

Electronic Supplementary Information

All-Inorganic and Lead-Free BiI₃ Thin Film Solar Cells by Iodization of BiSI Thin Films

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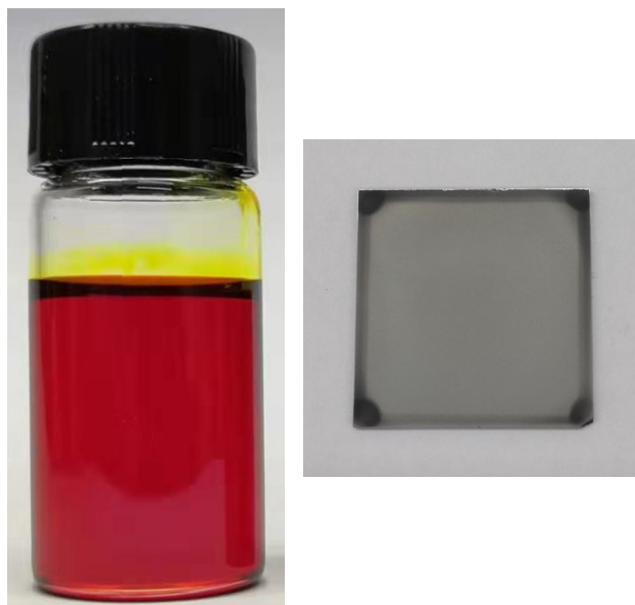


Figure S1. The as-prepared BiSI solution (left) and the iodized BiI₃ film (right).

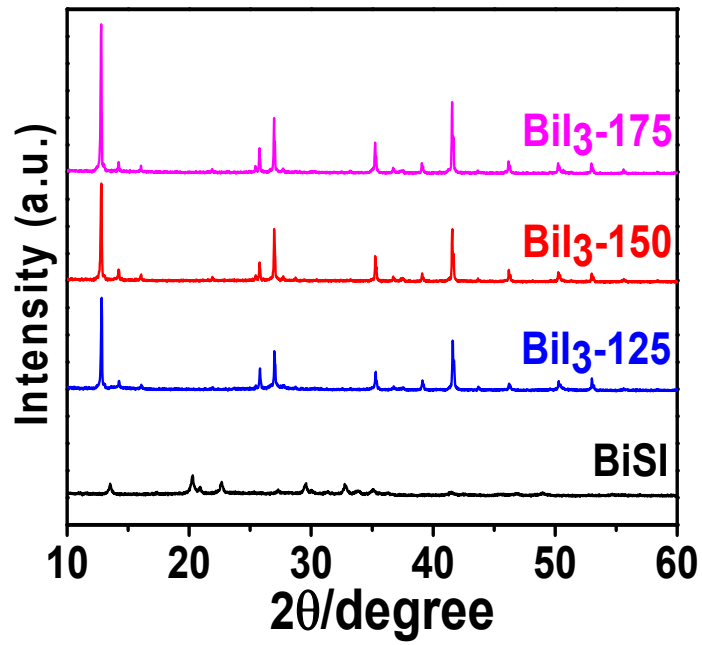


Figure S2. XRD patterns of BiSI thin film and BiI₃ thin films iodized at different temperatures.

