Supporting Information

All-inorganic Perovskite $CsPbBr_3$ Microstructures Growth via Chemical Vapor Deposition for High-Performance Photodetectors

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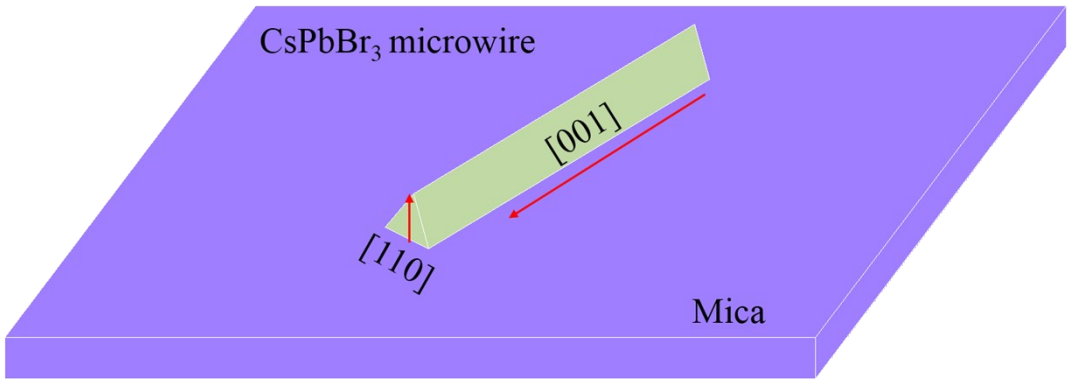

Figure S1. The schematic illustration of growth of $CsPbBr_3$ microwire on mica.

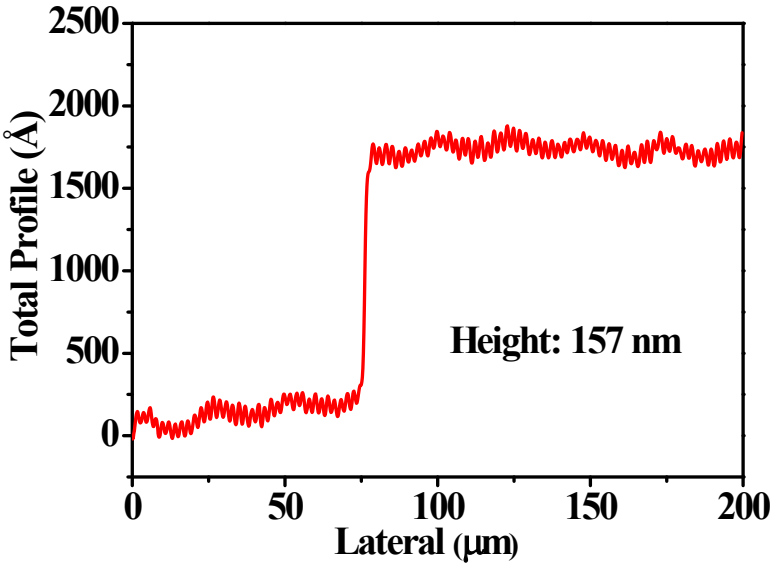

Figure S2. The thickness of typical $CsPbBr_3$ microplate edge.

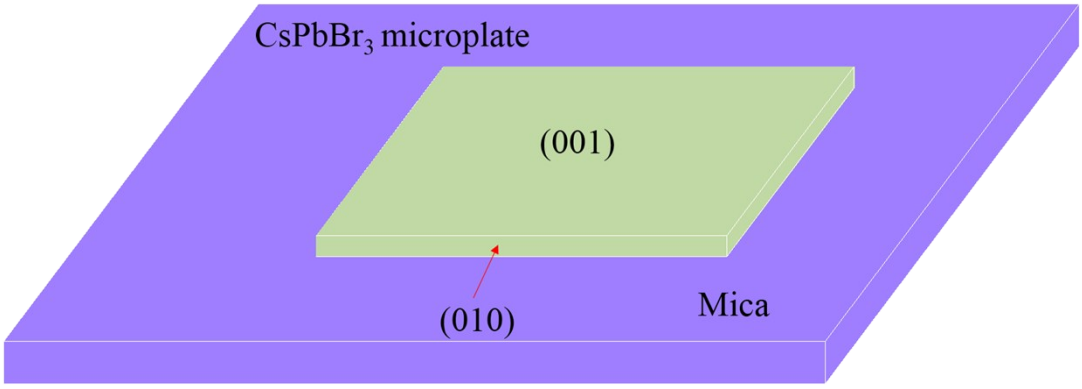

Figure S3. The $CsPbBr_3$ microplate grown on mica.

