

Supporting information for

An Electrochemical Approach to Graphene Oxide Coated Sulfur for Long Cycle Life

Joonhee Moon^{1†}, Jungjin Park^{2,3†}, Insu Jo¹, Seung-Ho Yu^{2,3}, Cheolho Jeon⁶, Jouhahn Lee⁶, Sung-Pyo Cho^{1,4}, Yung-Eun Sung^{2,3*}, Byung Hee Hong^{1,5*}

¹*Department of Chemistry, College of Natural Science, Seoul National University, Seoul 151-747, Republic of Korea*

²*School of Chemical and Biological Engineering, Seoul National University, Seoul 151-742, Republic of Korea.*

³*Center for Nanoparticle Research, Institute for Basic Science (IBS), Seoul 151-742, Republic of Korea*

⁴*National Center for Inter-University Research Facilities, Seoul National University, Seoul 141-742, Republic of Korea*

⁵*Graduate School of Convergence Science and Technology, Seoul National University, Suwon 443-270, Republic of Korea*

⁶*Korea Basic Science Institute, Daejeon 302-333, Republic of Korea*

† These authors contributed equally to this work.

*Corresponding author, E-mail: byunghee@snu.ac.kr

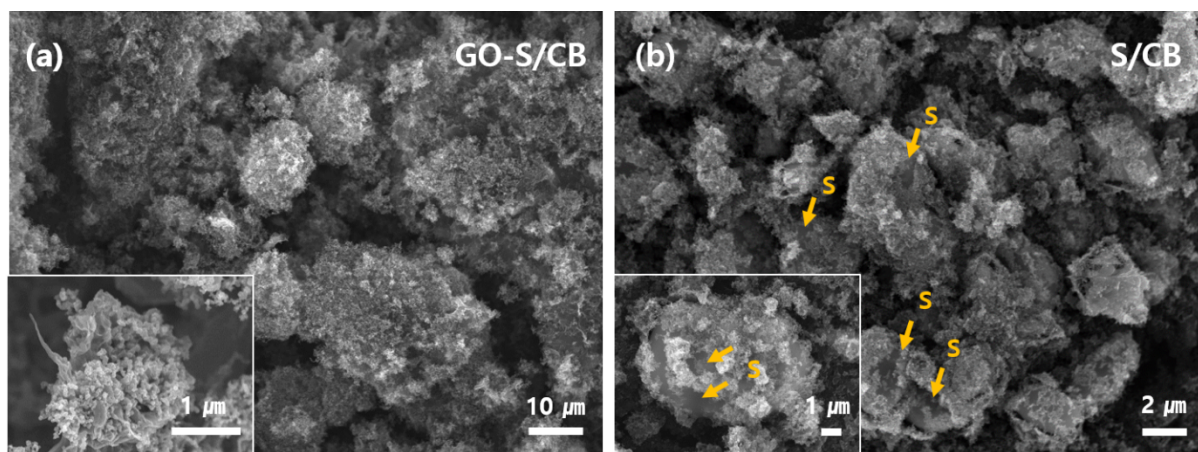


Figure S1. SEM images of (a) GO-S/CB and (b) S/CB composites. The insets show the magnified images of GO-S/CB and S/CB, respectively.

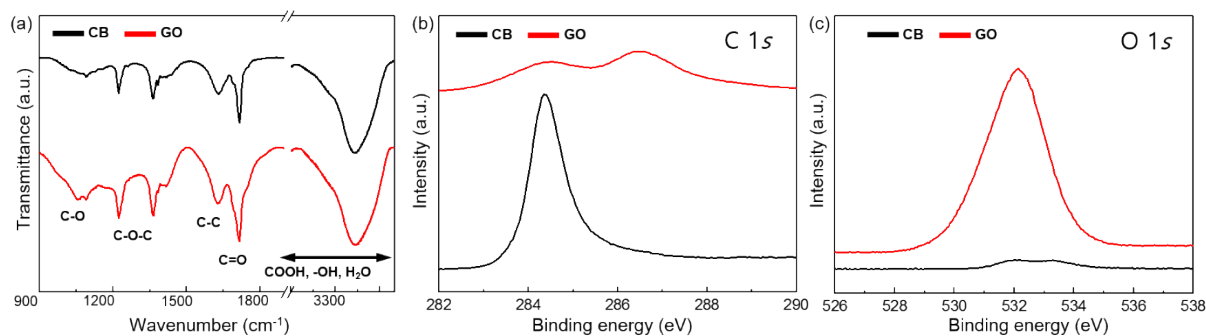


Figure S2. (a) Fourier transform infrared spectroscopy (FTIR) spectra of CB and GO. Strong peaks attributed to the characteristic vibrational mode of oxygen functional groups. X-ray photoelectron spectroscopy of CB and GO. (b) C 1s peaks and (c) O 1s peaks. Compared to CB, GO shows higher oxygen related peaks such as $-\text{OH}$, $\text{C}=\text{O}$, $\text{C}-\text{O}$ and $\text{C}-\text{O}-\text{C}$ at 3434 cm^{-1} , 1725 cm^{-1} , $1024\text{--}1180\text{ cm}^{-1}$, and 1200 cm^{-1} , respectively. In addition, the C 1s peak of CB is sharp and strong, while the peaks of GO at 286.27 and 287.18 cm^{-1} are rather broad and weak. On the contrary, the O 1s peak of GO is stronger than that of CB.