Electronic Supplementary Information

The Effects of ZnTe:Cu Back Contact on the Performance of CdTe Nanocrystal Solar Cells with Inverted Structure

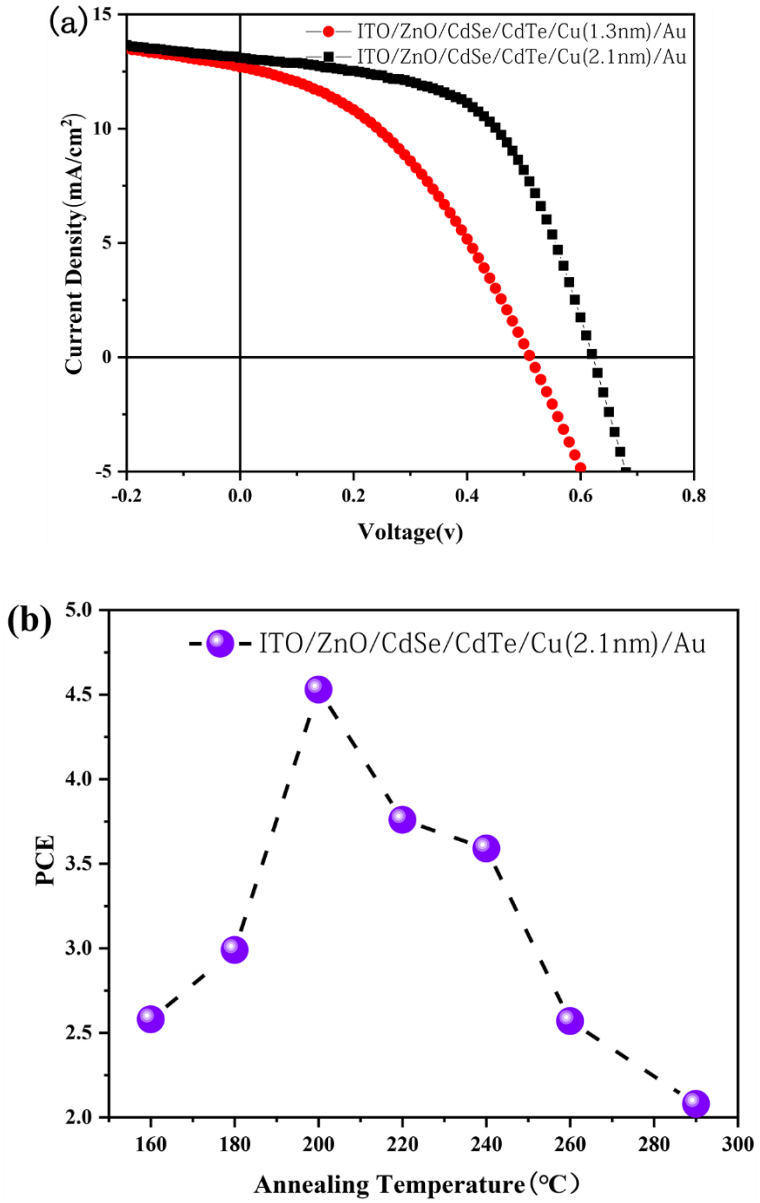

Figure S1. (a) *J–V* characteristic of NC solar cells with different thickness of Cu film (all devices annealing at 200 °C); **(b)** *J–V* characteristic of NC solar cells with different annealing temperature (all devices with 2.1 nm Cu film).

Table S1. Summary of the photovoltaic parameters of the NC solar cells prepared under different conditions from Figure S1.

