Supporting Information

A Novel Inorganic Perovskite Quantum Dots for Photocatalysis

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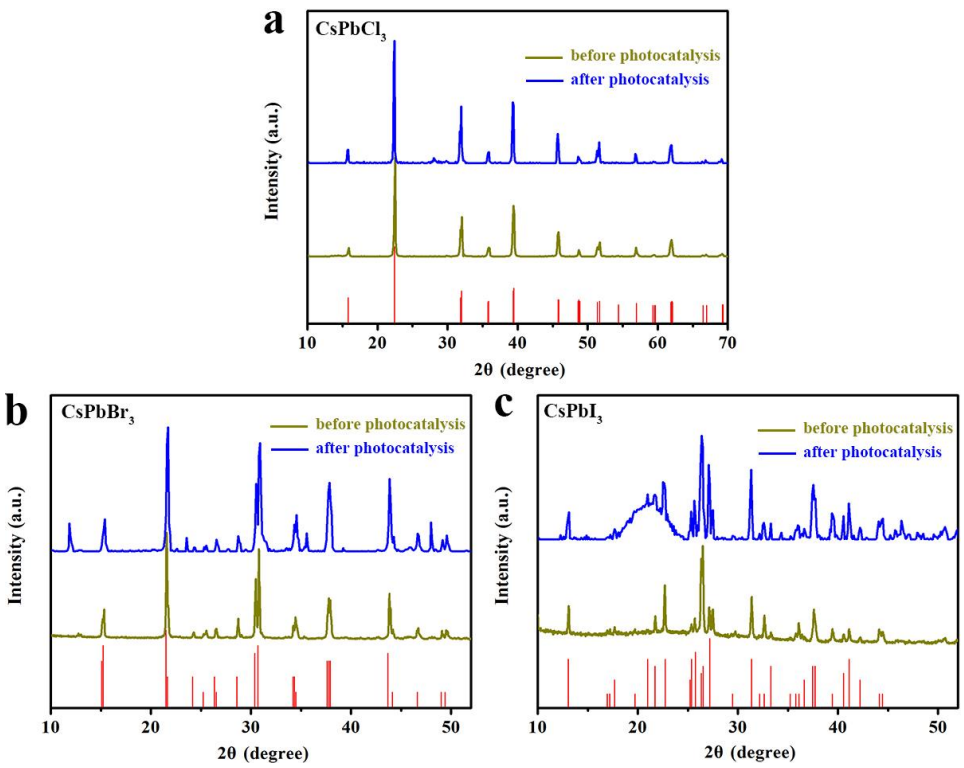

Fig. S1. XRD patterns of the $CsPbX_3$ QDs before and after degradation experiments (a) $CsPbCl_3$, (b) $CsPbBr_3$ and (c) $CsPbI_3$.

