

Supporting Information for

Sb-Doped BiTe/Graphene Composite as an Efficient Electrocatalyst for Hydrogen Evolution Reaction

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Figure S14. Particle size statistics of BiTeI before and after exfoliated.

Figure S15. Cyclic voltammograms in the region of 0.21–0.27 V vs. RHE for the $\text{Sb}_{0.05}\text{-BiTeI}/\text{G}$, $\text{Sb}_{0.05}\text{-BiTeI}$, Ex-BiTeI and BiTeI.

Figure S16. ECSA-normalized LSV curves of BiTeI, Ex-BiTeI, $\text{Sb}_{0.05}\text{-BiTeI}$ and $\text{Sb}_{0.05}\text{-BiTeI}/\text{G}$.

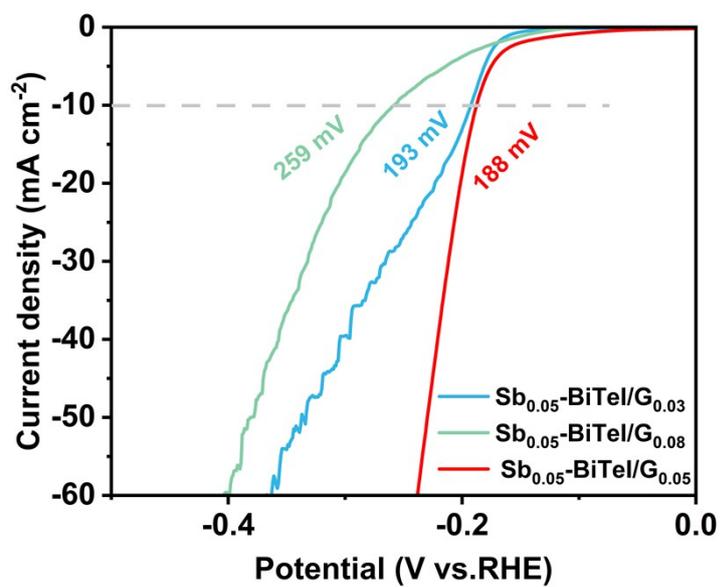


Figure S1 The LSV curve of $\text{Sb}_{0.05}\text{-BiTeI}/\text{G}_x$ ($x=0.03, 0.05$ and 0.08)

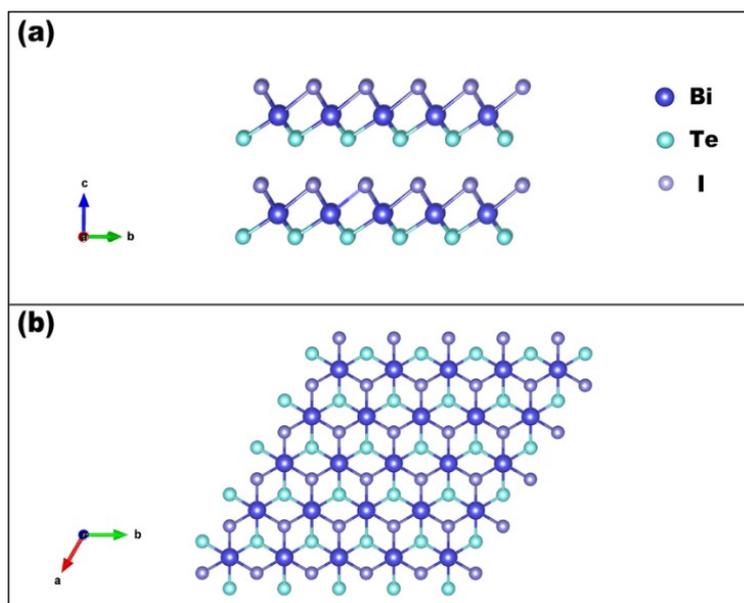


Figure S2. BiTeI (a) Side View and (b) Top View.

