

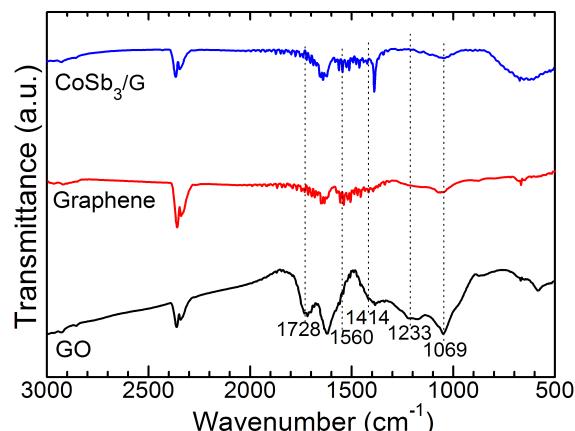
## Supplementary information

### Enhanced thermoelectric properties of p-type CoSb<sub>3</sub>/graphene nanocomposite

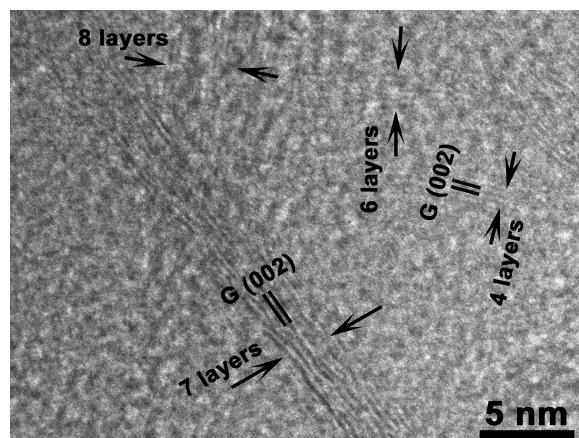
Bin Feng,<sup>ab</sup> Jian Xie,\*<sup>ab</sup> Gaoshao Cao,<sup>ab</sup> Tiejun Zhu,<sup>ab</sup> and Xinbing Zhao<sup>\*ab</sup>

<sup>a</sup>State Key Laboratory of Silicon Materials, Department of Materials Science and Engineering, Zhejiang University, Hangzhou 310027, China. E-mail: xiejian1977@zju.edu.cn; zhaoxb@zju.edu.cn; Fax: +86-571-87951451; Tel: +86-571-87951451

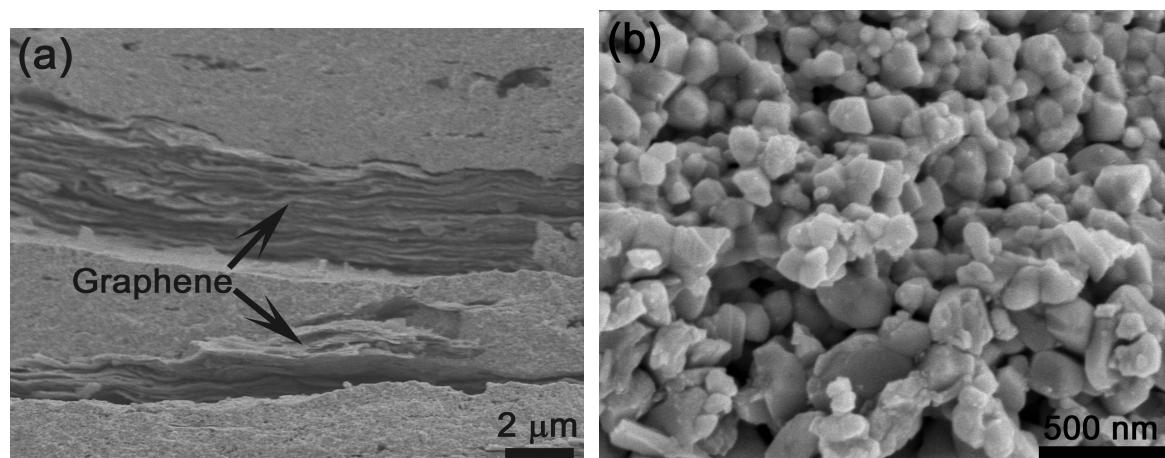
<sup>b</sup>Key Laboratory of Advanced Materials and Applications for Batteries of Zhejiang Province, China



