## Supporting Information

## The Strategies of Constructing Stable and High Sulfur Loading

## **Cathodes based on Blade-Casting Technique**

Fanglei Zeng,<sup>a</sup> Anbang Wang,<sup>b\*</sup> Weikun Wang,<sup>b\*</sup> Zhaoqing Jin<sup>b</sup> and Yu-Sheng Yang<sup>b</sup>

<sup>a</sup> School of Materials Science & Engineering, Beijing Institute of Technology, Beijing 100081, China.

<sup>b</sup> Military Power Sources Research and Development Center, Research Institute of Chemical Defense, Beijing 100191, China.

E-mail: wab\_wang2000@126.com; wangweikun2002@126.com



Figure S1. XPS spectra of ABS: (a) wide spectra, (b) S 2p.



Figure S2. The morphologies of the CS@CTAB/ABS composite electrode (S

content: 76 wt% in electrode, S mass loading: 6.7 mg cm<sup>-2</sup>).



**Before folding** 

After folding



Folding

After folding

**Figure S3.** Photographs of the **CS@CTAB/ABS** composite electrode (S content: 76 wt% in electrode, S mass loading: 6.7 mg cm<sup>-2</sup>) during and after folding.



**Figure S4**. (a) The morphologies of CS@PVP/ABS composite. (b) Cycle performance of CS@CTAB/ABS and CS@PVP/AB composite electrodes with sulfur mass loading of 6.7 mg cm<sup>-2</sup> at 100 mA g<sup>-1</sup> (electrolyte/sulfur ratio of 5).



**Figure S5.** The voltage profiles of the **CS@CTAB/ABS+CNTS** electrode with sulfur mass loading of 11.1 mg cm<sup>-2</sup> at 12th cycle. The significant voltage fluctuation indicates the formation of lithium dendrite.