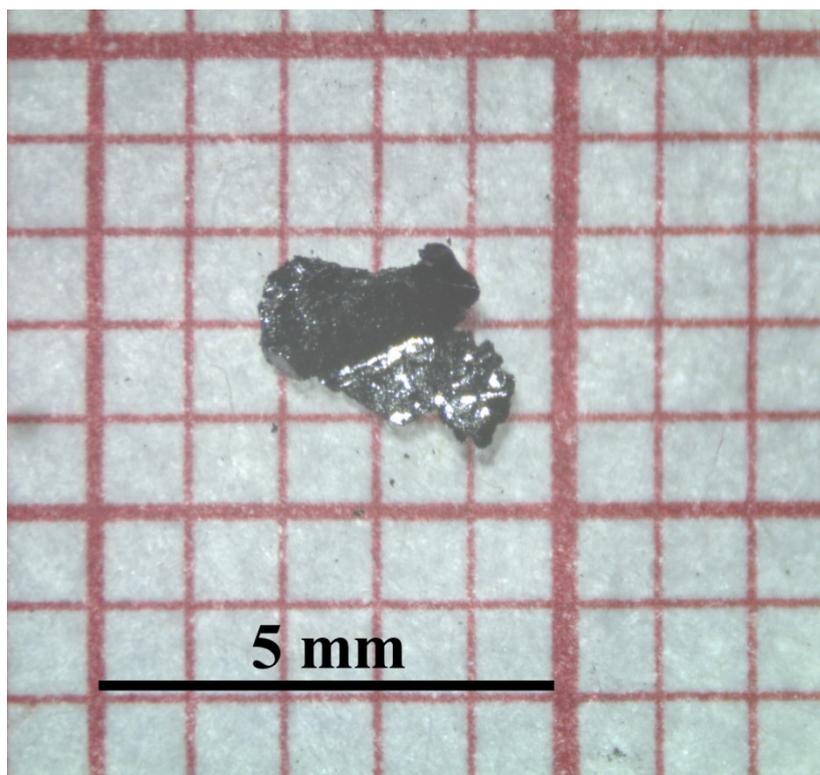


Figure S3. Optical image of the single crystal flakes of BiTeI.

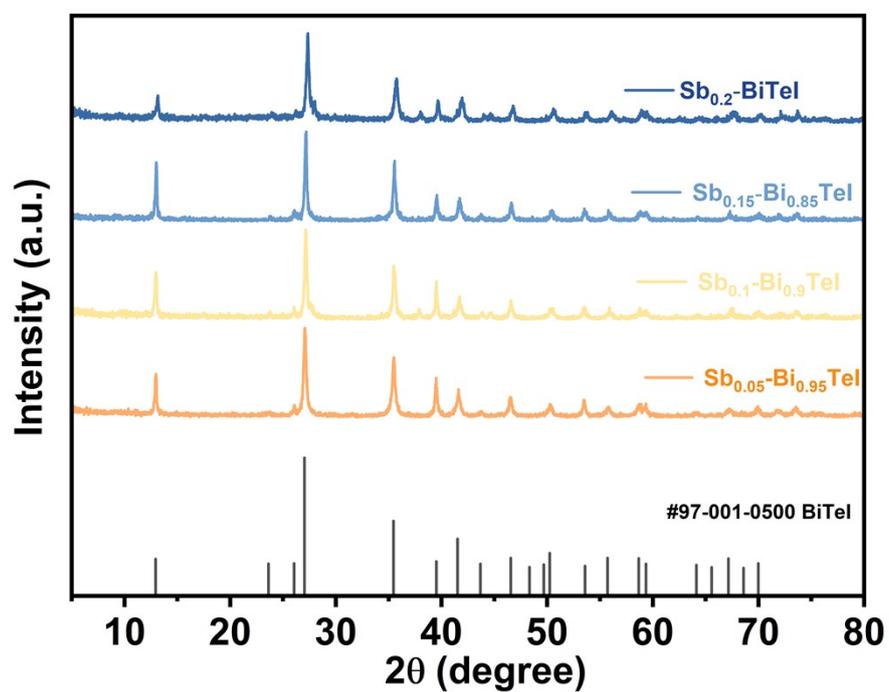


Figure S4. XRD of Sb_x-BiTeI (x=0.05,0.1,0.15,0.2).