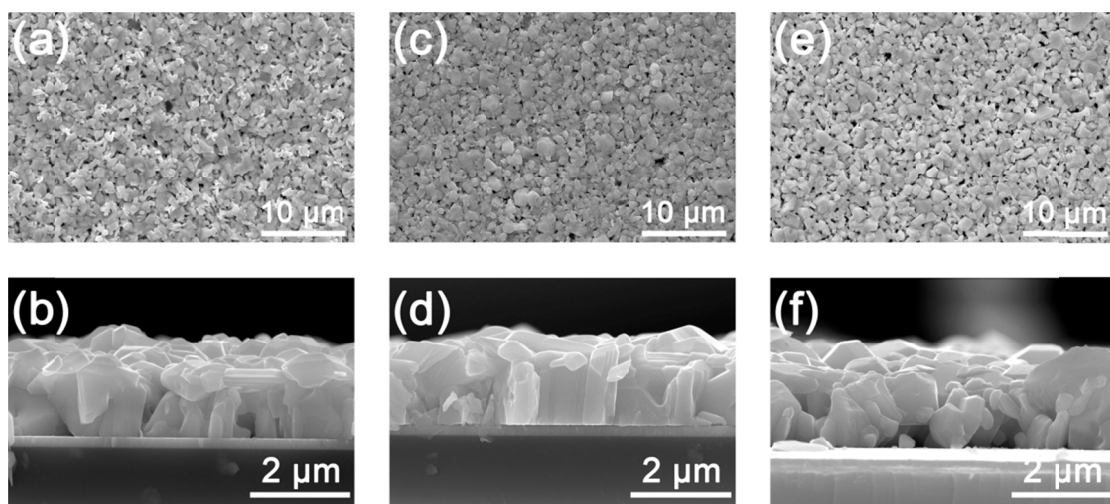


Figure S3. SEM images of BiI_3 thin films with different iodination duration time ((a, b) 15min; (c, d) 30min; (e, f) 45min).

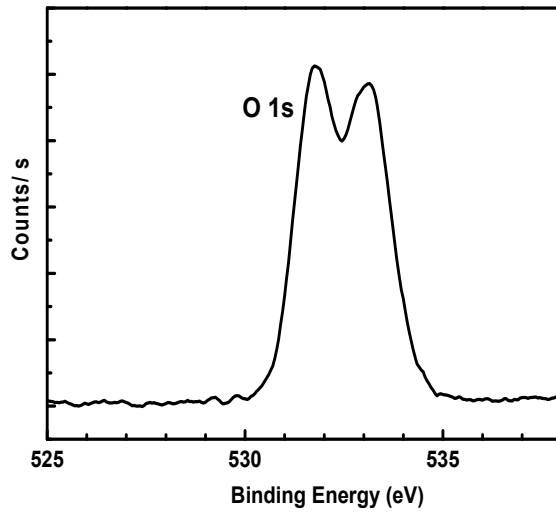


Figure S4. XPS spectrum of O 1s of BiI₃ thin film.

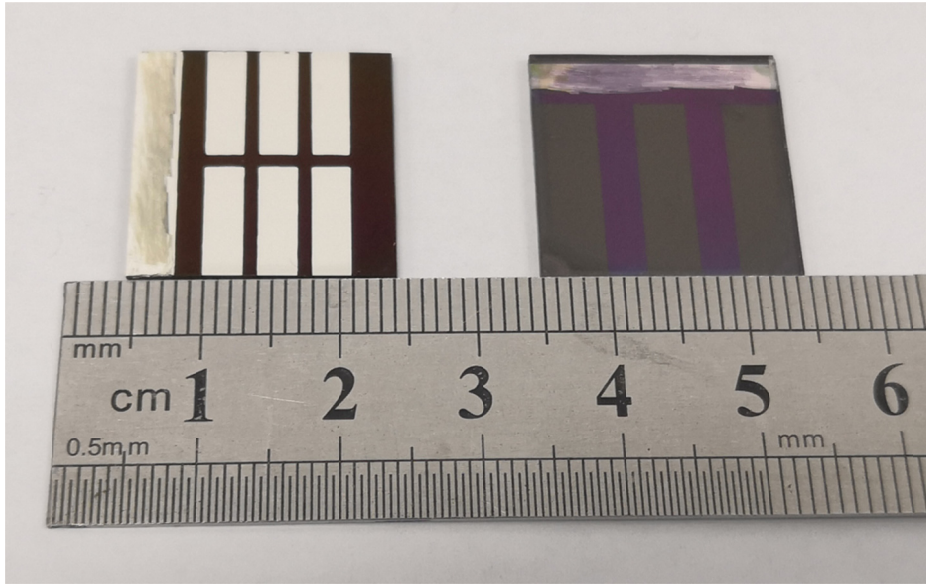


Figure S5. The as-prepared BiI₃ thin film solar cell devices.

