Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supporting information

Construction of flexible photoelectrochemical solar cells based on ordered nanostructural BiOI/Bi_2S_3 heterojunction films

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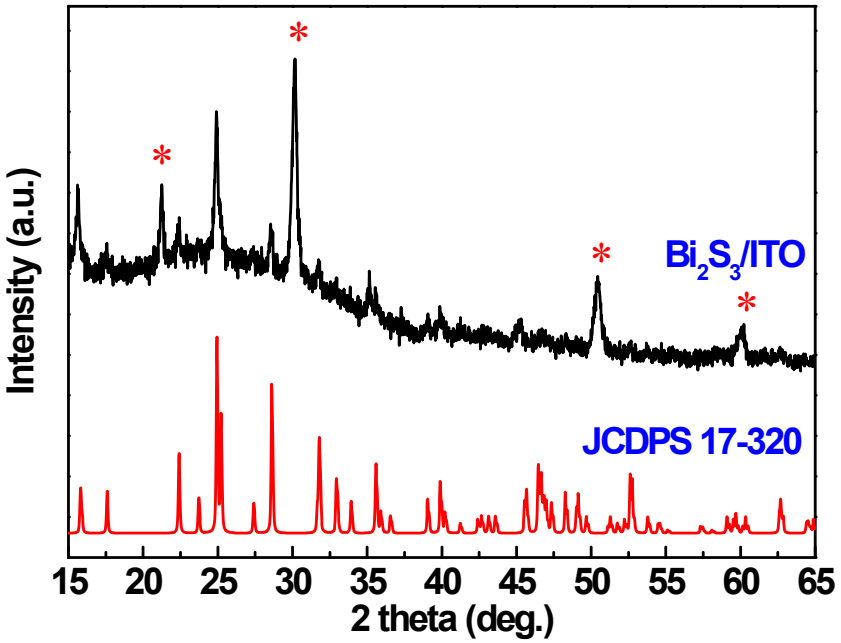

Fig. S1 XRD pattern of Bi_2S_3 prepared on ITO glass by SILAR method and standard pattern for orthorhombic structure Bi_2S_3 (JCPDS 17-320). The unmatched peaks are attributed to ITO, marked with asterisks.

