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Electronic Supplementary Information

Solution-Processed One-Dimensional $CsCu_2I_3$ Nanowires for Polarization-Sensitive and Flexible Ultraviolet Photodetectors

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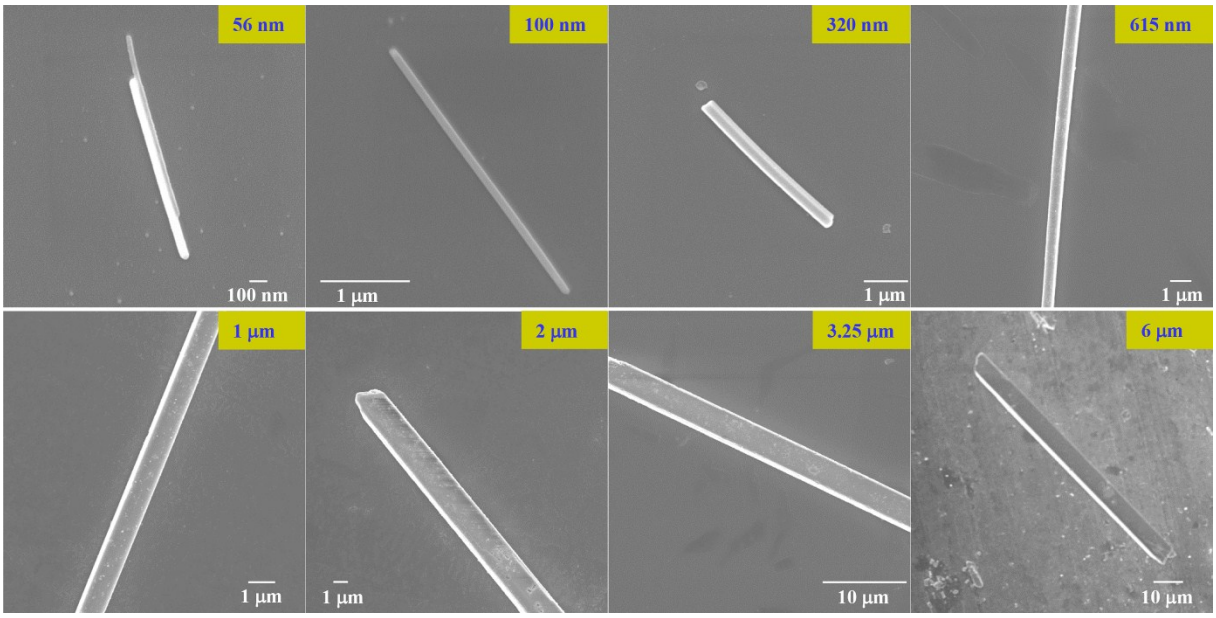

Fig. S1 SEM images of the 1D $CsCu_2I_3$ NWs with different widths.

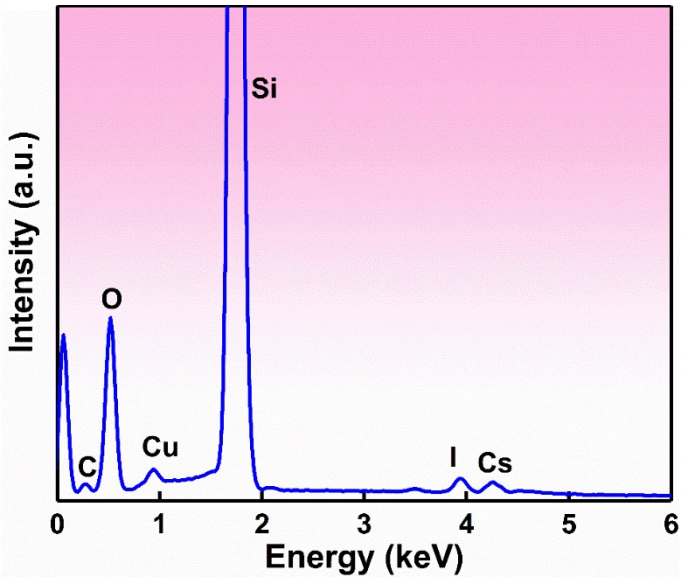

Fig. S2 EDS spectra of the $CsCu_2I_3$ NWs.

