Electronic Supplementary Material (ESI) for RSC Advances.

Schottky-Ohmic Converted Contact, Fast-response, Infrared PbTe Photodetector with Stable Photoresponse in Air

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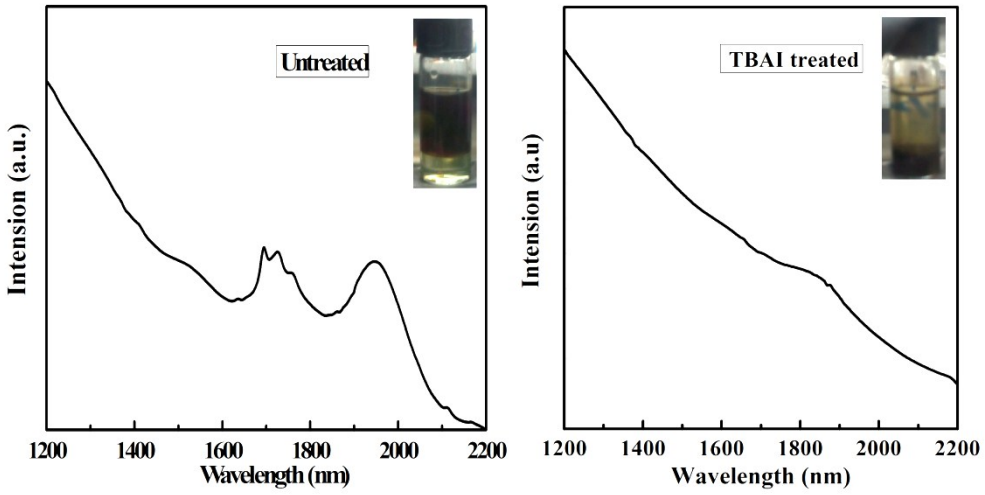

Figure S1 Absorption spectra of PbTe cQDs capped with OA and DMF. The insets are images of PbTe cQDs transfer from hexane to DMF upon exchange of OA with TBAI.

