

CuInTe₂ Nanocrystals: Shape and Size Control, Formation Mechanism and Application, and Use as Photovoltaics

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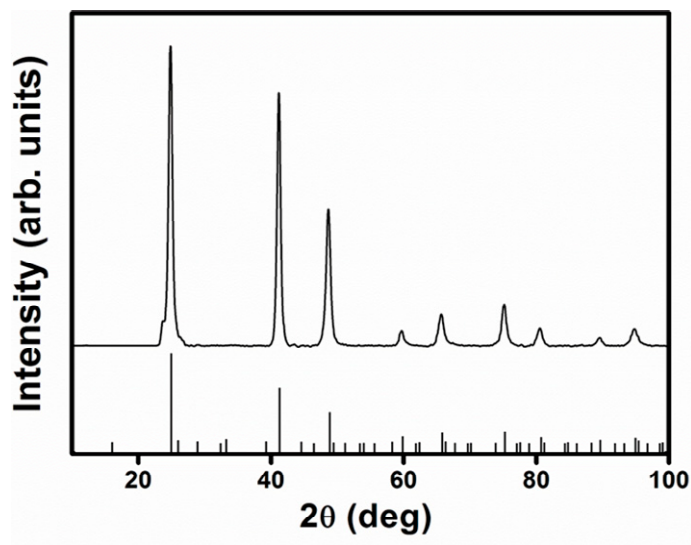


Figure S1. XRD of (a) CuInTe₂ nanocrystals (4 mmol stearic acid) (PDF No. 43-1401)

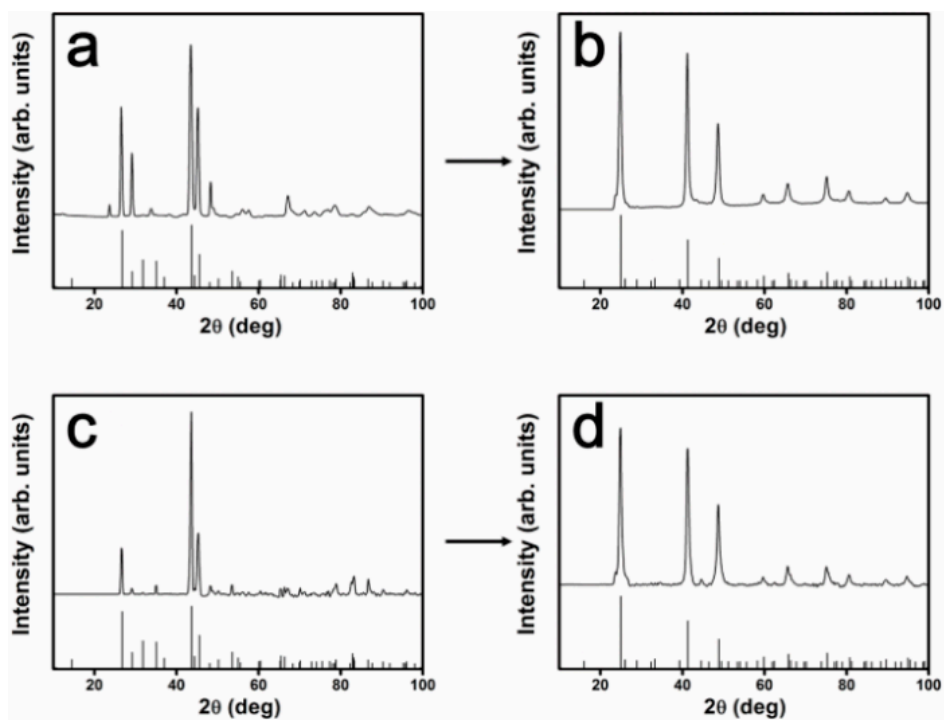


Figure S2. XRD of converting (a) CuTe nanorods into (b) CuInTe₂ nanorods and (c) CuTe nanocubes into (d) CuInTe₂ nanocrystals (CuTe :PDF No. 26-0524)