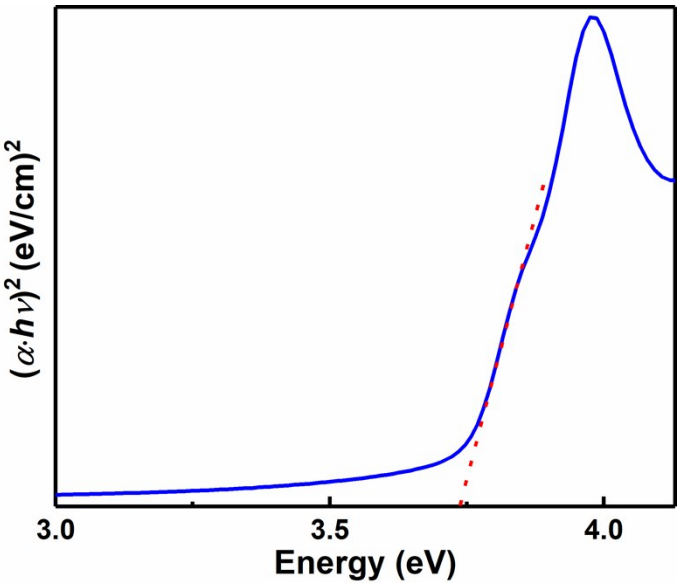

Fig. S3 Calculation of the optical bandgap of $CsCu_2I_3$ NWs using the Tauc method. The optical bandgap is measured to be ~3.73 eV.

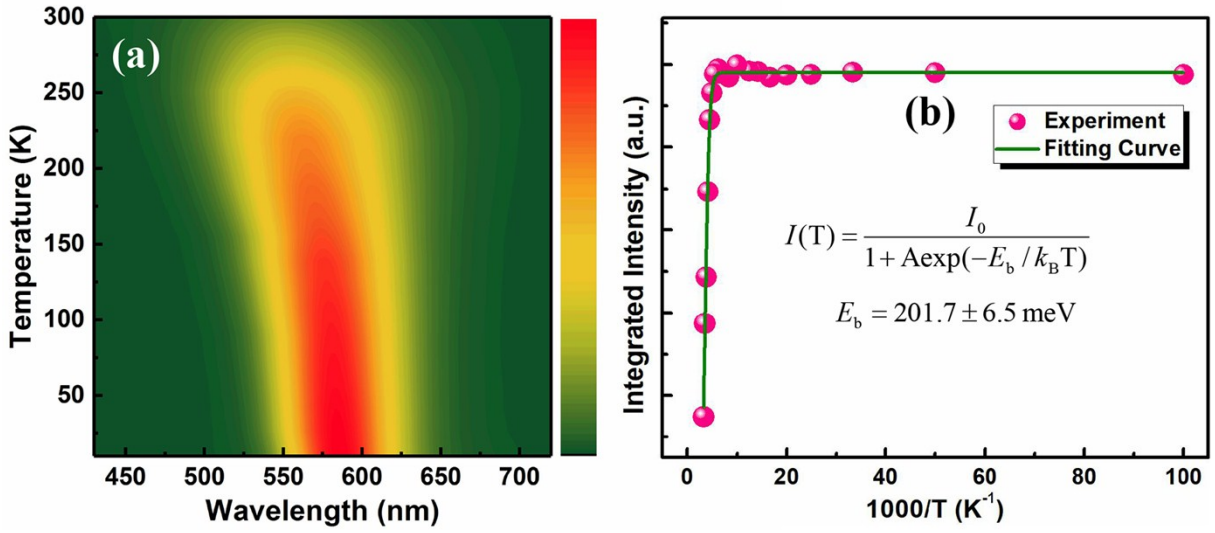

Fig. S4 (a) Temperature-dependent PL spectra of the $CsCu_2I_3$ ranging from 10 to 300 K. (b) Integrated PL intensity of the $CsCu_2I_3$ as a function of reciprocal temperature.

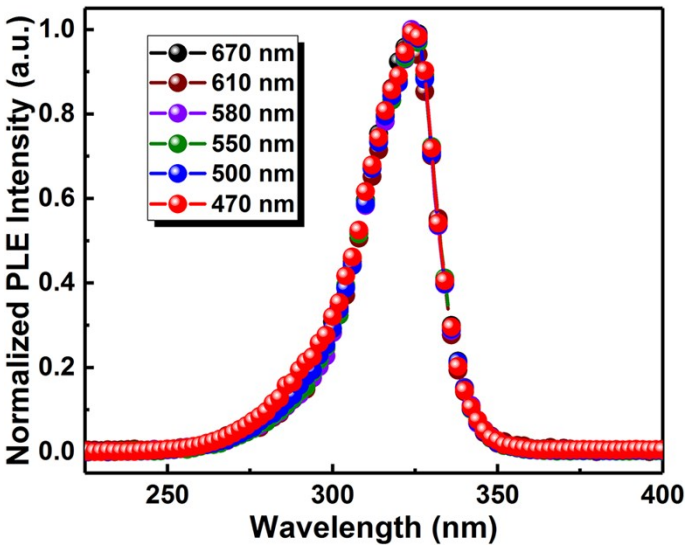

Fig. S5 The photoluminescence excitation (PLE) spectra measured at different emission wavelengths from 470 to 670 nm.