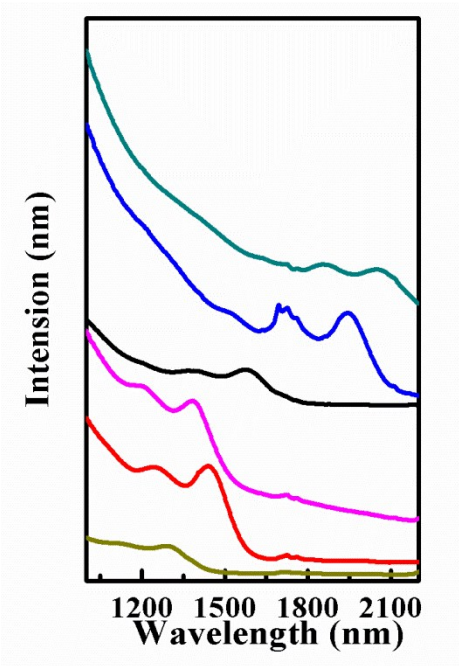

Figure S2 Optical absorption spectra from PbTe CQDs of different sizes

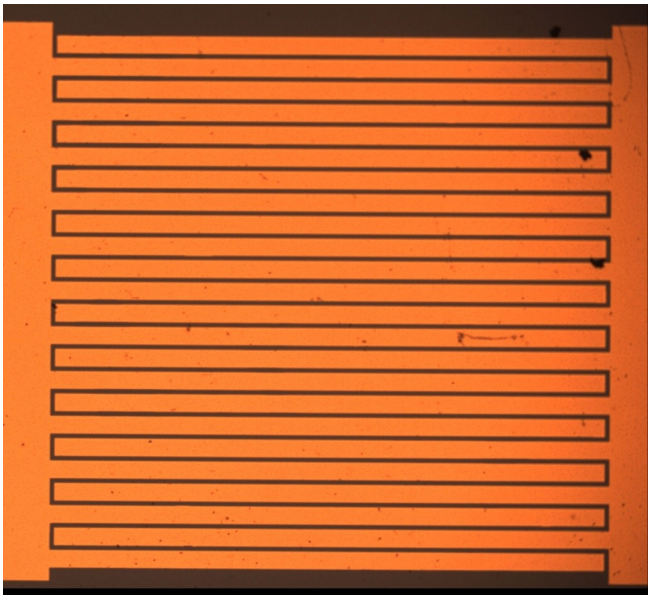

Figure S3 Image of Si/SiO_2 substrate with interdigital Ti/Au electrodes

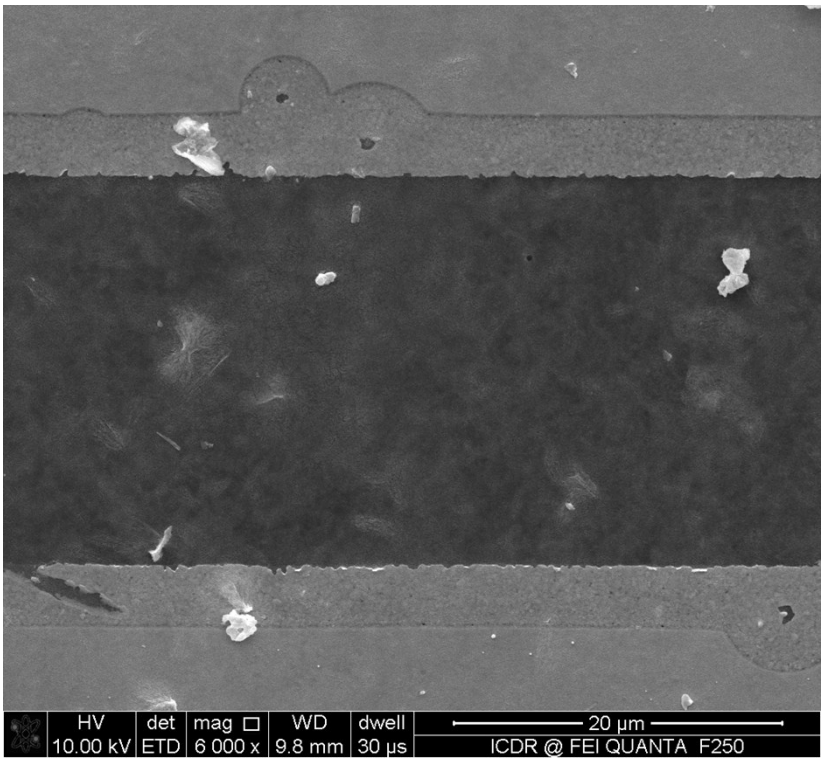

Figure S4 SEM image of PbTe CQD thin film