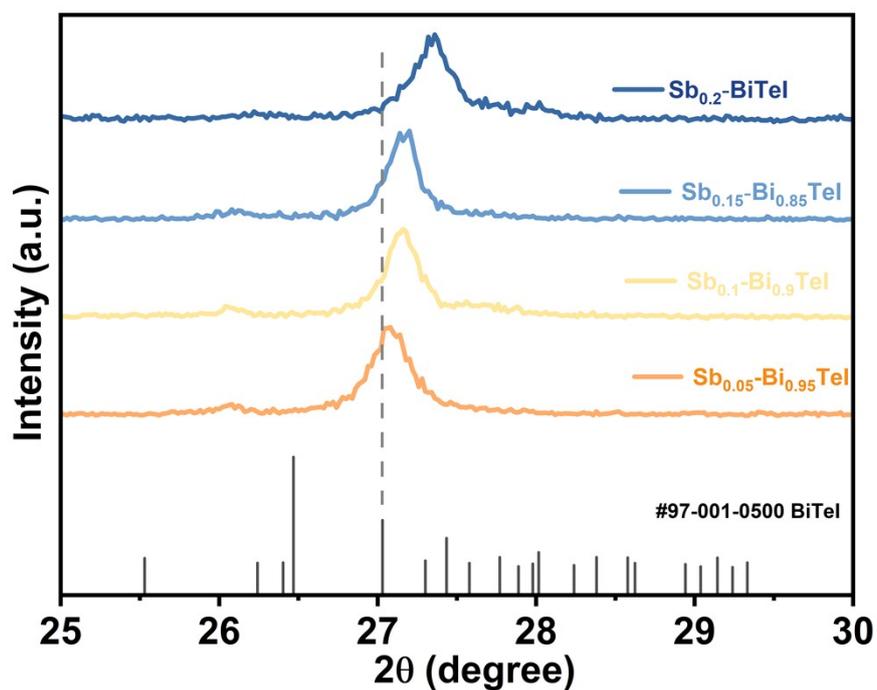


Figure S5. Magnified XRD patterns of the (101) facets of $\text{Sb}_x\text{-BiTeI}$ ($x = 0.05, 0.1, 0.15, 0.2$).

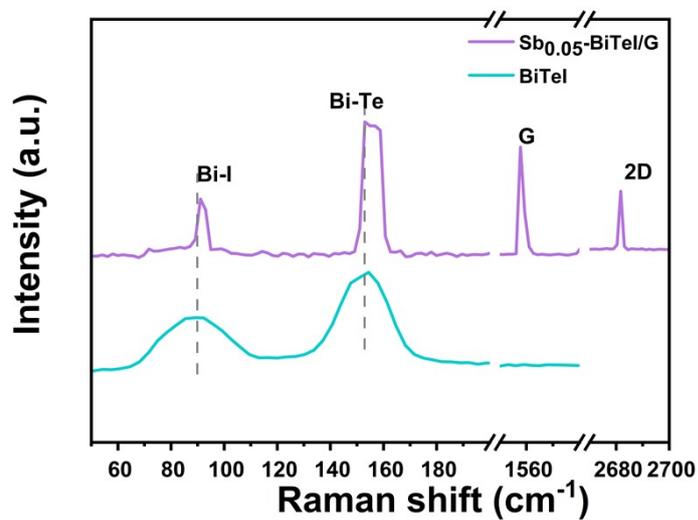


Figure S6. Raman spectra of $\text{Sb}_{0.05}\text{-BiTeI/G}$.