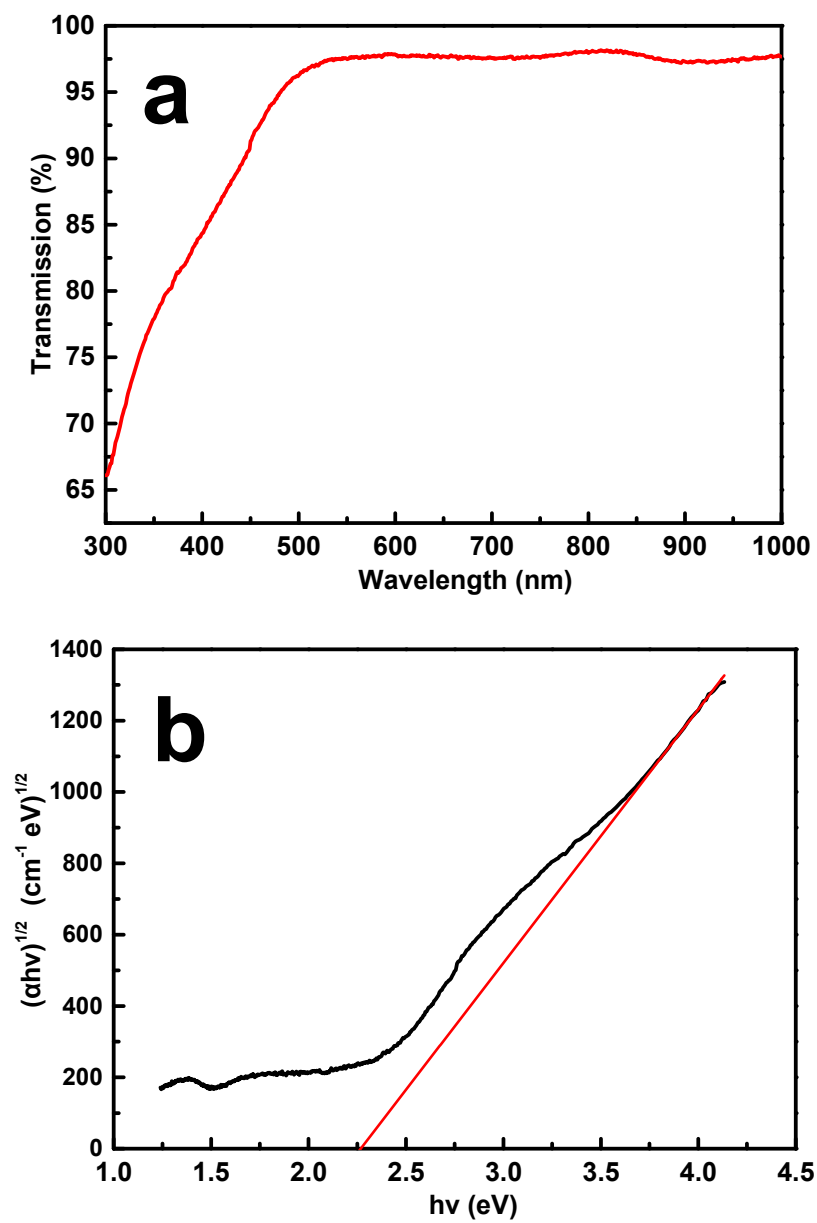


Figure S6. Transmission spectrum (a) and Tauc plot (b) of 10 nm thick V_2O_5 thin film.

