Supplementary Information for:

Efficient hybrid solar cells using PbS_xSe_{1-x} quantum dots and nanorods for broad-range photon absorption and well-assembled charge transfer networks

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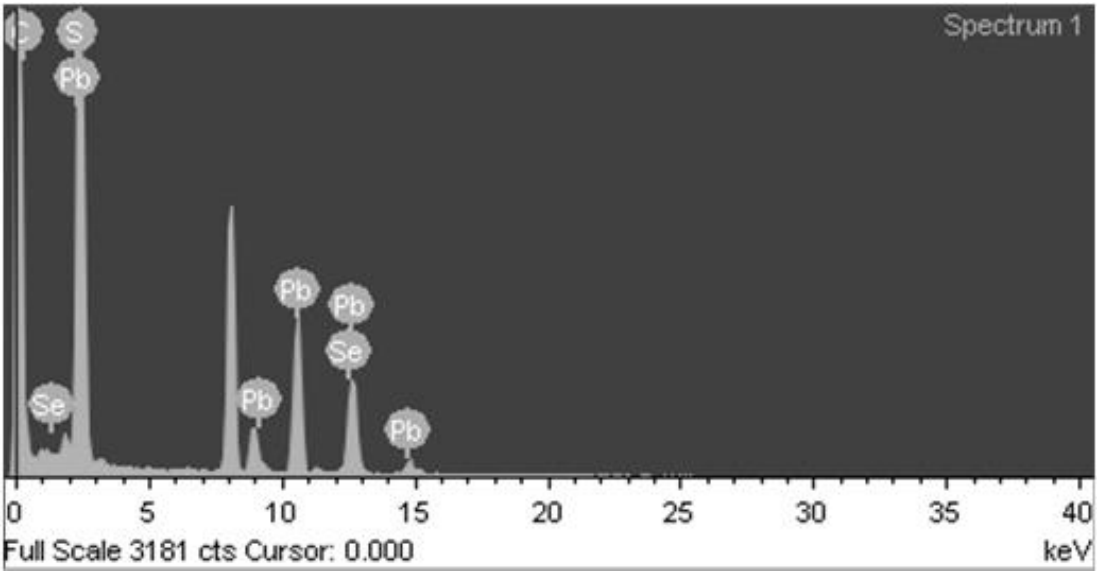

Figure S1. EDS analysis of the blend with PSBTBT and inorganic $PbS_{0.7}S_{0.3}$ semiconductor (C for PSBTBT; Pb, S, and Se for $PbS_{0.7}S_{0.3}$). Se peaks are not clearly discernible, presumably due to their overlap with S peaks.