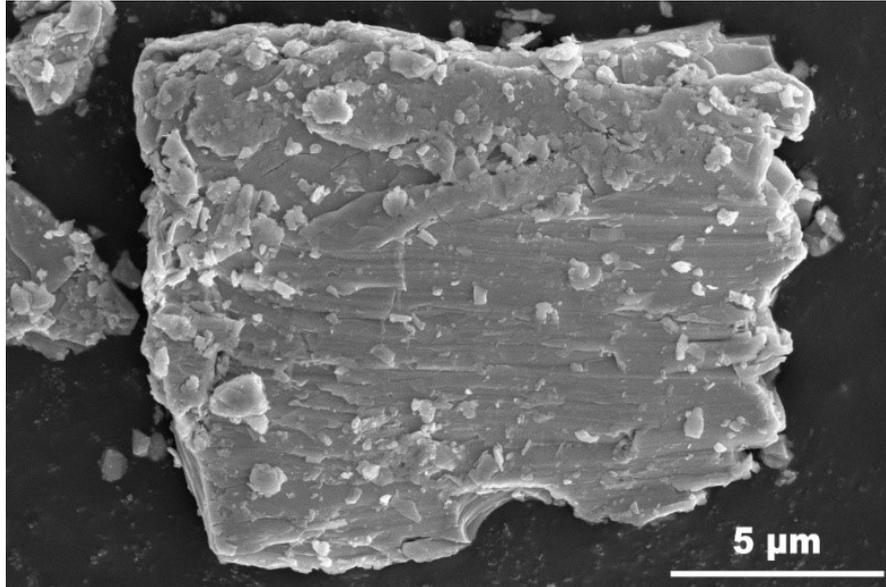


Figure S7. SEM image of BiTeI.

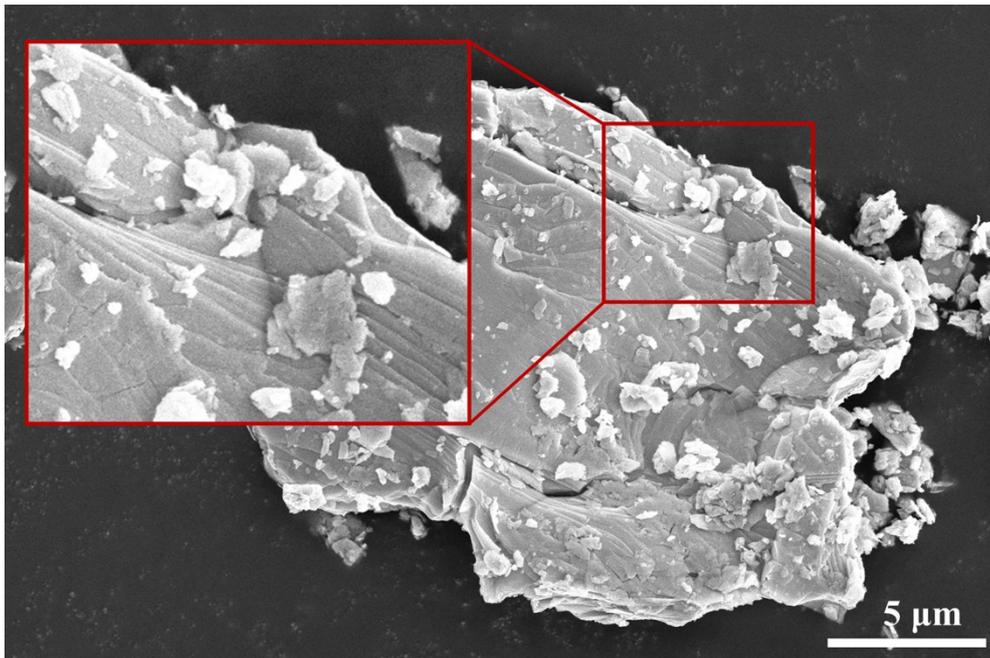


Figure S8. SEM image of Sb_{0.05}-BiTeI/G.

