Electronic Supplementary Information

Efficient Inorganic Solar Cells from Aqueous Nanocrystals: The Impact of Composition on Carrier Dynamics

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Figure S1. (a) Transient absorption decay kinetics of CdTe NCs films with different annealing temperature probed at 825 nm and (b) its magnification in the range of 1-5 ps. (c) Transient absorption decay kinetics of CdTe NCs films with different annealing temperature probed at 510 nm and (d) its magnification in the range of 1-5 ps. The excitation light is 800 nm.



Figure S2. J-V characteristics of the CdTe NCs solar cells with different thickness in the dark. The annealing temperature is 300 °C.



Figure S3. J-V characteristics of the CdTe NCs solar cells with different annealing temperature. The thickness of the active layer is 240 nm.



Figure S4. The UPS spectrum of the TiO_2 film. The corresponding energy levels are calculated as follows:

Work function=21.2-16.9=4.3 eV, VB=4.3+3.4=7.7 eV, CB=7.7-3.2=4.5 eV

The CB is very close to the work function, which implies the TiO_2 film is highly n-type.