<sub>4</sub> adsorption.



**Figure S6.** Discharge-charge profiles of NiCo<sub>2</sub>O<sub>4</sub>@PP cathode at different cycles.



**Figure S7.** The surface SEM of composite separator after cyclic test.