Electronic Supplementary Material (ESI) for Nanoscale. This journal is © The Royal Society of Chemistry 2018

Figure 1 shows the XPS spectra of OAm-PbS and EDT-PbS before and after 4 photocatalytic cycles. XPS analysis of OAm-PbS after 4 photocatalytic cycles reveals the presence of $(SO_3)^{2-}$ and $(SO_4)^{2-}$ due to the oxidation of S^{2-} (Figure S1). In case of EDT-PbS, XPS analysis does not show a significant change after 4 cycles of photocatalysis.

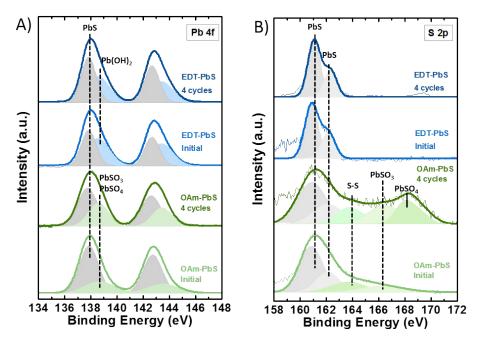


Figure S1. XPS spectra of the PbS QD films capped with OAm and EDT and MPA before and after4 photocatalytic cycles . a) XPS spectra of Pb 4f, b) XPS spectra of S 2p