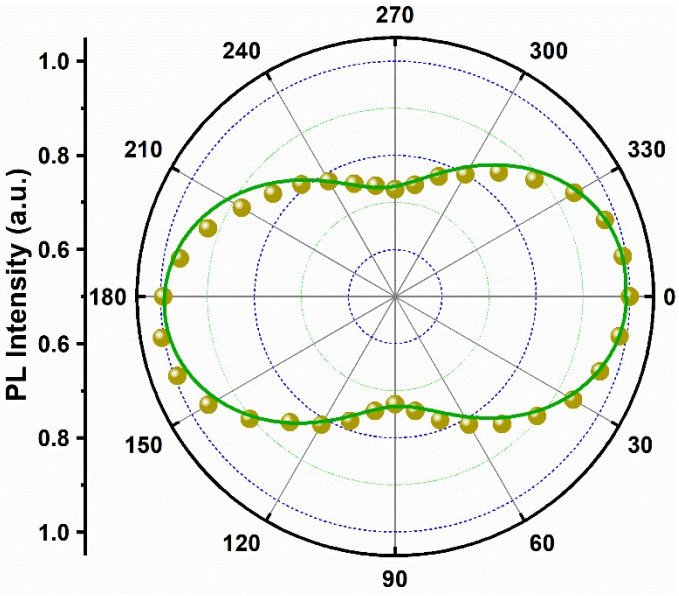

Fig. S6 PL intensity as a function of the excitation polarization in a polar plot. The data (yellow dots) are fitted with a cosine (green) function. The width of the wire is 6.0 μm.

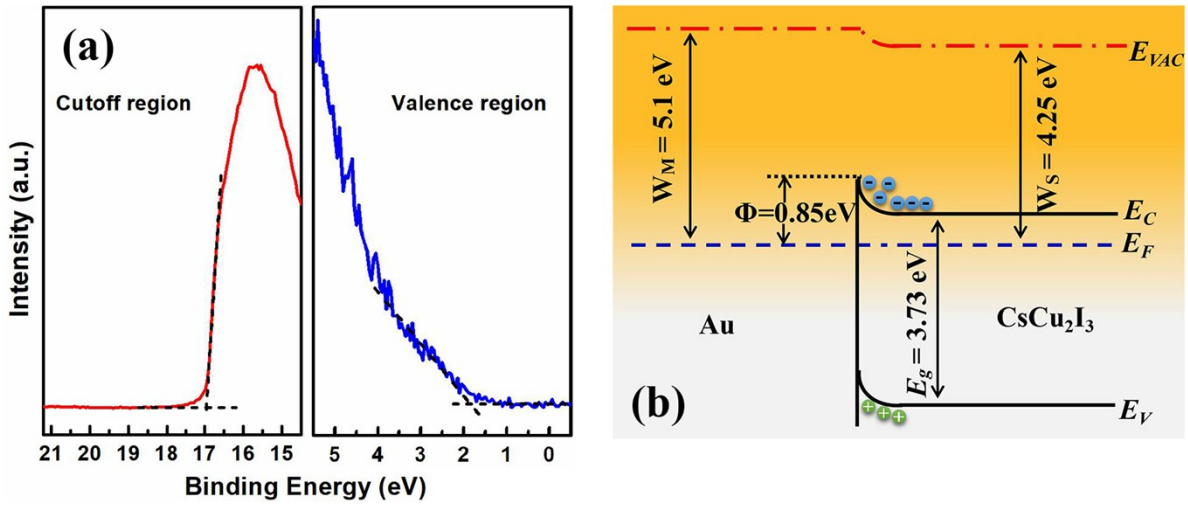

Fig. S7 (a) UPS data of the $CsCu_2I_3$. (b) The energy band profile of the Au/$CsCu_2I_3$ contact.

