Electronic Supplementary Material (ESI) for Nanoscale.

Supporting Information

Efficient photoelectrochemical water splitting on ultrasmall defect-rich TaO_x nanoclusters enhanced by size-selected Pt nanocluster promoters

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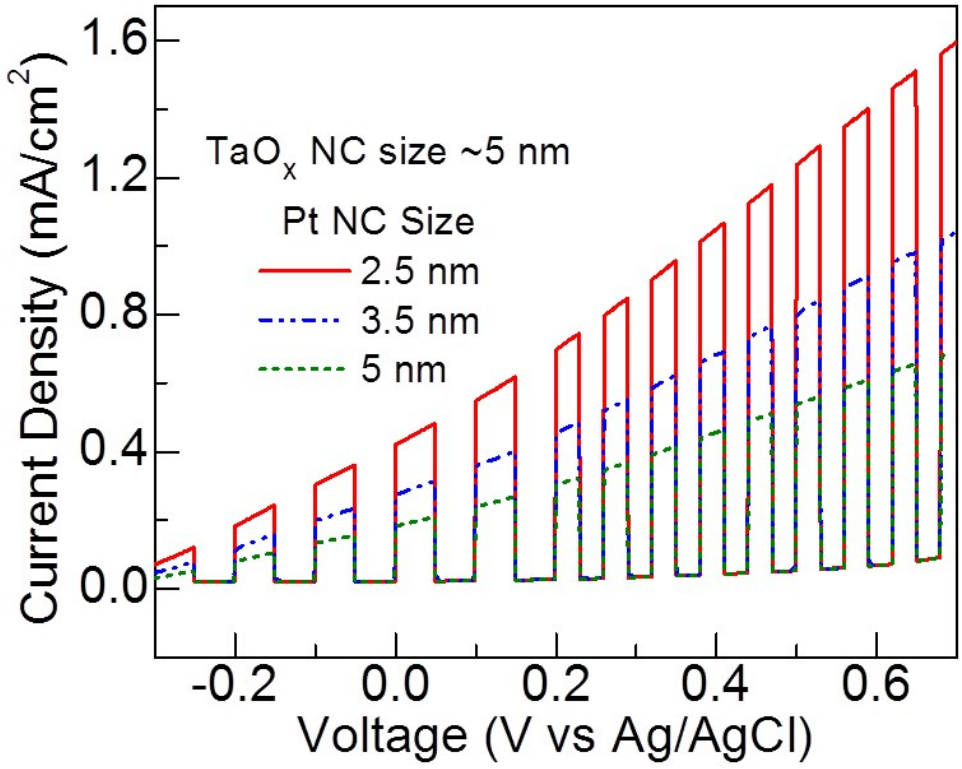

Figure S1| Photocurrent densities of the (TaO_x, Pt) NC composite with decreasing Pt promoter size from 5 nm to 3.5 nm to 2.5 nm (for 5 nm TaO_x catalysts). The photocurrent densities are obtained with repeated on/off cycles of illuminated light during measurement.