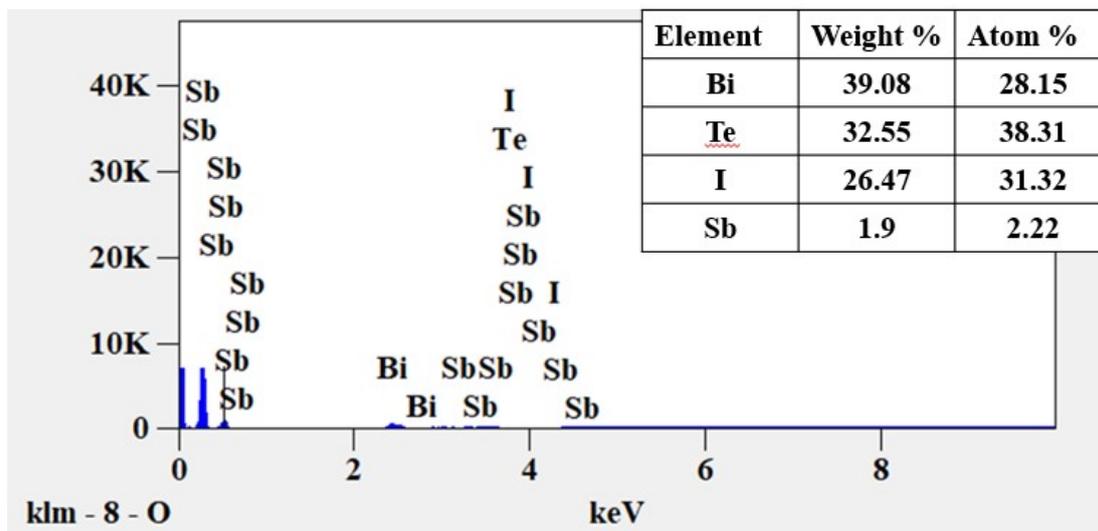


Figure S9. SEM-EDAX results of the $\text{Sb}_{0.05}\text{-BiTeI/G}$.

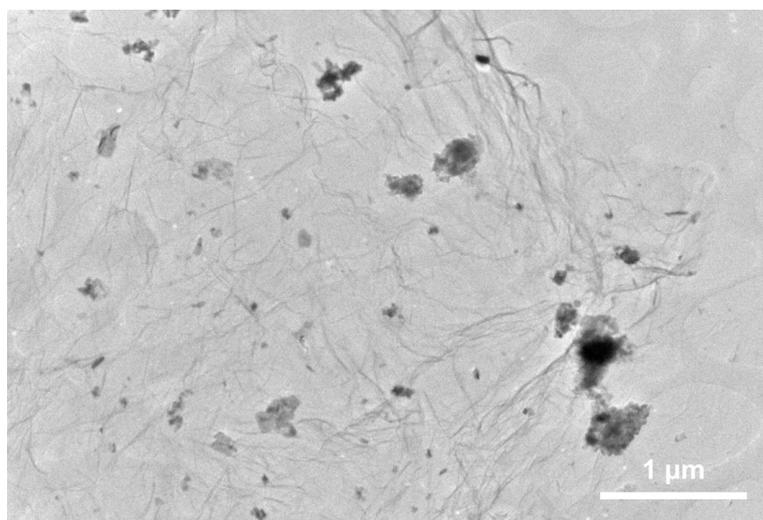


Figure S10. Low-magnification TEM image of the $\text{Sb}_{0.05}\text{-BiTeI/G}$ composite.