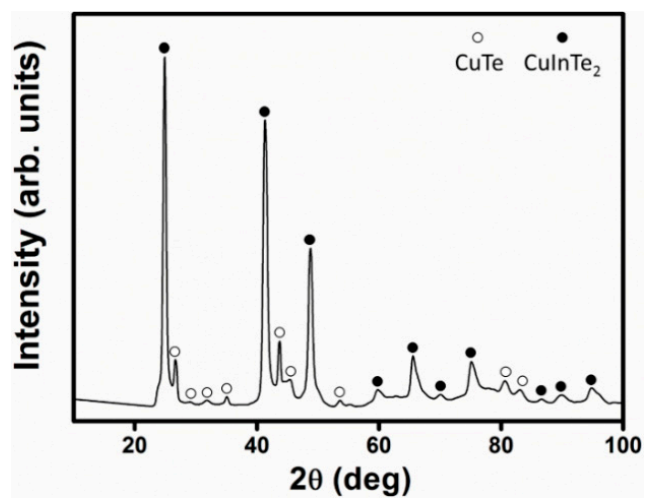


Figure S3 XRD of converting CuTe nanocubes into CuInTe₂ nanocrystals. The reaction time was 5 min.

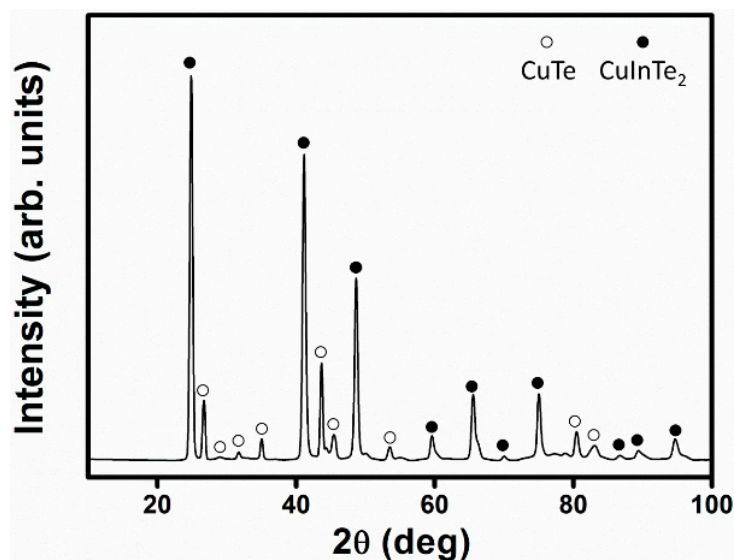


Figure S4. XRD of converting CuTe nanorods into CuInTe₂ nanorods. The reaction time was 5 min.

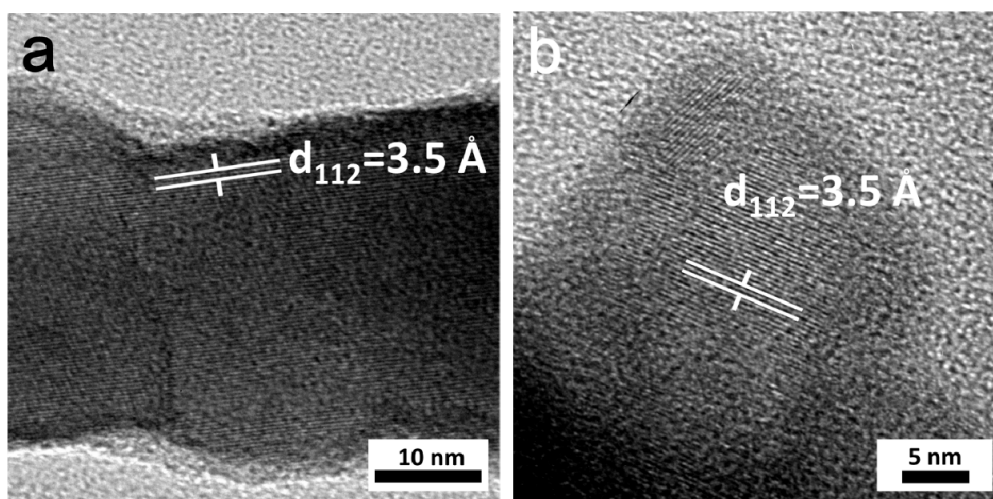


Figure S5. HR-TEM of (a) CuInTe₂ nanorods (Figure 9(b)) and (b) CuInTe₂ nanocrystals (Figure 9(d)). (Converted from CuTe nanorods and CuTe nanocubes)