Annealing Temperature (°C)	**Cu Layer Thickness (nm)**	V_{oc} **(V)**	J_{sc} (mA/cm^2)	**FF (%)**	**PCE (%)**	R_s $(\Omega \cdot cm^2)$	R_{sh} $(\Omega \cdot cm^2)$
160	2.1	0.51	12.70	39.77	2.58	19.08	204.08
180	2.1	0.62	9.17	52.59	2.99	18.59	442.08
200	2.1	0.62	13.09	55.84	4.53	12.20	324.00
220	2.1	0.62	11.57	52.40	3.76	16.41	323.52
240	2.1	0.55	14.77	44.19	3.59	16.08	276.12
260	2.1	0.48	10.91	49.11	2.57	20.16	284.52
290	2.1	0.49	9.27	45.77	2.08	17.96	237.86
200	1.3	0.53	8.91	49.12	2.32	19.45	196.93

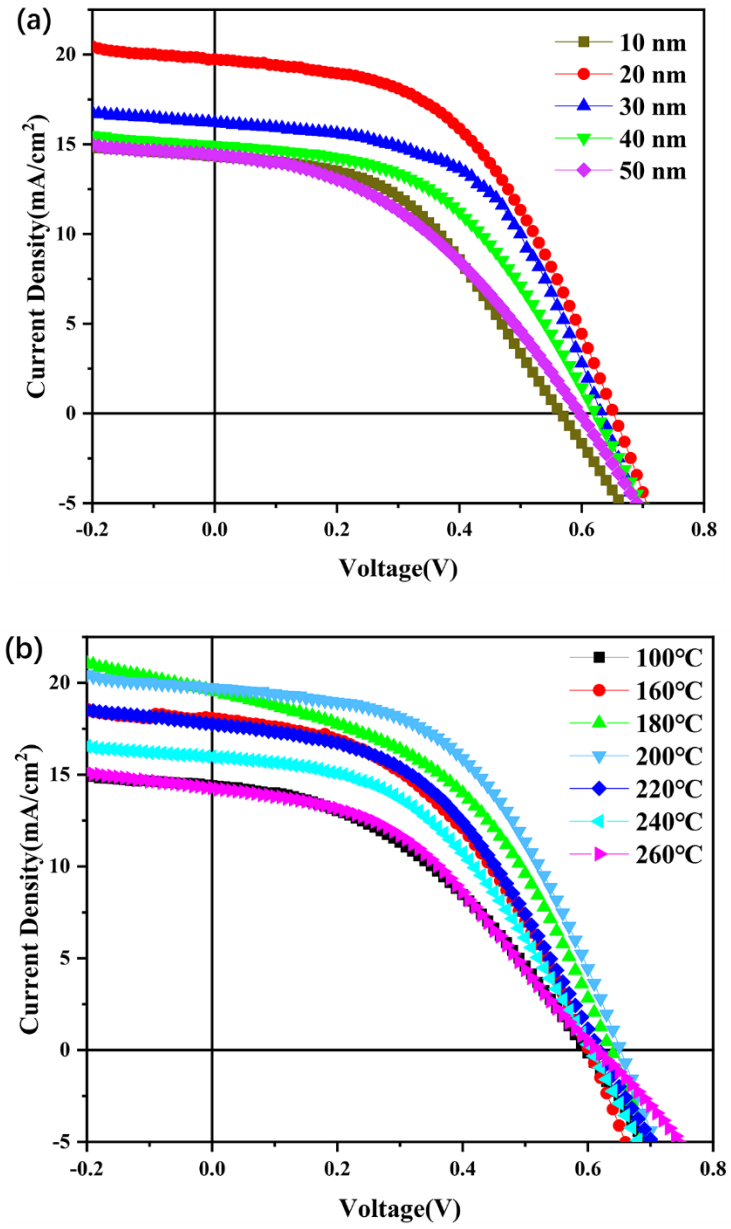

Figure S2. (a) *J–V* characteristic of NC solar cells of ITO/ZnO/CdSe/CdTe/ZnTe/Cu (1 nm)/Au structure with different thickness of ZnTe film (all devices annealing at 200 °C); (**b**) *J–V* characteristic of NC solar cells with different annealing temperature (all devices with 20 nm ZnTe film and 1 nm Cu film).