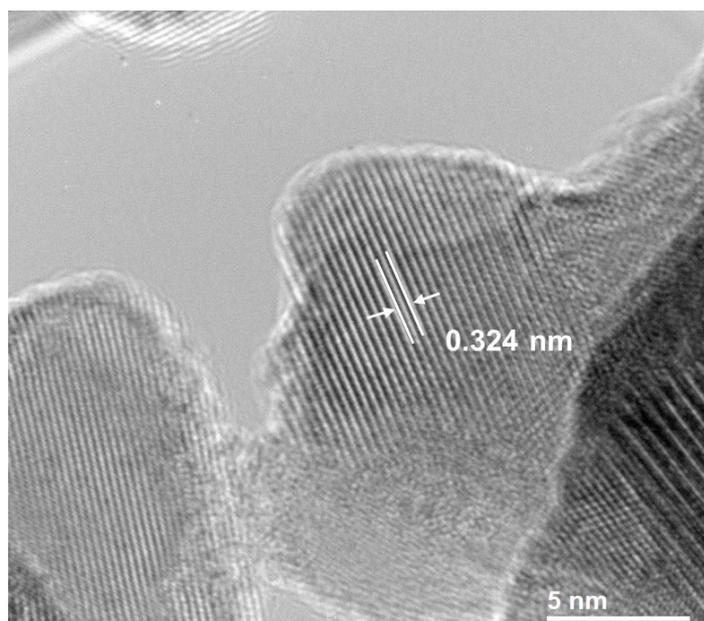


Figure S11. The HRTEM images of BiTeI show the (100) facets with a d-spacing value of 0.324 nm.