Raman peak values were obtained using Lorentzian fits to Raman data. First, the spectrum was normalized so that the largest feature in the 100-300 cm⁻¹ range would equal an intensity value of 100. Table 2 shows the fitted peaks as well as the fitted fluorescent baseline parameter.

Table S1. Fitted Lorentzian values for Raman Data

	Peak or Value	FWHM	Area
Fitted Baseline	12.931 (arbitrary intensity)	-	-
Peak 1	130.68 cm ⁻¹	16.849 cm ⁻¹	1988.9
Peak 2	155.73 cm ⁻¹	30.695 cm ⁻¹	1687.7
Peak 3	170.06 cm ⁻¹	24.404 cm ⁻¹	1281.2

Table S2. PCEs and I-V curves of all devices on the chip

Device No.	PCE (%)	Voc (V)	Jsc (mA/cm ²)	FF
01	1.010	0.354	-9.771	0.292
02	1.136	0.349	-10.123	0.322
03	1.221	0.342	-10.651	0.335
04	1.089	0.357	-9.949	0.307
05	1.069	0.356	-10.284	0.301
06	1.139	0.342	-10.996	0.330
07	1.120	0.348	-10.218	0.315
08	1.008	0.347	-9.955	0.292

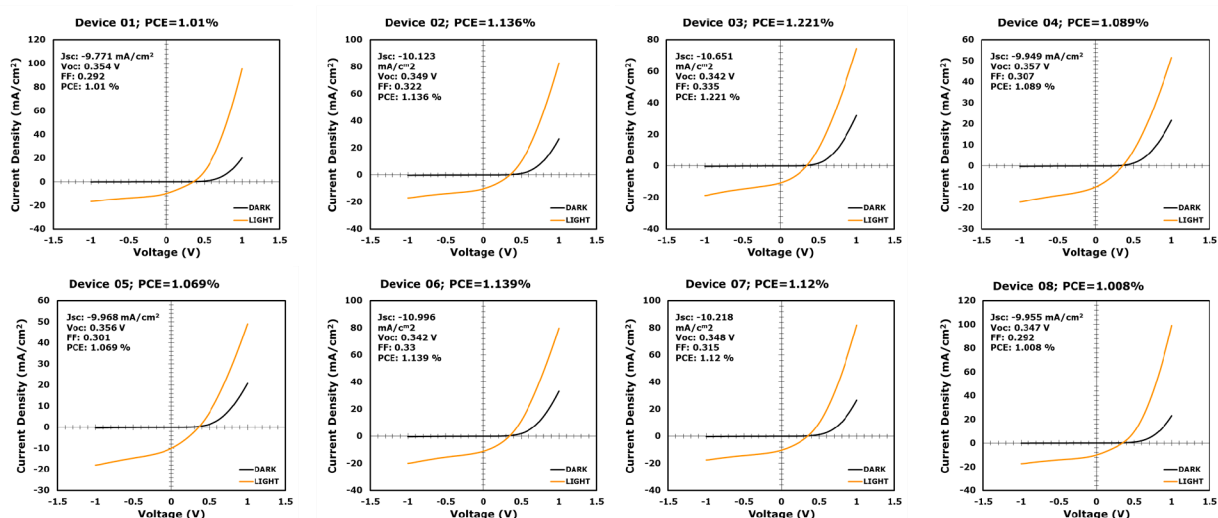


Figure S6 Current-voltage properties of a CuInTez nanocrystals PV device