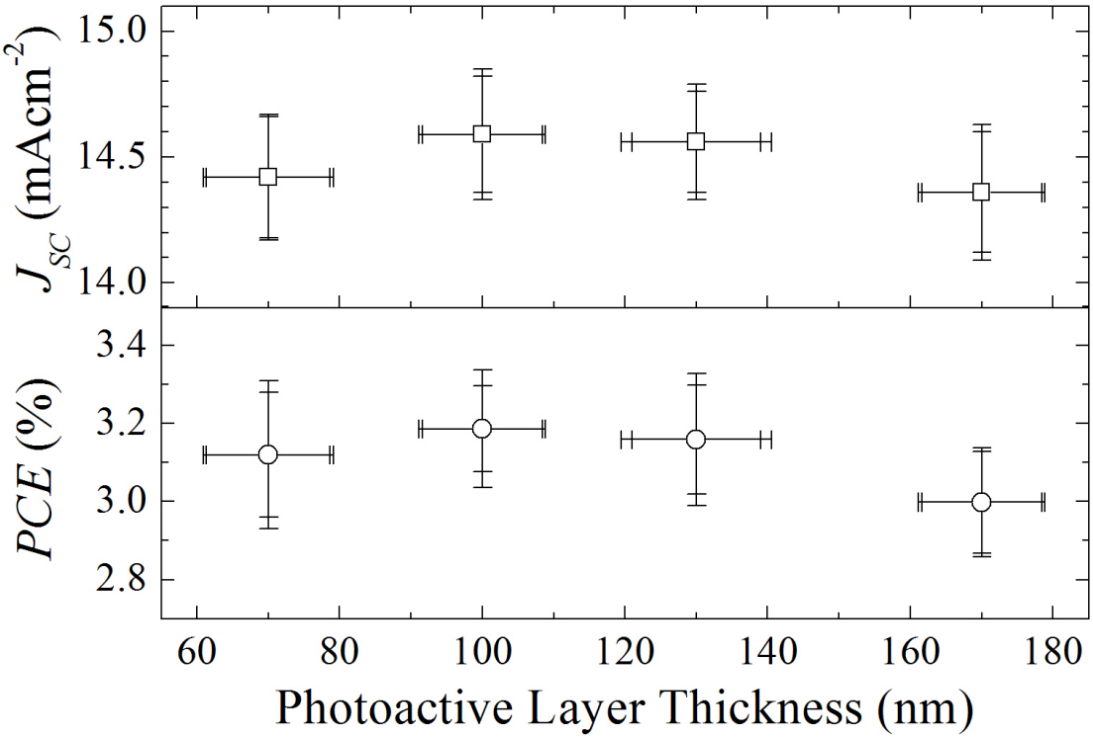

Figure S2. J_{SC} and *PCE* of the optimal hetero-structured devices as a function of the photoactive layer thickness. The hybrid blend consists of PSBTBT and $PbS_{0.7}S_{0.3}$ QDs and NRs (0.3:0.7). The 90–110 nm–thick films exhibit better J_{SC} and hence *PCE*. The standard deviations were taken from more than 10 devices.

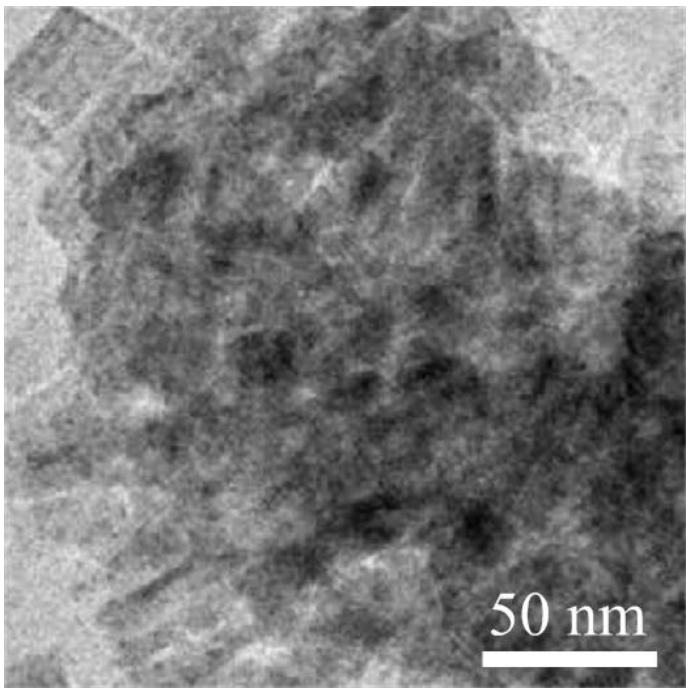

Figure S3. Plane TEM image of the polymer:NRs blend. The NR lattice is difficult to discern owing to the agglomeration between NRs. This can lead to unintentional performance degradation in the hybrid device.

Table S1. Summary of the fluorescence lifetime data extracted from three PL decay measurements

	τ (ns)	Test #1	Test #2	Test #3
PSBTBT:QDs only	τ_1	0.245	0.168	0.272
	τ_2	3.920	6.312	3.915
PSBTBT:NRs only	τ_1	0.163	0.113	0.193
	τ_2	3.137	6.150	3.078
PSBTBT:QDs & NRs (0.3:0.7)	τ_1	0.072	0.056	0.134
	τ_2	2.234	3.971	2.009