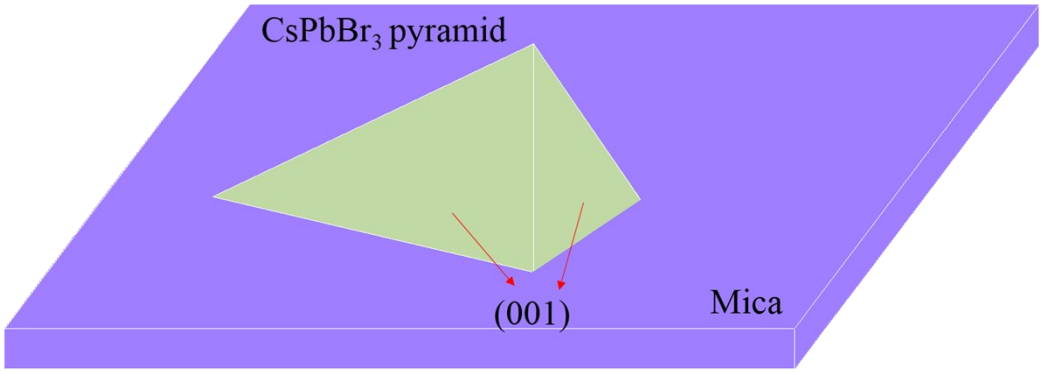

Figure S4. The $CsPbBr_3$ pyramid grown on mica.

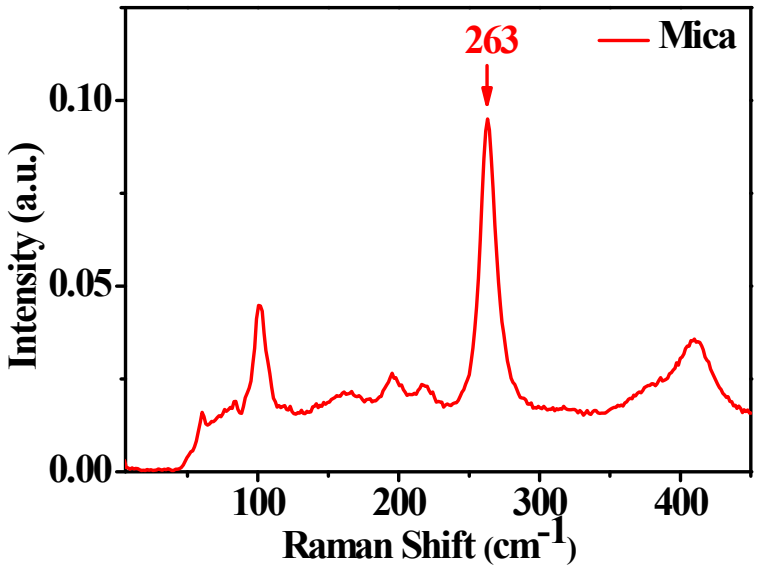

Figure S5. Raman spectra of mica substrate and the peak of 263 cm^{-1} was displayed in Figure 2b.