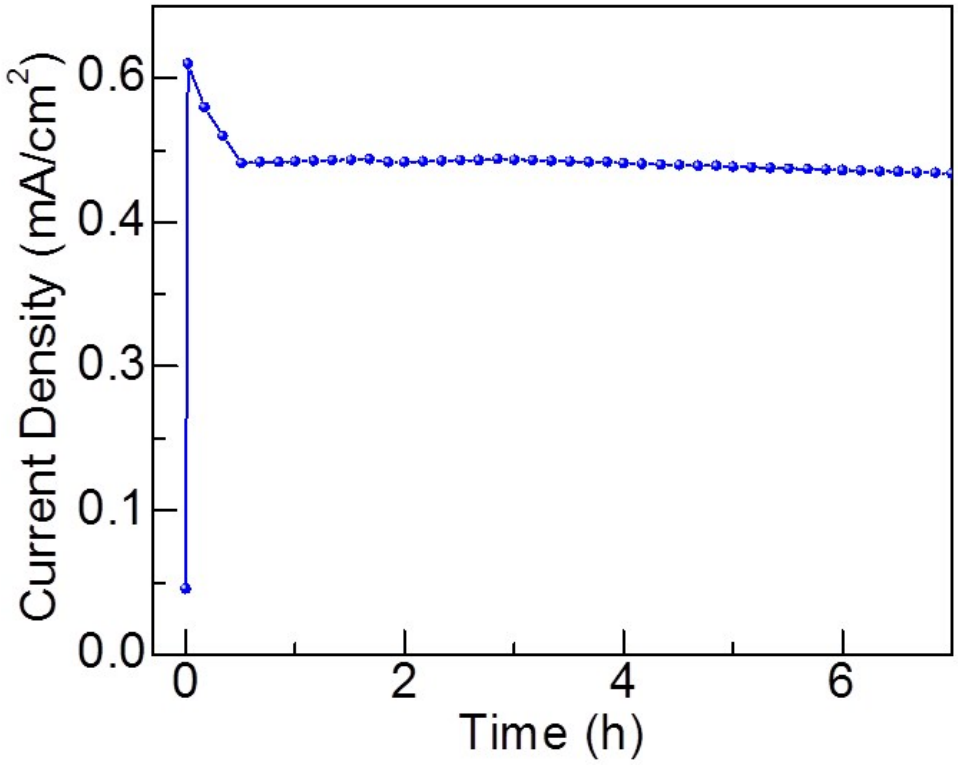

Figure S2| Highly stable photocurrent density in the course of applied voltage of 0.5 V for over 6 hours.

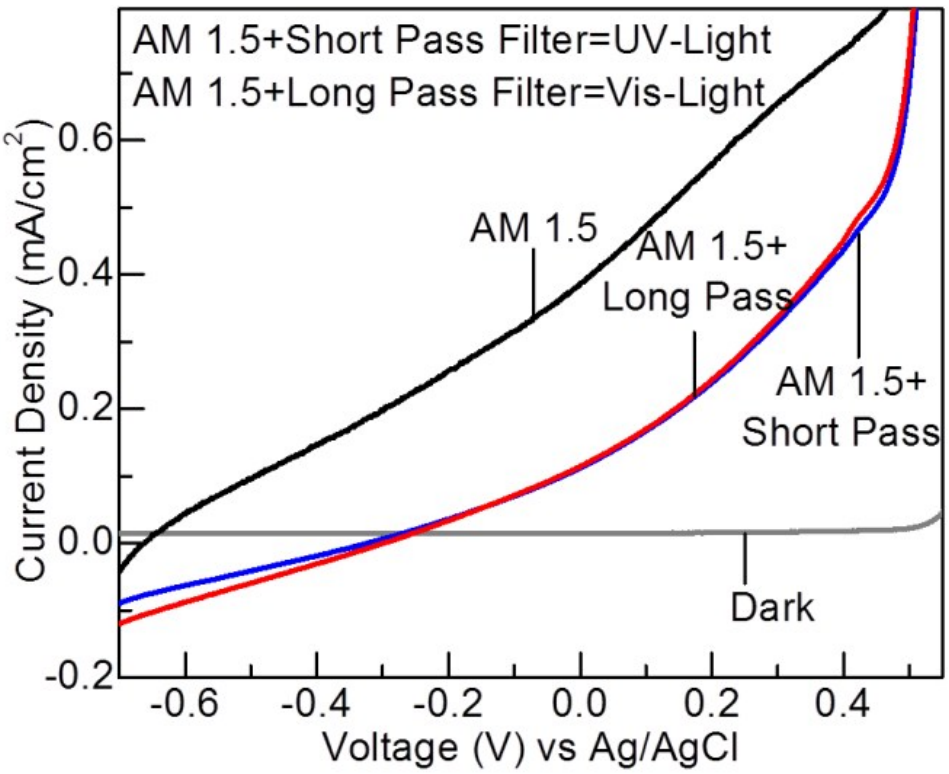

Fig. S3 | Photocurrent densities as a function of applied potential for co-deposited (TaO_x, Pt) NCs (30:30 min) each of 5 nm dia. obtained with the UV (<400 nm) and Visible (>400 nm) components of the light. Both spectral regions appear to provide equal contribution to the photocatalytic performance.