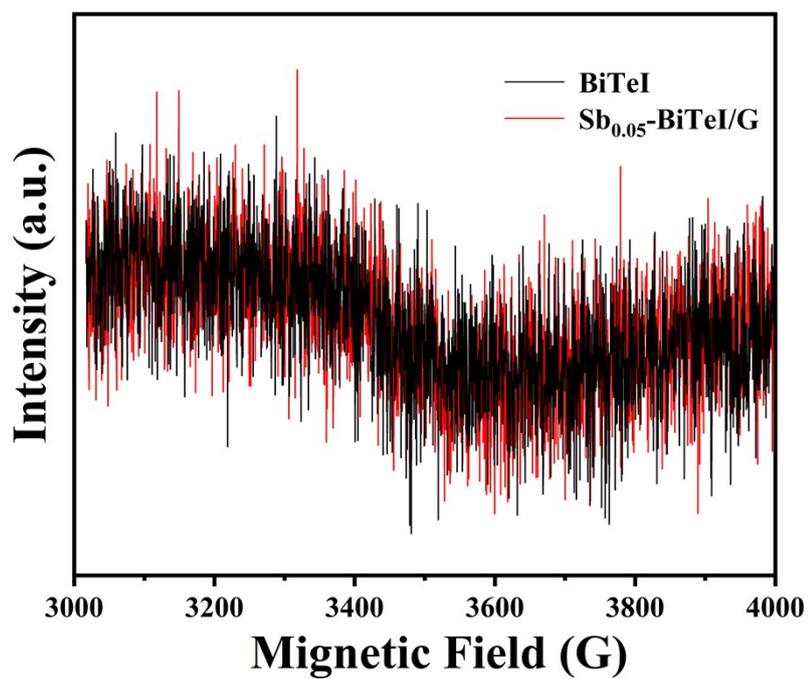


Figure S12. EPR spectrum of BiTeI and Sb_{0.05}-BiTeI/G

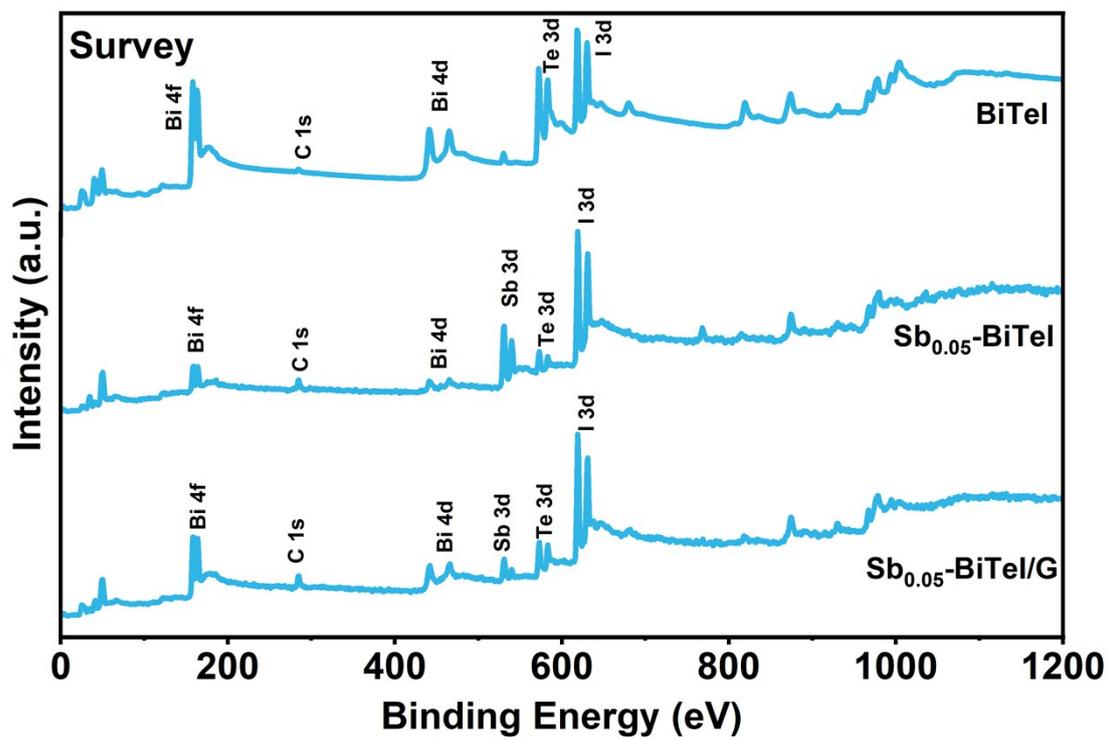


Figure S13. XPS spectra of survey in BiTeI, $Sb_{0.05}$ -BiTeI and $Sb_{0.05}$ -BiTeI/G.

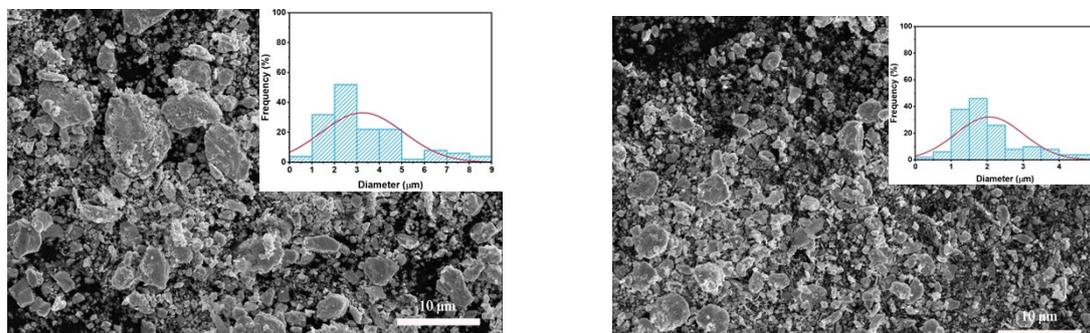


Figure S14. Particle size statistics of BiTeI before and after exfoliated.

