

## Supporting Information for

### Facile Fabrication of Nanoporous Graphene Powder for High-Rate Lithium-Sulfur Batteries

*Huajie Zhuang,<sup>a,b</sup> Wei Deng,<sup>a</sup> Wei Wang,<sup>\*a</sup> Zhaoping Liu,<sup>\*a</sup>*

**Author address:**

<sup>a</sup>Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences,  
Ningbo, Zhejiang 315201, P. R. China

<sup>b</sup>Nano Science and Technology Institute, University of Science and Technology of China  
Suzhou, Jiangsu, 215123, P.R. China

**Author E-mail address:**

zhuanghuajie@nimte.ac.cn

dengwei@nimte.ac.cn

wangwei@nimte.ac.cn

liuzp@nimte.ac.cn

**Corresponding Author Footnote:** Tel: +8657486685096, Fax: +86 574 86685096

E-mail: [wangwei@nimte.ac.cn](mailto:wangwei@nimte.ac.cn), [liuzp@nimte.ac.cn](mailto:liuzp@nimte.ac.cn)

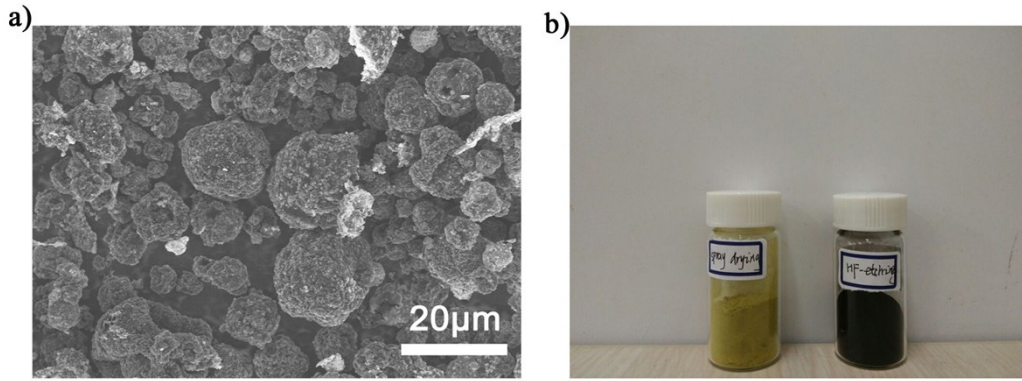


Figure S1 (a) SEM image of NGP-SiO<sub>2</sub> and (b) Optical Photograph of the powder after spray drying and HF-etching.

As shown in Figure S1a, microsized NGP-SiO<sub>2</sub> spheres with diameter of 10 -20 μm were obtained by spray drying method. Optical Photograph of the powder after spray drying and HF-etching was shown in Figure S1b. 1.1 g NGP can be collected by spray drying 800 ml solution with 12.8 g PVA contained, more product can be obtained if more solution was prepared.

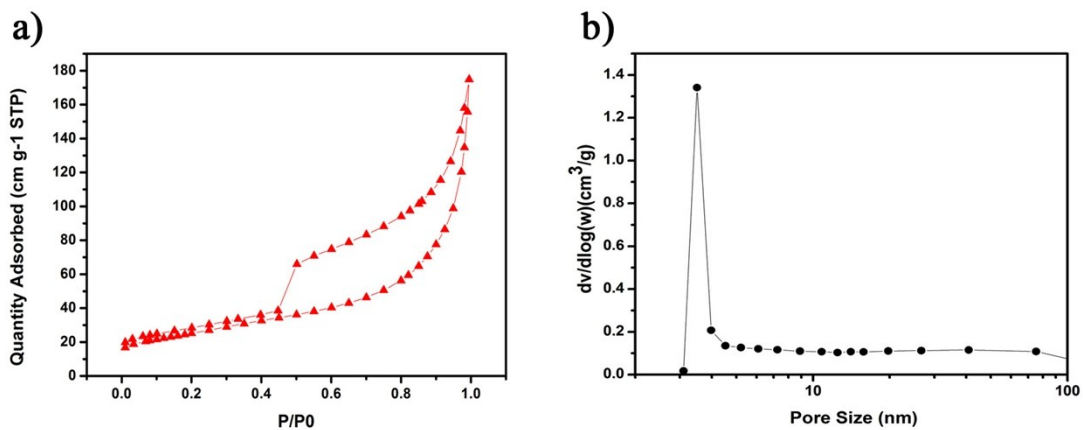


Figure S2 (a) Nitrogen adsorption-desorption isotherms and (b) Pore size distribution of DGP.

As shown in Figure S2a and S2b, the SSA of DGP is about 90 cm<sup>2</sup> g<sup>-1</sup>, and only pore peak at about 4 nm is observed which is consisted with the information shown in TEM image.

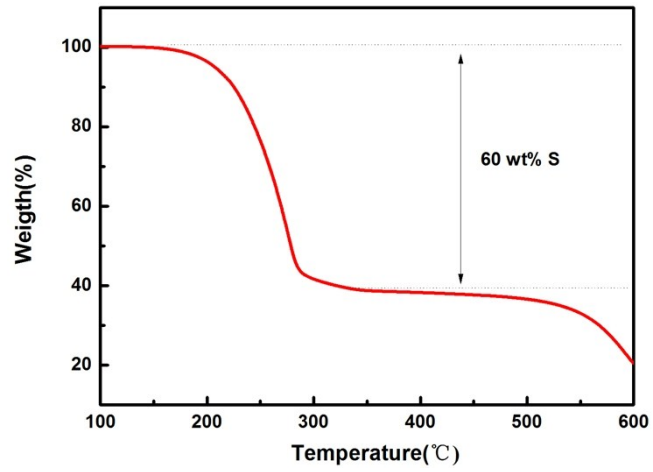


Figure S3 TG cure of NGP/S

As shown in Figure S3, with the temperature range of from 25°C to 600°C, an obvious weight loss happened at between 200 and 300 °C, which was related to a sulfur content of about 60 wt%.