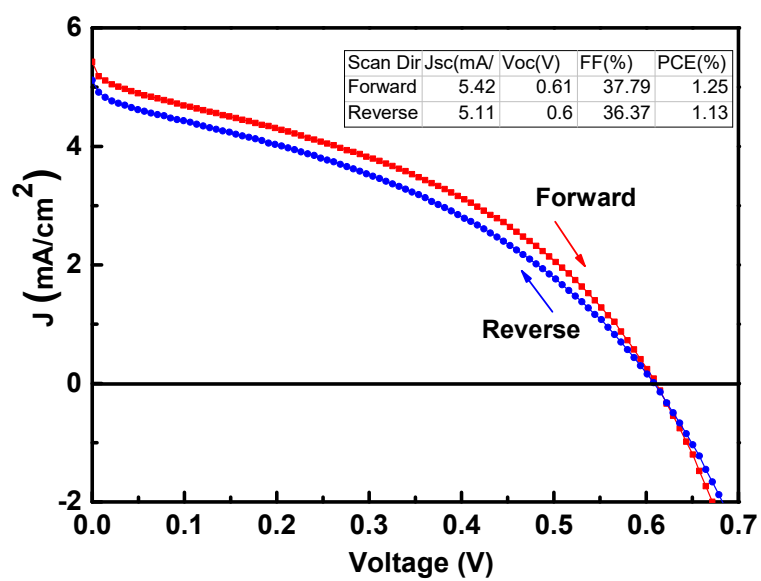


Figure S7. J-V curves of the BiI₃ solar cell measured at a forward direction and a reverse direction.

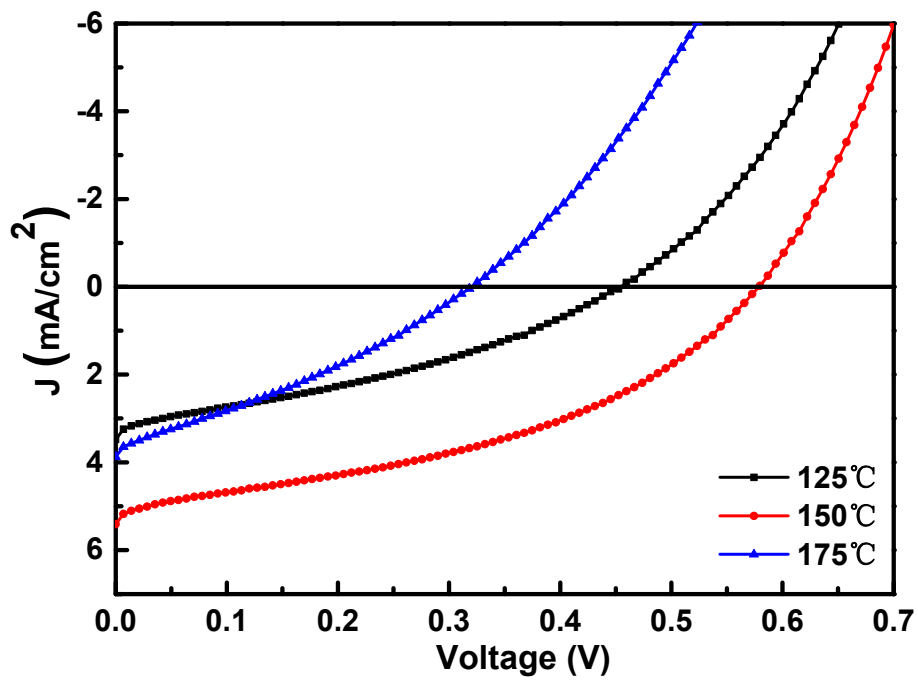


Figure S8. J-V curves of the BiI₃ thin film solar cells iodized at different temperatures.

