

Novel post-synthesis purification strategies and the ligand exchange processes in simplifying the fabrication of PbS quantum dot solar cells

Electronic Supplementary Information

1. HR-TEM image of the QDs

Fig. S1 shows the high-resolution transmission electron microscopy (HR-TEM) image of PbS QDs having an average particle size 3nm.

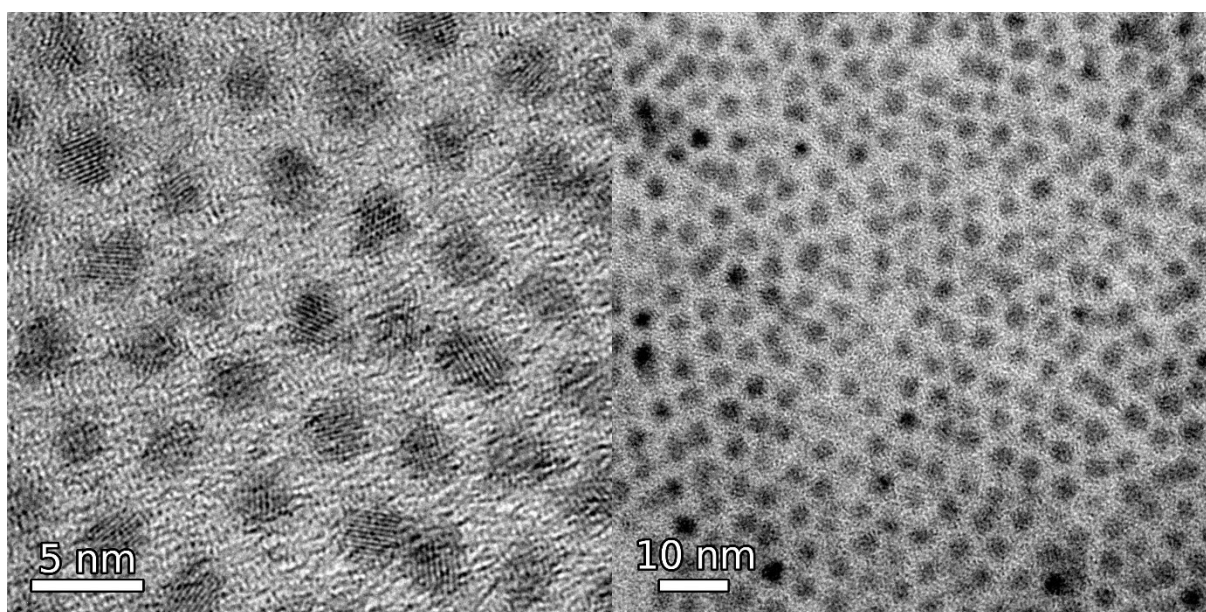


Fig. S1 HR-TEM image of the PbS QDs

2. UV-Vis Absorption Spectrum of QD_0 PbS QDs

Fig. S2 shows the absorption spectrum of QD_0 PbS QDs dispersed in hexane (after 2 acetone/hexane wash from the crude solution). The optical bandgap of the QDs was calculated from the first excitonic peak at 960nm and is about 1.29eV.

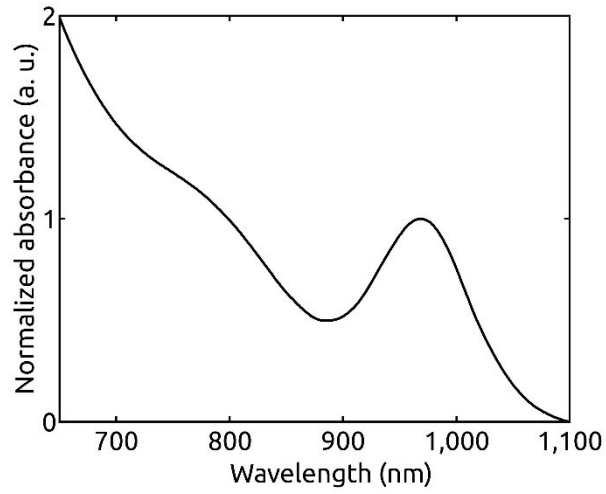


Fig. S2 Absorption spectrum of the PbS QDs

3. J-V characteristics of the photovoltaic devices

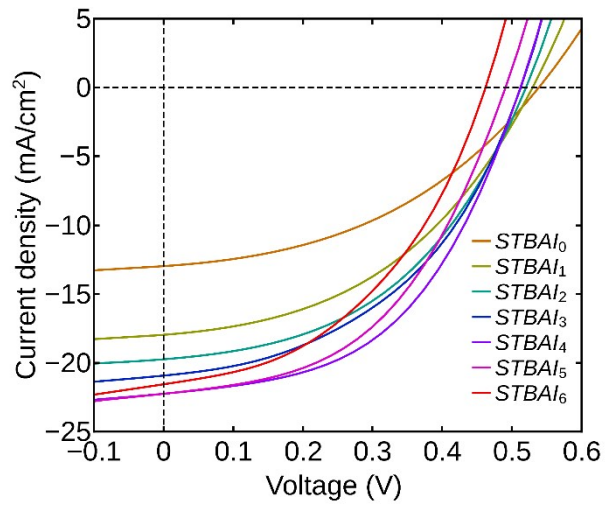


Fig. S3 J-V characteristics of the devices $STBAI_0$ to $STBAI_6$