Supporting Information

Dual doping strategy enhanced the lithium storage properties of graphene oxide binary composite

Yang Luo,^a Dingding Yuan,^b Muhammad-Sadeeq Balogun,^a Hao Yang,^a Weitao Qiu,^a Jincheng Liu,^b Peng Liu,^a Yexiang Tong,^a*

^a MOE of the Key Laboratory of Bioinorganic and Synthetic Chemistry, KLGHEI of Environment and Energy Chemistry. The Key Lab of Low-carbon Chem & Energy Conservation of Guangdong Province, School of Chemistry and Chemical Engineering, Sun Yat-Sen University, 135 Xingang West Road, Chemical North Building 325 Guangzhou 510275, China

^b EVE Energy Co., Ltd, Huifeng 7th Road, Zhongkai Hi-Tech Zone, Huizhou Town, Guangdong, 516006, China



Figure S1. TGA curves of the SFSG composite under air atmosphere at a heating rate of 10 °C min⁻¹. The content of GO is 35.97 % by calculation. The initial 2.97 % weight loss is due to physically adsorbed water.



Figure S2. XRD patterns of the FSG and SG composites



Figure S3. (a) SEM images of the graphene sheet. (b) SEM images of the SG composite.

(c) TEM images of the SG composite



Figure S4. Comparison of the 5th cycle CV curves of the SG and SFSG composites.



Figure S5 Impedance spectra of the SFSG and SG composites.



Figure S6. SEM image of the SFSG after electrochemical performance after 100 cycles at a current density of 500 mAh g^{-1} .



Figure S7. Survey XPS curve of the SFSG composite, showing the presence of F and S in the composite.