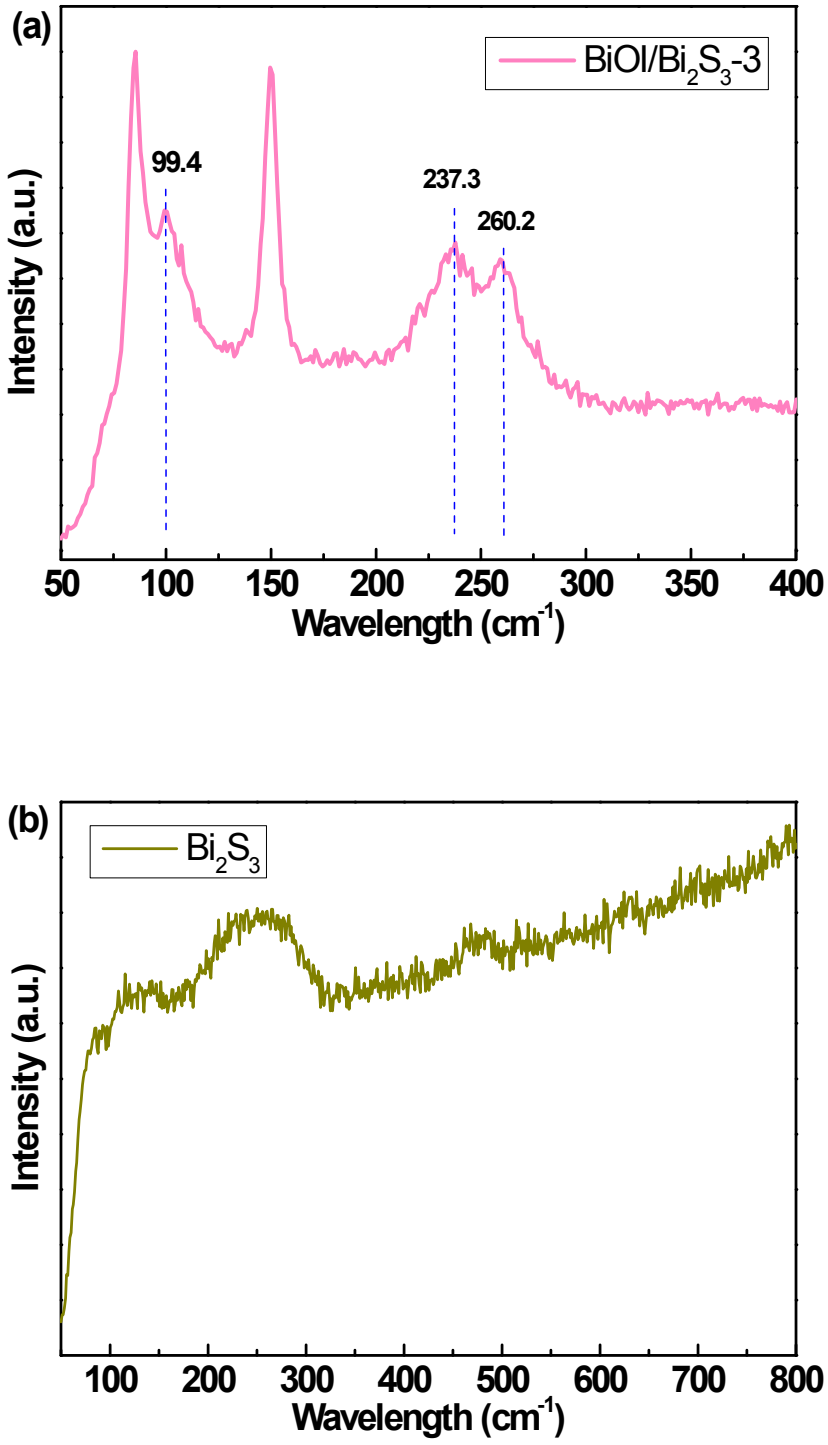

Fig. S2 Raman spectra of (a) BiOI/Bi_2S_3-3, and (b) pure Bi_2S_3 obtained on the ITO/PET substrate.

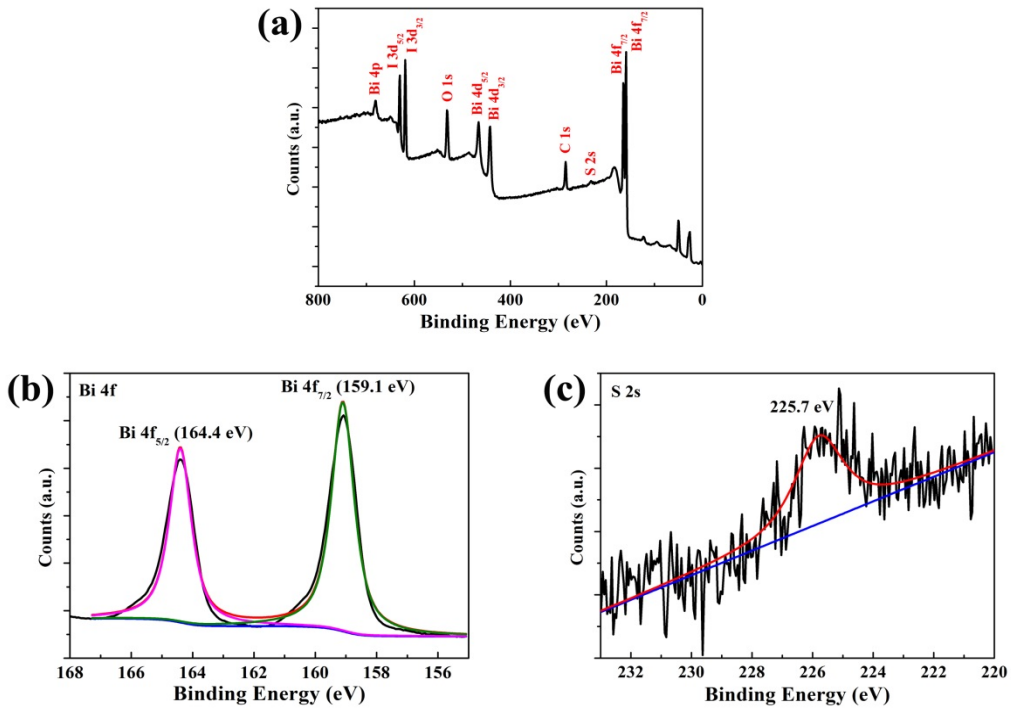

Fig. S3 XPS analysis of the BiOI/Bi_2S_3-0.5 film. (a) wide-scan spectrum, (b) high-resolution at bismuth region (Bi 4f), and (c) sulfur region (S 2s).

