

Supporting Information

Improving photoelectrochemical performance of highly-ordered TiO₂ nanotube arrays with cosensitization of PbS and CdS quantum dots

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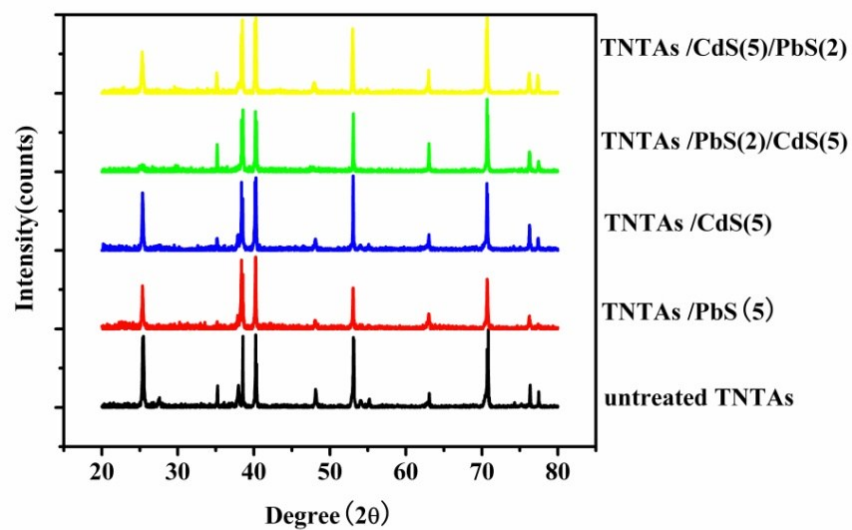


Fig. S1 XRD patterns of the untreated TNTAs, TNTAs/PbS(5), TNTAs/CdS(5), TNTAs/PbS(2)/CdS(5) and TNTAs/CdS(5)/PbS(2).

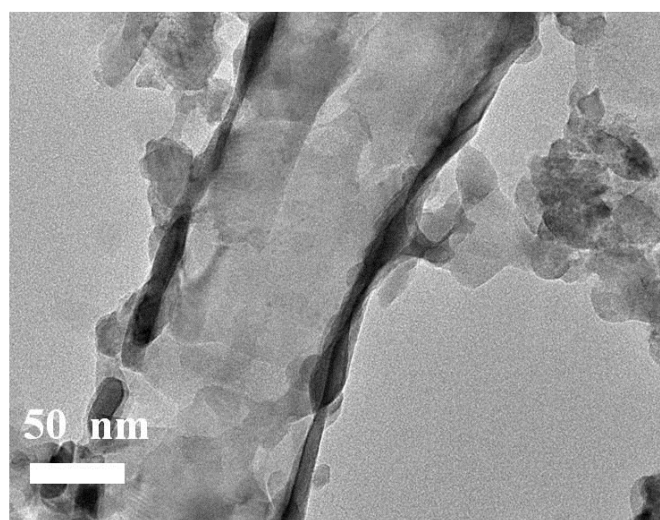


Fig. S2 TEM images of the pure TNTAs.

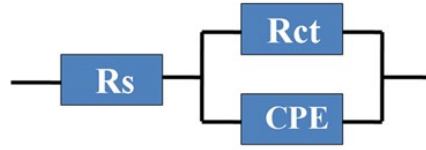


Fig. S3 Equivalent circuit used to simulate the Nyquist plots measured by EIS in the Randles-Ershler model. R_s is the electrolyte resistance, CPE is the capacitance phase element for the semiconductor/electrolyte interface, and R_{ct} is the charge transfer resistance across the interface.

Table S1 EIS fitting results within the intermediate frequency (1~1kHz).

Samples	R_s / Ω	R_{ct} / Ω	CPE / F
TNTAs/PbS(5)	64.8	452	1.2×10^{-4}
TNTAs/PbS(5)/CdS(5)	68.9	634	1.5×10^{-4}
TNTAs/PbS(5)/CdS(14)	39.0	3580	1.8×10^{-4}
TNTAs/CdS(14)	81.7	38500	1.7×10^{-4}