

Electronic Supplementary Information

BiSbS₃@N-doped carbon core-shell nanorods as efficient anode materials for sodium-ion batteries

Siying Wen,^a Jiachang Zhao,^{a,*} Jiajun Chen,^b Jingxia Yang^a and Jingli Xu^a

^aCollege of Chemistry and Chemical Engineering, Shanghai University of Engineering Science, Shanghai 201620, P. R. China

^bPegasus Power Energy Co., Ltd., Hangzhou 310019, China

*corresponding author : zjc@sues.edu.cn (Jiachang Zhao)

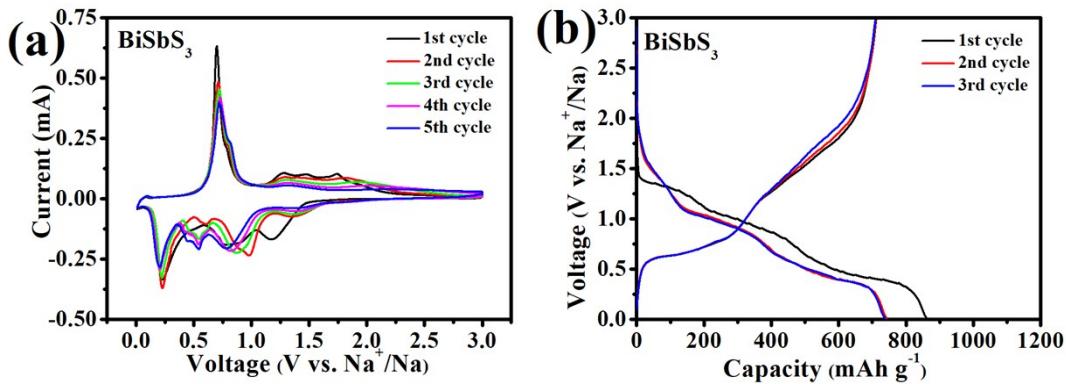


Fig. S1 (a) CV curves of the first five cycles of BiSbS₃ nanorods, (b) galvanostatic charge-discharge profiles of BiSbS₃ nanorods.

Table S1 A comparison of our work with previously reported performances of Sb₂S₃(Bi₂S₃)-based materials for SIBs.

Materials	Current density /mA g ⁻¹	Capacity/mA h g ⁻¹ (Cycle number)	Initial Coulombic efficiency	Reference
BiSbS ₃ @NC	100	893.5(1)-468.3(100)	80.3%	This work
rGO@Bi ₂ S ₃ hybrid	100	665(1)-261(100)	76.2%	1
Bi ₂ S ₃ /3D N-doped graphene	125	447(2)-307(100)	66% (62 mA g ⁻¹)	2
Bi ₂ S ₃ -Bi ₂ O ₃ heterostructured nanosheets	100	821(1)-477(20)	69.5%	3
Bi ₂ S ₃ @CNT	60	980(1)-84.8(60)	81.1%	4
Bi ₂ S ₃ -PPy	312.5	about 500(1)-360(60)	77% (62.5 mA g ⁻¹)	5
Chrysanthemum-like Bi ₂ S ₃	500	874(1)-437(250)	55.7%	6
carbon coated Sb ₂ S ₃ hollow spheres	200	704(1)-545.7(100)	64.76%	7
Flowerlike Sb ₂ S ₃ /PPy Microspheres	100	720(1)-427(50)	80.5%	8

Sb ₂ S ₃ hollow microspheres	200	988(1)-384.0(50)	62%	9
Sb ₂ S ₃ on multiwalled carbon nanotubes	50	660(1)-412.3(50)	79.21%	10

Reference

1. J. Xiang, Z. Liu and T. Song, *J Alloys Compd*, 2018, **768**, 426-432.
2. C. Lu, Z. Li, L. Yu, L. Zhang, Z. Xia, T. Jiang, W. Yin, S. Dou, Z. Liu and J. Sun, *Nano Res.*, 2018, **11**, 4614-4626.
3. W. Luo, F. Li, Q. Li, X. Wang, W. Yang, L. Zhou and L. Mai, *ACS Appl. Mater. Interfaces*, 2018, **10**, 7201-7207.
4. W. Yang, H. Wang, T. Liu and L. Gao, *Mater. Lett.*, 2016, **167**, 102-105.
5. H. Liang, J. Ni and L. Li, *Nano Energy*, 2017, **33**, 213-220.
6. S. Liu, Z. Cai, J. Zhou, A. Pan and S. Liang, *J Alloys Compd*, 2017, **715**, 432-437.
7. P. Ge, H. Hou, X. Ji, Z. Huang, S. Li and L. Huang, *Mater Chem Phys*, 2018, **203**, 185-192.
8. T. Zheng, G. Li, L. Zhao and Y. Shen, *Eur J Inorg Chem*, 2018, **2018**, 1224-1228.
9. J. Xie, L. Liu, J. Xia, Y. Zhang, M. Li, Y. Ouyang, S. Nie and X. Wang, *Nano-Micro Lett.*, 2017, **10**, 12.
10. J. Li, D. Yan, X. Zhang, S. Hou, D. Li, T. Lu, Y. Yao and L. Pan, *Electrochim. Acta*, 2017, **228**, 436-446.