

## Supporting information

### **S, Se-codoped dual carbon coating and Se substitution in Co-alkoxide-derived CoS<sub>2</sub> through SeS<sub>2</sub> triggered selenization for high-performance sodium-ion batteries**

Kaiqin Li,<sup>#</sup> Yuqi Kang,<sup>#</sup> Chengjiang Deng,<sup>#</sup> Yanfeng Wang, Haocun Ba, Qi An, Xiaoyan Han,\*  
Shaozhuan Huang\*

Key Laboratory of Catalysis and Energy Materials Chemistry of Ministry of Education & Hubei  
Key Laboratory of Catalysis and Materials Science, South-Central Minzu University, Wuhan,  
430074, China

Email: xyhan@scuecc.edu.cn; husz001@scuecc.edu.cn

<sup>#</sup> Kaiqin Li, Yuqi Kang, and Chengjiang Deng contributed equally to this work.

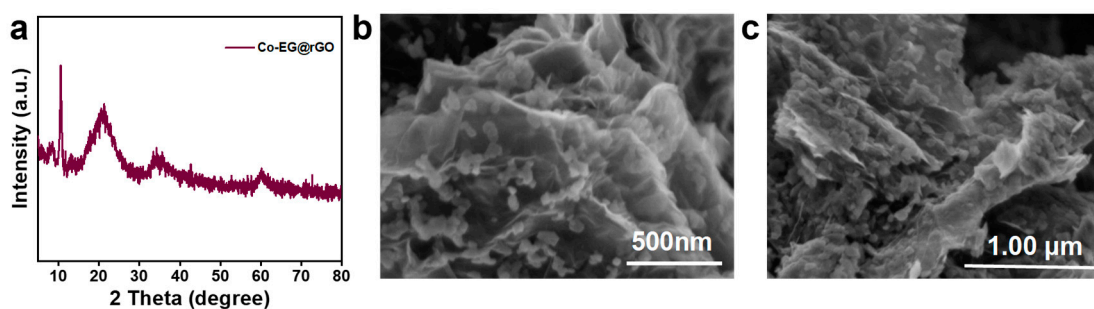


Figure S1. (a) XRD pattern of Co-EG@rGO, (b-c) SEM images of Co-EG@rGO.

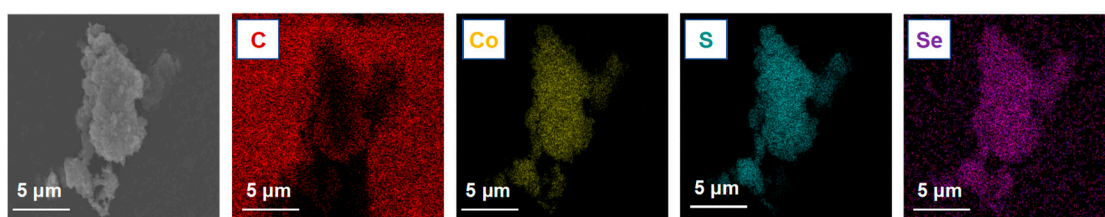


Figure S2. Elemental mapping images of the Se-CoS<sub>2</sub>/C.

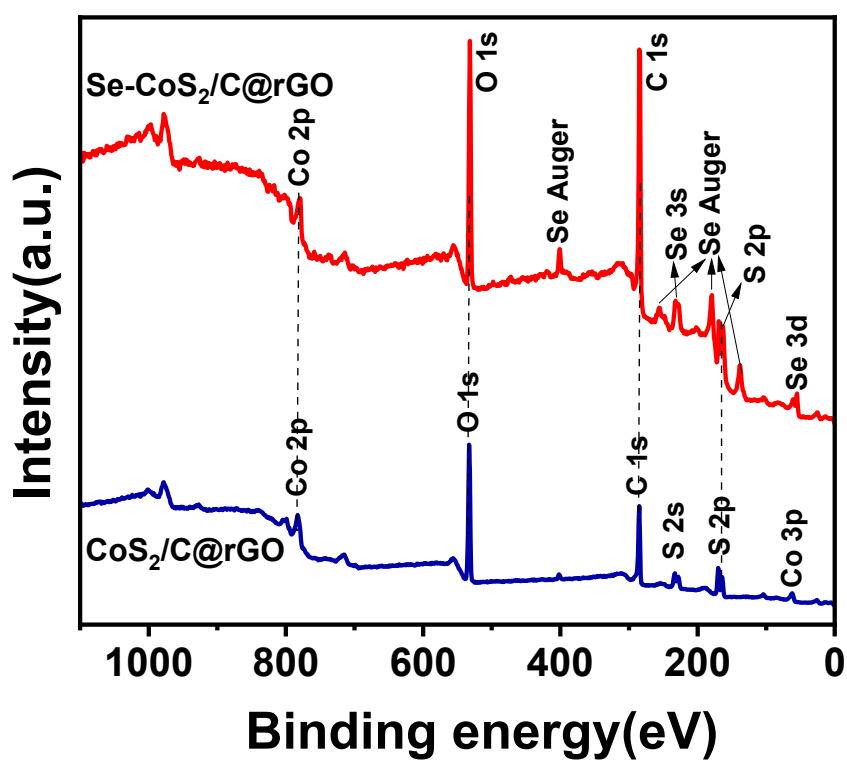


Figure S3. Survey XPS spectra of CoS<sub>2</sub>/C@rGO and Se-CoS<sub>2</sub>/C@rGO samples.