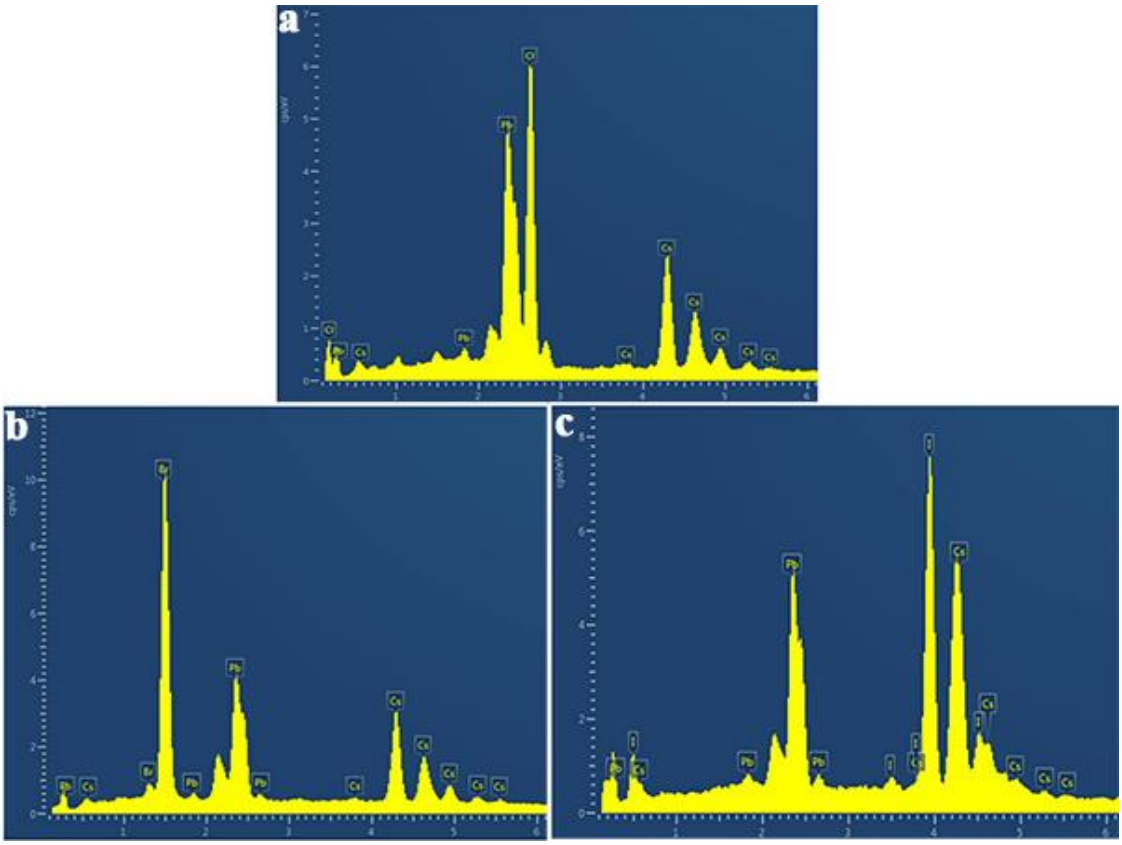

Fig. S2. EDX analysis spectrum of $CsPbX_3$ QDs. (a) $CsPbCl_3$, (b) $CsPbBr_3$ and (c) $CsPbI_3$.

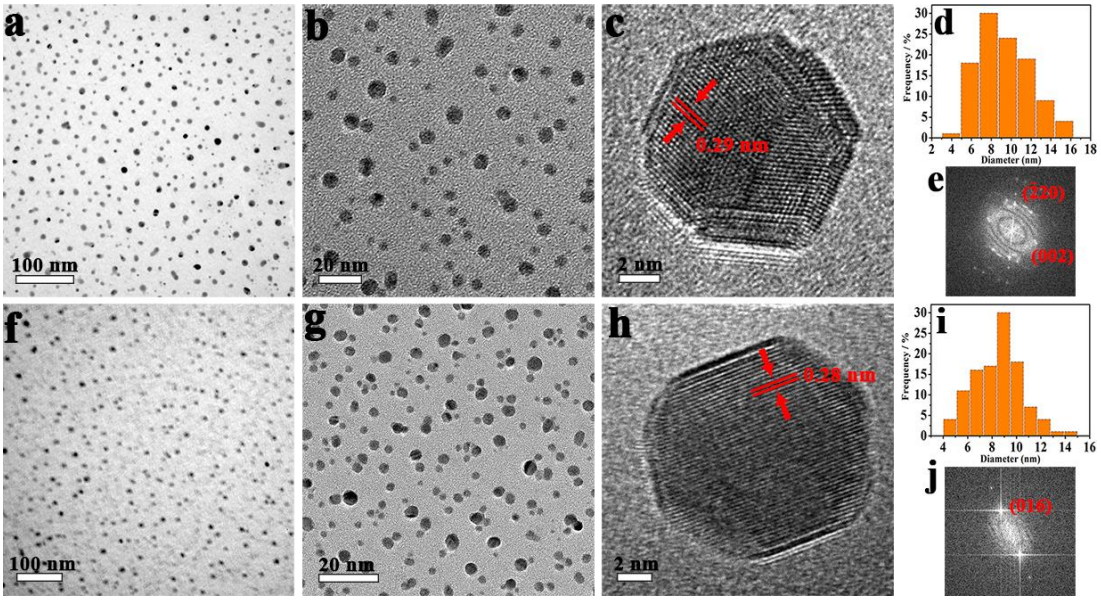

Fig.S3. (a)-(c) The TEM and HRTEM images of $CsPbBr_3$ QDs. (d) The size distribution of $CsPbBr_3$ QDs. (e) The FFT image of $CsPbBr_3$ QDs. (f)-(h) The TEM and HRTEM images of $CsPbI_3$ QDs. (i) The size distribution of $CsPbI_3$ QDs. (j) The FFT image of $CsPbI_3$ QDs.