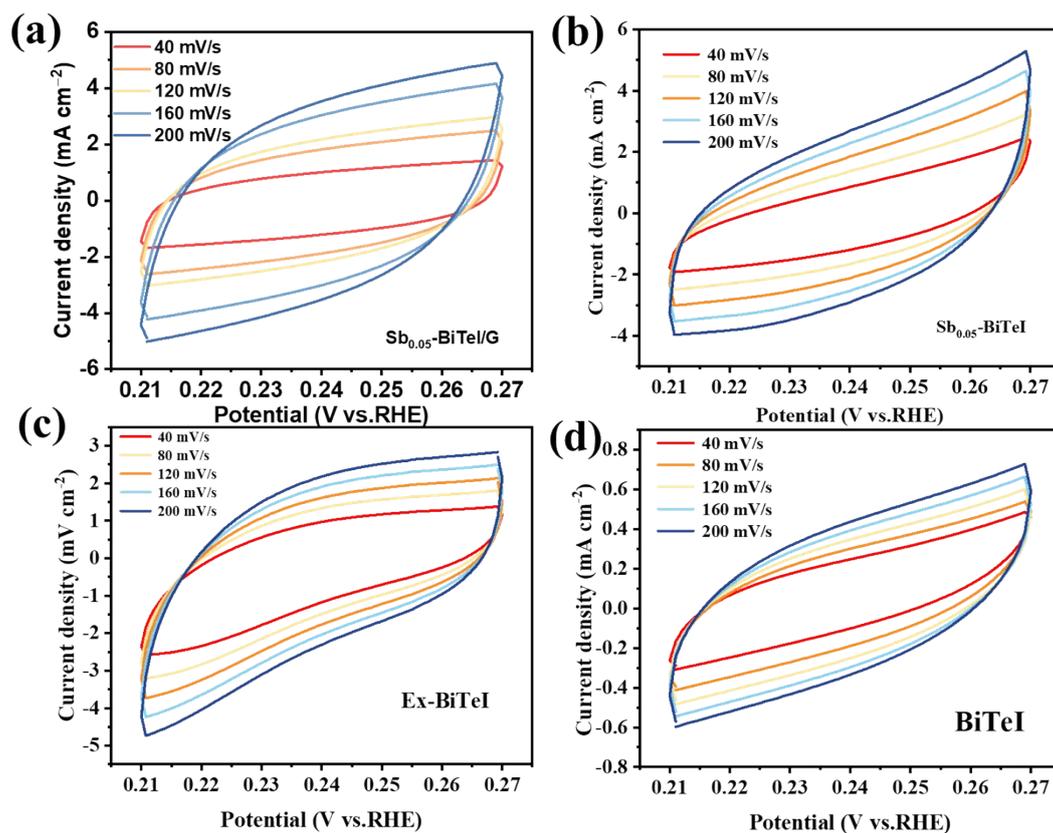


Figure S15. Cyclic voltammograms in the region of 0.21–0.27 V vs. RHE for the (a) $\text{Sb}_{0.05}\text{-BiTeI/G}$, (b) $\text{Sb}_{0.05}\text{-BiTeI}$, (c) Ex-BiTeI and (d) BiTeI .

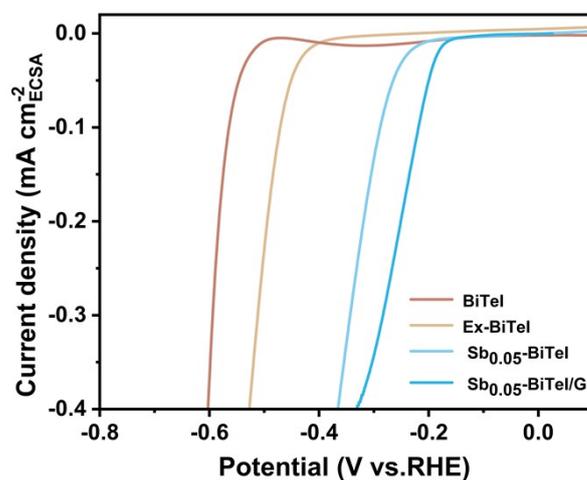


Figure S16. ECSA-normalized LSV curves of BiTeI , Ex-BiTeI , $\text{Sb}_{0.05}\text{-BiTeI}$ and $\text{Sb}_{0.05}\text{-BiTeI/G}$.