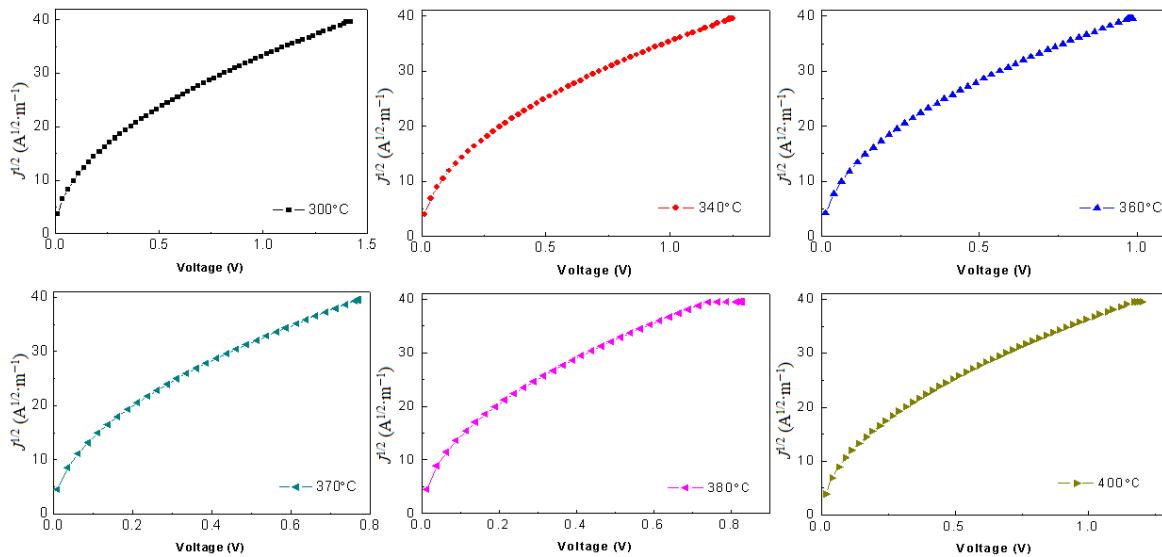


# Supplementary Materials

**Table S1.** Conductivity of ITO and ITO/ZnO at different annealing temperature.

Temperature of Further Heat-Treatment	Conductivity (S/m)	
	ITO	ITO/ZnO
Room temperature	$4.71 \times 10^5$	$1.45 \times 10^5$
300 °C	$2.40 \times 10^5$	$1.29 \times 10^5$
340 °C	$1.50 \times 10^5$	$1.21 \times 10^5$
360 °C	$1.47 \times 10^5$	$8.07 \times 10^4$
370 °C	$1.45 \times 10^5$	$1.26 \times 10^5$
380 °C	$1.43 \times 10^5$	$1.37 \times 10^5$
400 °C	$1.11 \times 10^5$	$1.87 \times 10^5$



**Figure S1.**  $J^{1/2} \propto V$  curves of CdS NC thin film at different annealing temperature.