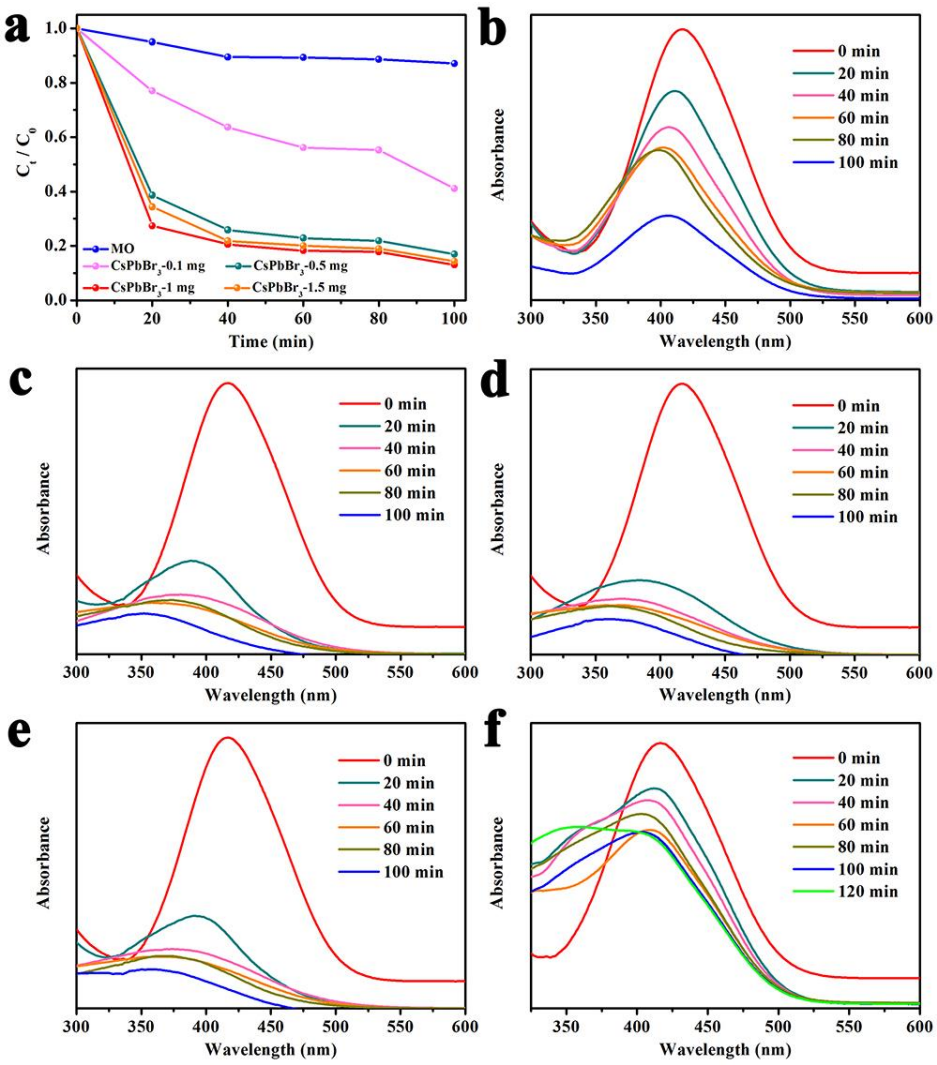

Fig. S4. (a) The concentration (C_t/C_0) changes of MO in the different catalyst under visible light irradiation. (b), (c), (d) and (e) show the UV-vis spectra of MO degradation using $CsPbBr_3$-0.1 mg, $CsPbBr_3$-0.5 mg, $CsPbBr_3$-1 mg and $CsPbBr_3$-1.5 mg, respectively. (f) The UV-vis spectra of MO degradation using $CsPbI_3$-2 mg.

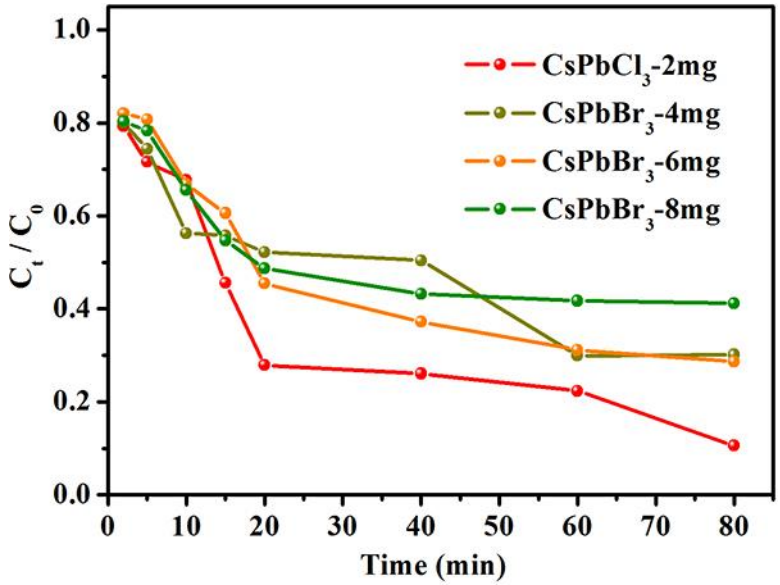

Fig. S5. The concentration (C_t/C_0) changes of MO in the different catalyst ($CsPbCl_3$-2mg, $CsPbBr_3$-4mg, $CsPbBr_3$-6mg and $CsPbBr_3$-8mg) under visible light irradiation.