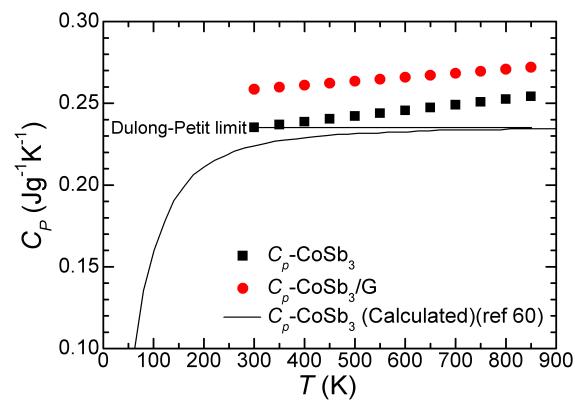
**Fig.S1** FTIR of CoSb<sub>3</sub>/G, graphene and GO powder.



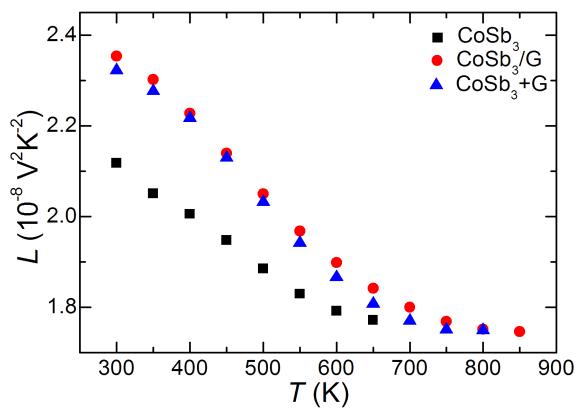
**Fig. S2** HRTEM image of the folded area of a CoSb<sub>3</sub>/G flake.



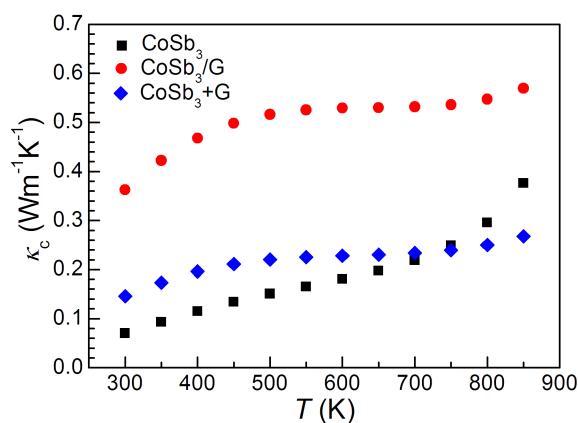
**Fig. S3** Cross section SEM images of (a)  $\text{CoSb}_3+\text{G}$  and (b) bare  $\text{CoSb}_3$  bulk samples.



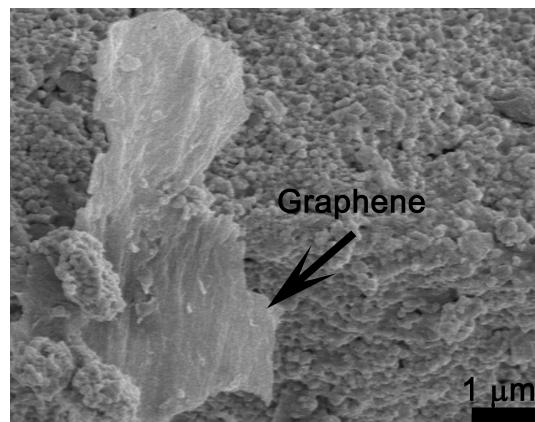
**Fig. S4** Specific heat of  $\text{CoSb}_3$ ,  $\text{CoSb}_3/\text{G}$  and the calculated specific heat of  $\text{CoSb}_3$ .



**Fig. S5** Temperature dependence of the calculated Lorenz numbers of  $\text{CoSb}_3$ ,  $\text{CoSb}_3/\text{G}$  and  $\text{CoSb}_3+\text{G}$  samples.



**Fig. S6** Carrier thermal conductivity of bulk  $\text{CoSb}_3$ ,  $\text{CoSb}_3/\text{G}$  and  $\text{CoSb}_3+\text{G}$  samples.



**Fig. S7** Cross section SEM images of  $\text{CoSb}_3/\text{G}$ .