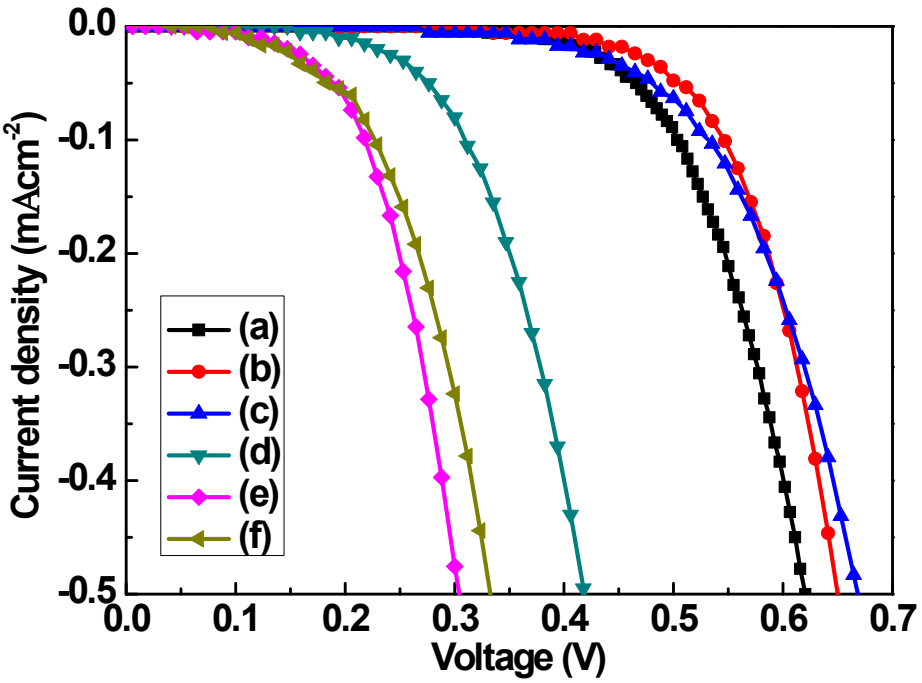

Fig. S4 The dark current density-voltage characteristics of (a) BiOI, (b) BiOI/Bi_2S_3-0.5, (c) BiOI/Bi_2S_3-1, (d) BiOI/Bi_2S_3-2, (e) BiOI/Bi_2S_3-3 and (f) Bi_2S_3 based flexible solar cells in the dark.

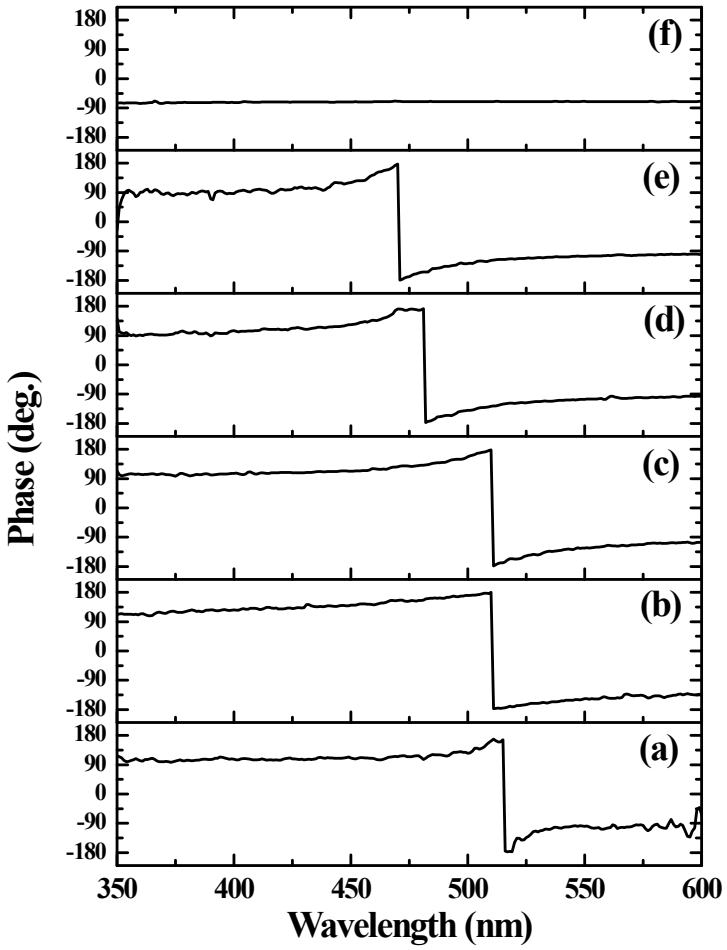

Fig. S5 The phase spectra of (a) BiOI, (b) BiOI/Bi_2S_3-0.5, (c) BiOI/Bi_2S_3-1, (d) BiOI/Bi_2S_3-2, (e) BiOI/Bi_2S_3-3 and (f) Bi_2S_3 films.

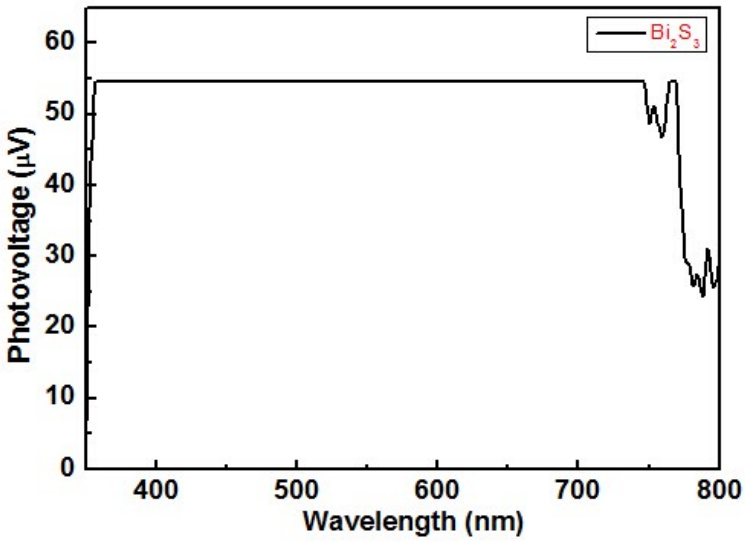

Fig.S6 The phase spectrum of pure Bi_2S_3 films.