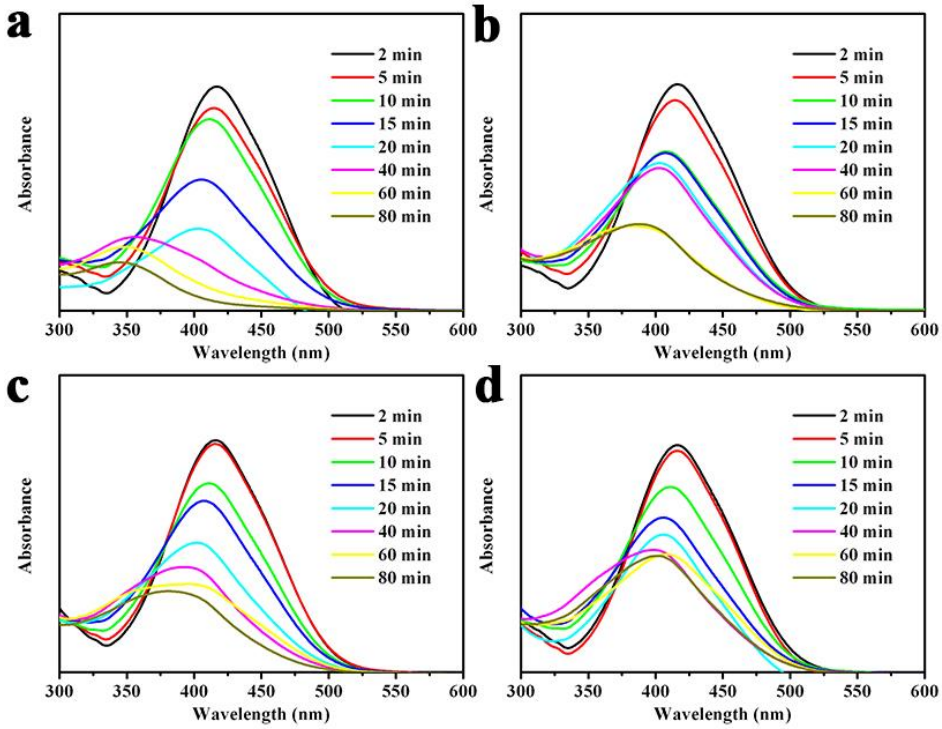

Fig. S6 The UV-vis spectra of MO degradation using (a) $CsPbCl_3$-2 mg, (b) $CsPbBr_3$-4 mg, (c) $CsPbBr_3$-6 mg, (d) $CsPbBr_3$-8 mg.

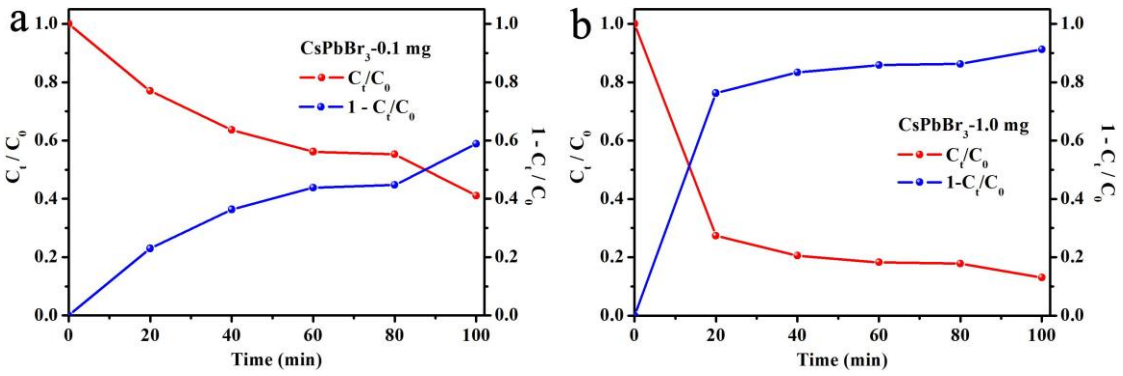

Fig. S7. The change in the MO degradation efficiency ($1-C_t/C_0$) using (a) $CsPbBr_3$-0.1 mg and (b) $CsPbBr_3$-1 mg.