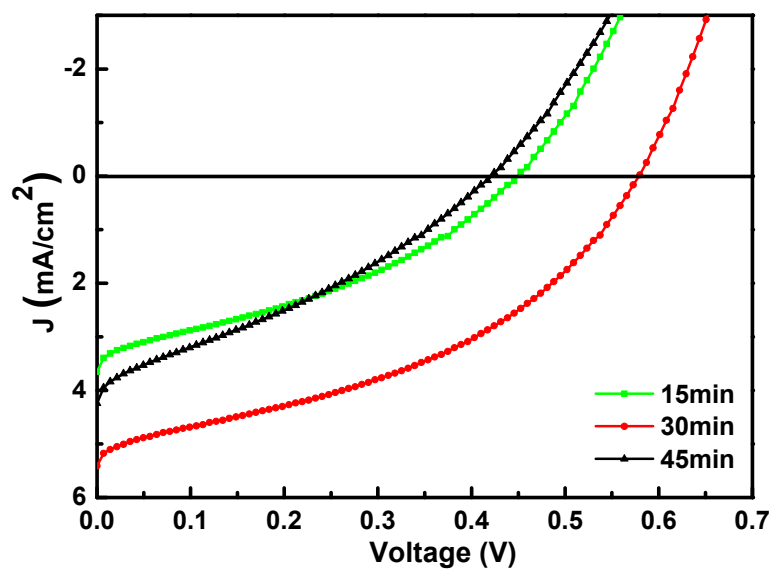


Figure S9. J-V curves of the BiI₃ thin film solar cells iodized with different time.

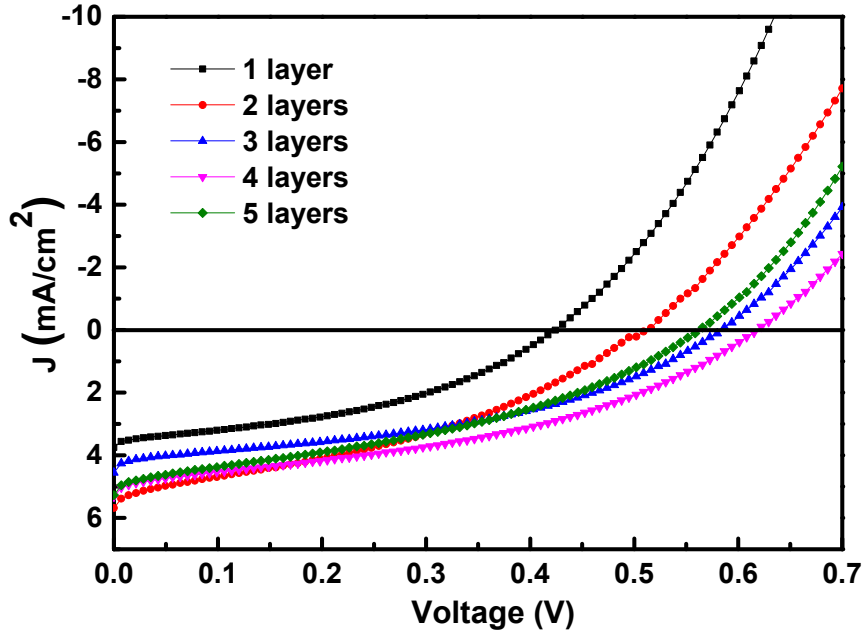


Figure S10. J-V curves of the BiI_3 thin film solar cells with different thicknesses for BiI_3 thin films.