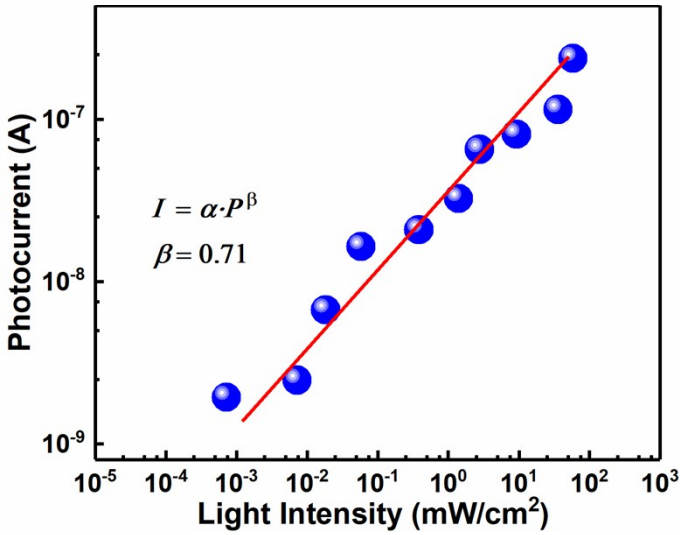

Fig. S8 Dependence of photocurrent on incident light power density of the photodetector.

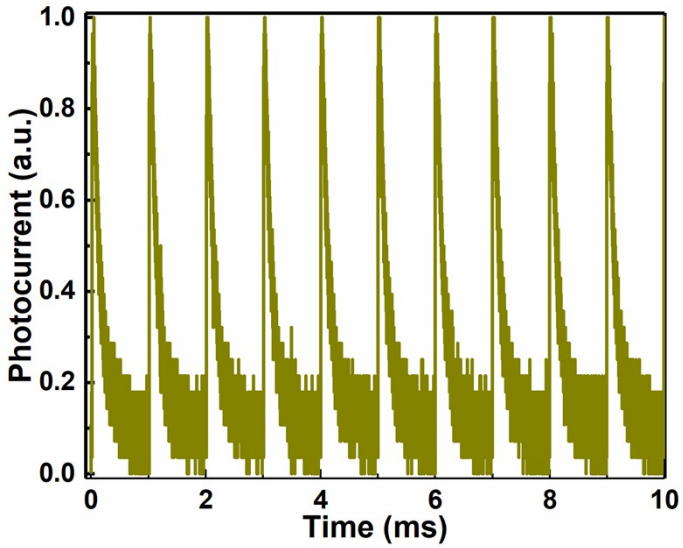

Fig. S9 Time-resolved photoresponse curves of the device excited by a 266 nm pulsed laser for ten cycles.

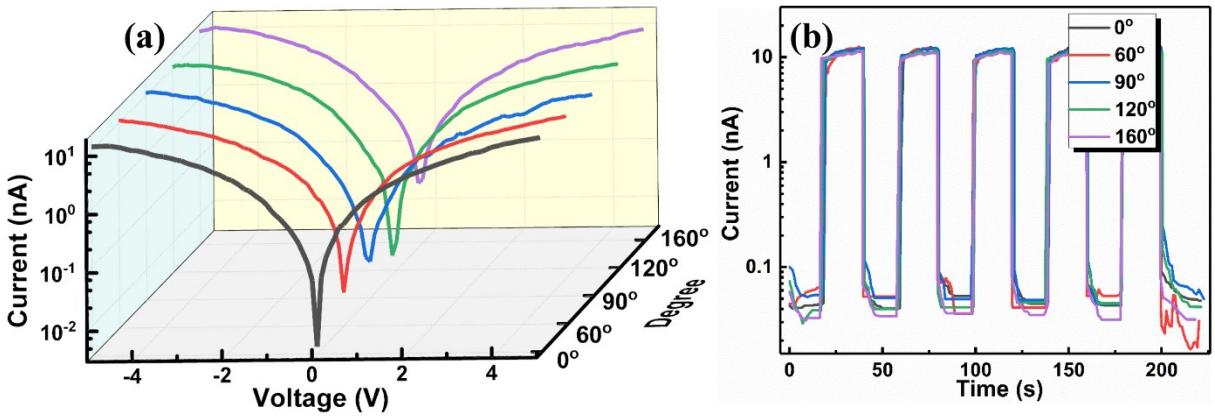

Fig. S10 (a) *I*−*V* and (b) *I*−*t* curves of the device measured at different bending angles.