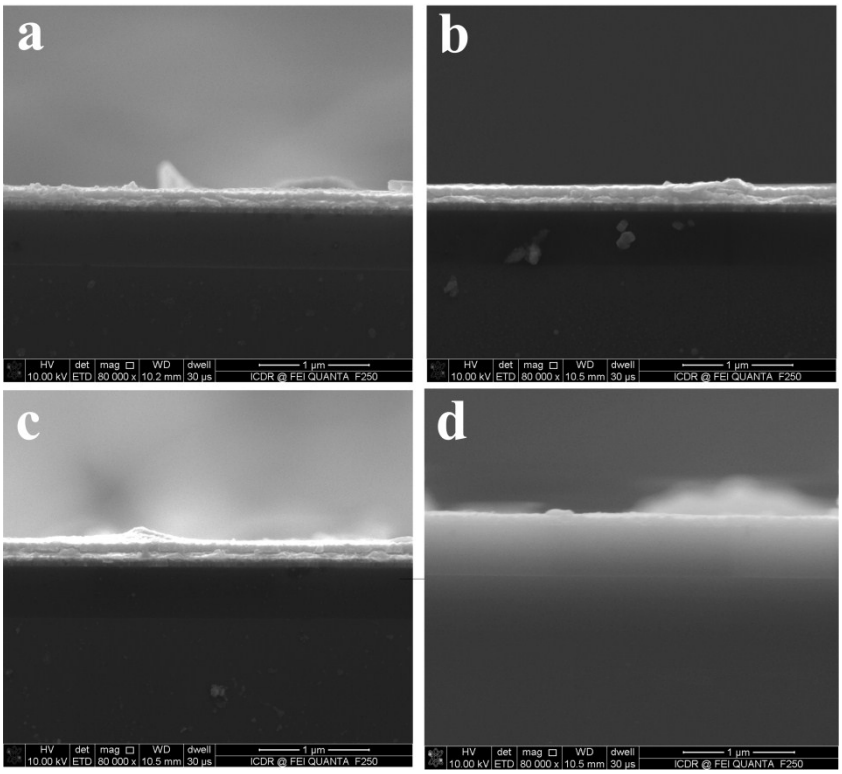

Figure S5 TBAI treated PbTe CQD thin film with different thickness through fabrication with (a) 4 cycles, 47 nm, (b) 6 cycles, 68 nm, (c) 8 cycles, 76 nm, (d) 12 c ycles, 91 nm.

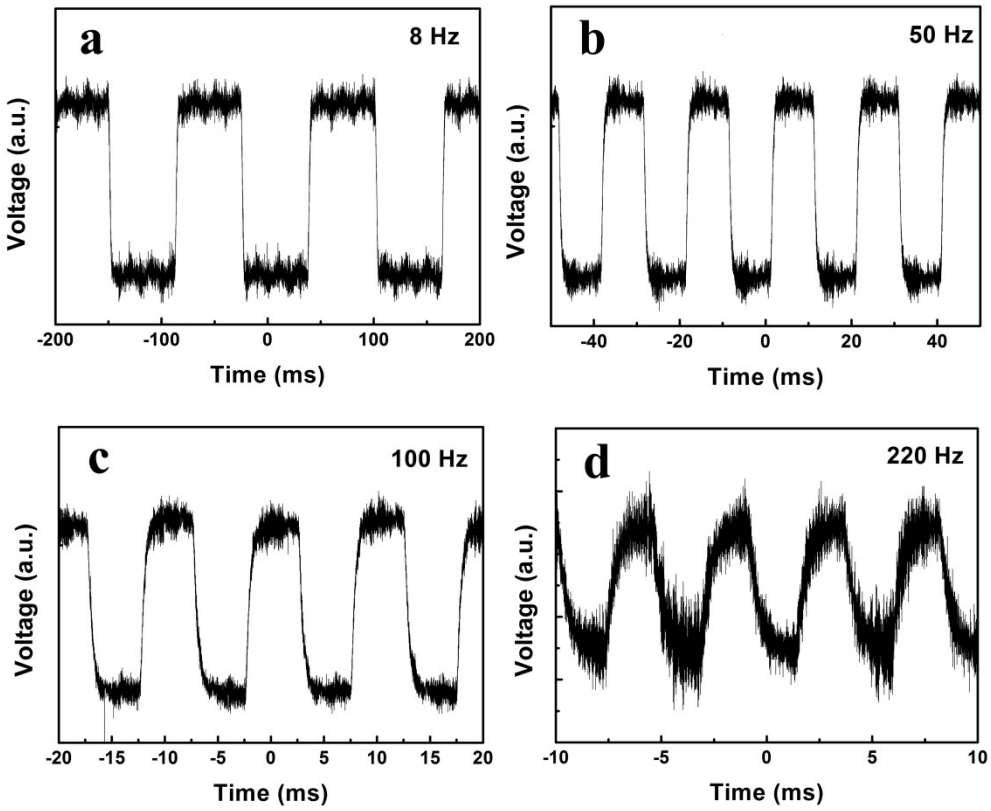

Figure S6 Time-dependent photoresponse under pulsating light of different frequency.