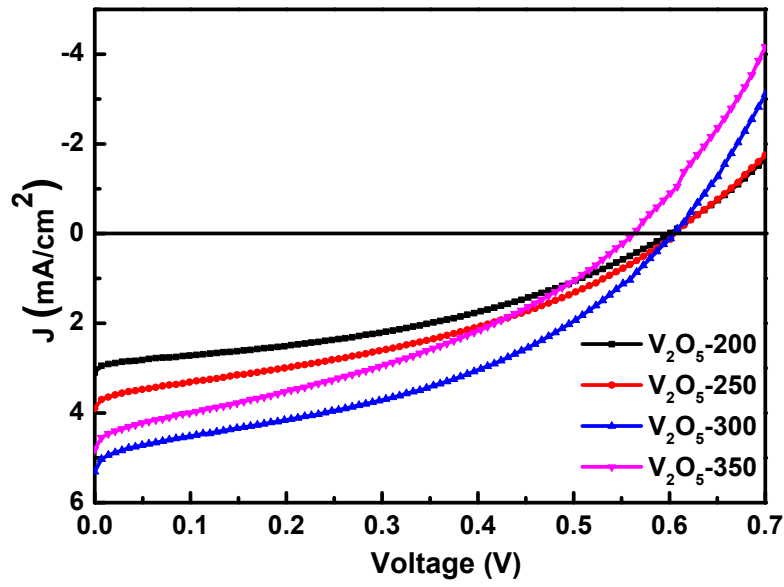


Figure S11. J-V curves of the BiI₃ thin film solar cells with different sintering temperatures for V₂O₅ thin films.

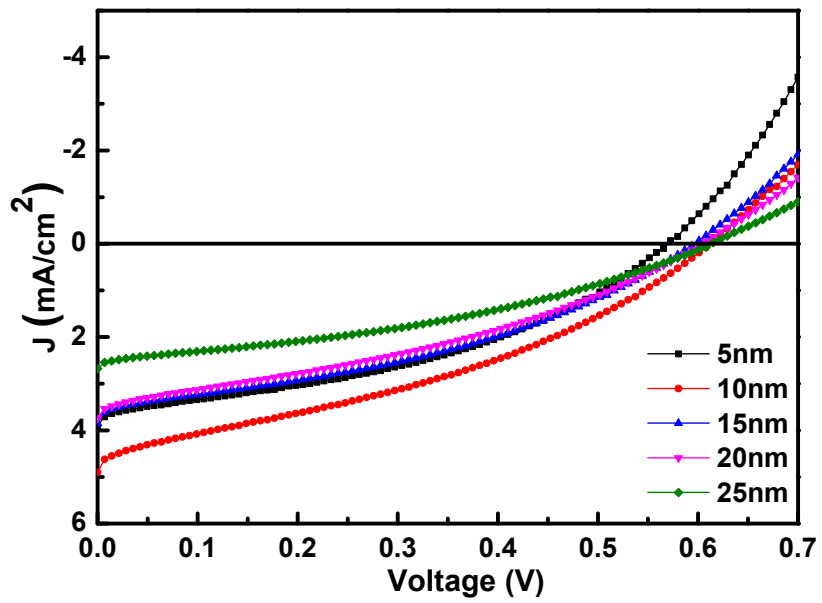


Figure S12. J-V curves of the BiI₃ thin film solar cells with different thicknesses for V₂O₅ thin films.

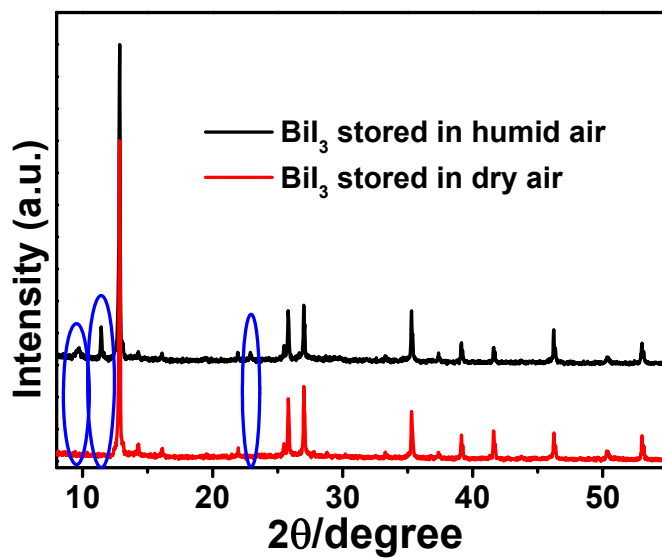


Figure S13. XRD patterns of the BiI₃ thin films stored in humid air and in dry air for 10 days.