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## **Supporting Information**

## Graphene-based cobalt sulfides composite hydrogel with enhanced

## electrochemical properties for supercapacitors

Xiaoqian Meng, Huan Sun, Junwu Zhu\*, Huiping Bi, Qiaofeng Han, Xiaoheng Liu, Xin Wang Key Laboratory for Soft Chemistry and Functional Materials, Nanjing University of Science and Technology, Ministry of Education, Nanjing 210094, China *E-mail:* <u>zhujw@njust.edu.cn</u>



Fig. S1. TEM images of (a) GH, (b) Co<sub>x</sub>S<sub>y</sub>, and (c-d) CoSGH.



Fig. S2. SEM images of (a) GH, (b)  $Co_xS_y$ , and (c-d) CoSGH.



Fig. S3. Galvonostatic charge-discharge curves of samples with different ratios of  $GO/Co_xS_y$  at a current density of 1 A g<sup>-1</sup>.



Fig. S4. Galvonostatic charge-discharge curves of samples obtained in different volumetric ratios of isopropanol/water at a current density of 1 A  $g^{-1}$ .



Fig. S5. Rate performances of CoSGH and  $Co_xS_y$  at different current densities.