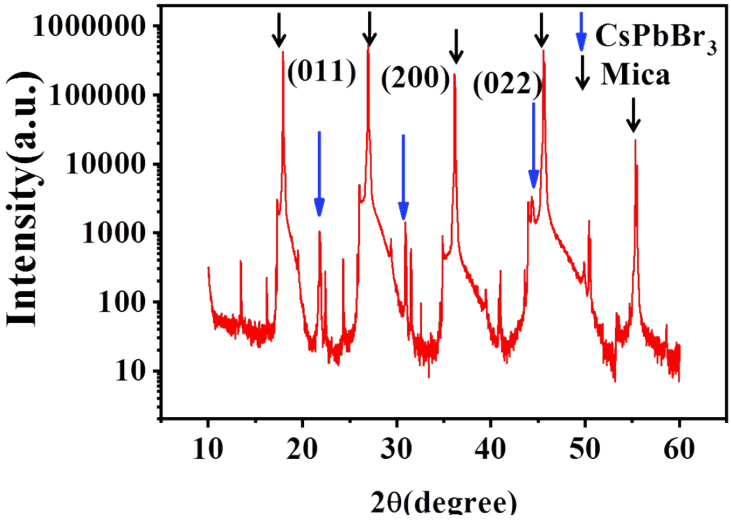

Figure S6. θ−2θ scan of $CsPbBr_3$ microstructures on mica with log scale. The main contribution from the wire are perovskite (011) and (022) peaks, which was corresponding to cubic (PDF#54-0752).

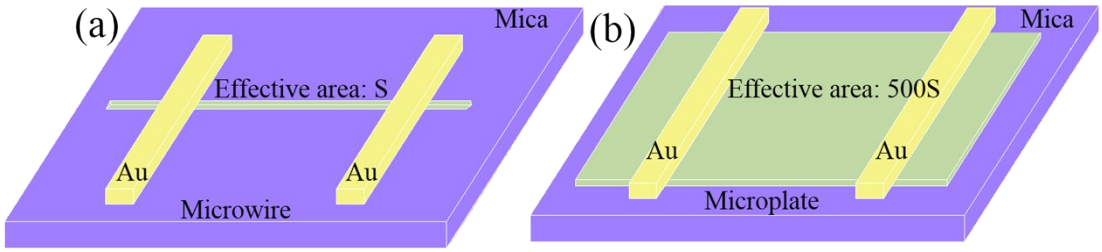

Figure S7. The effective area of devices based on microwire and microplate, respectively.

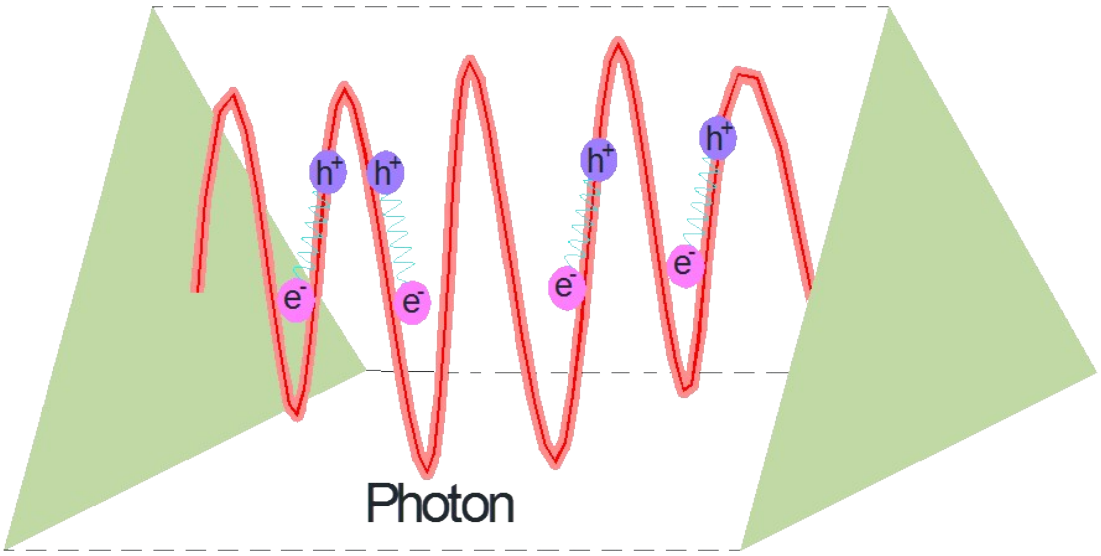

Figure S8. The Fabry-Pérot cavity formed in $CsPbBr_3$ microwire.