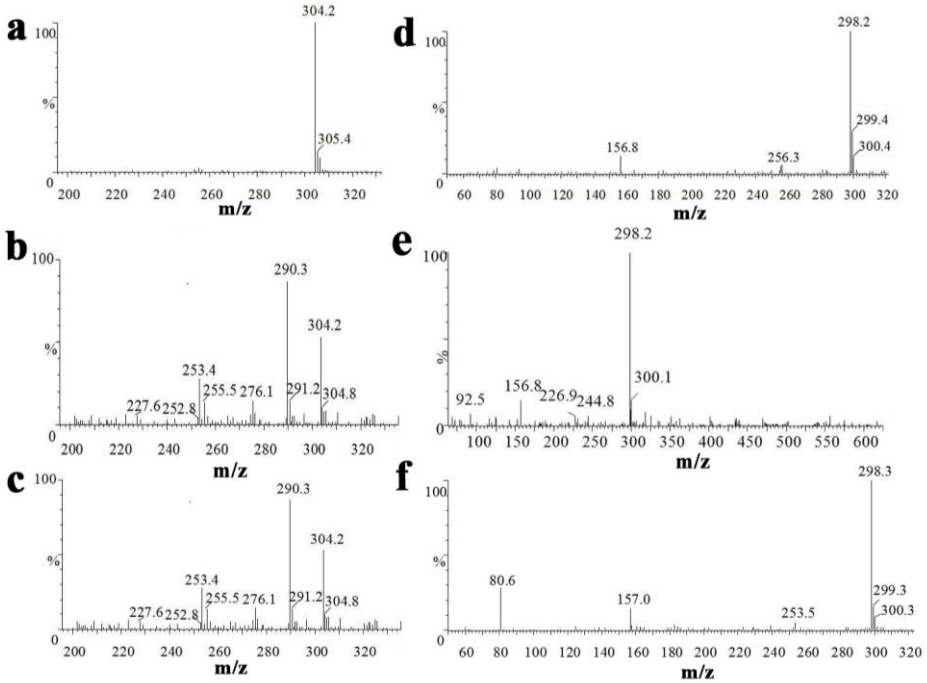

Fig. S8. ESI-MS spectrum of MO degradation products after being degraded for (a) 0 min, (b) 20 min, (c) 40 min, (d) 60 min, (e) 80 min and (f) 100 min.

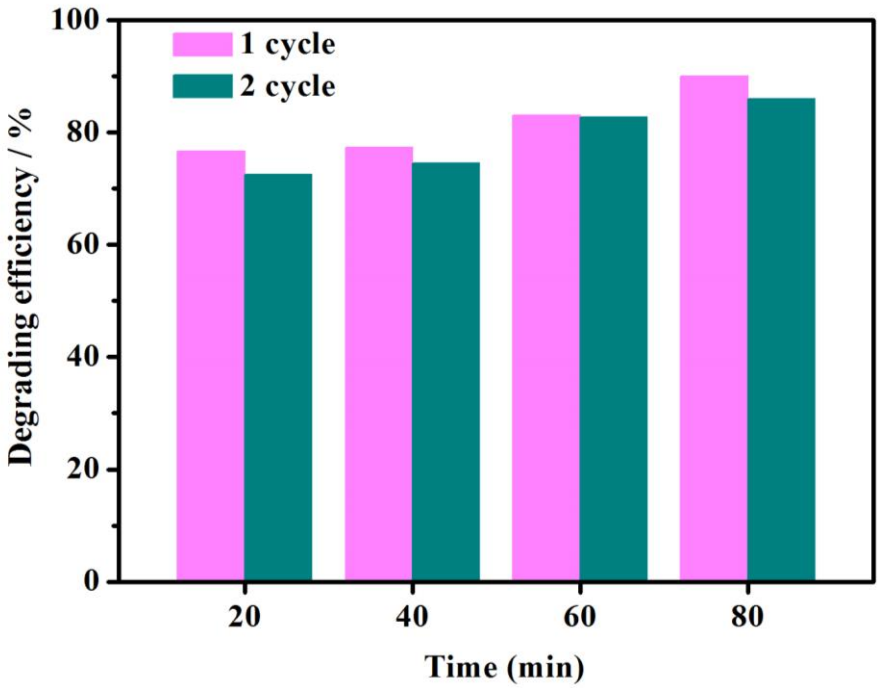

Fig. S9. Reusability of $CsPbCl_3$-2 mg under visible light irradiation.