

Electronic Supplementary Information

Synthesis of Ti³⁺ self-doped TiO₂ nanocrystals based on Le Chatelier's principle and their application in solar light photocatalysis

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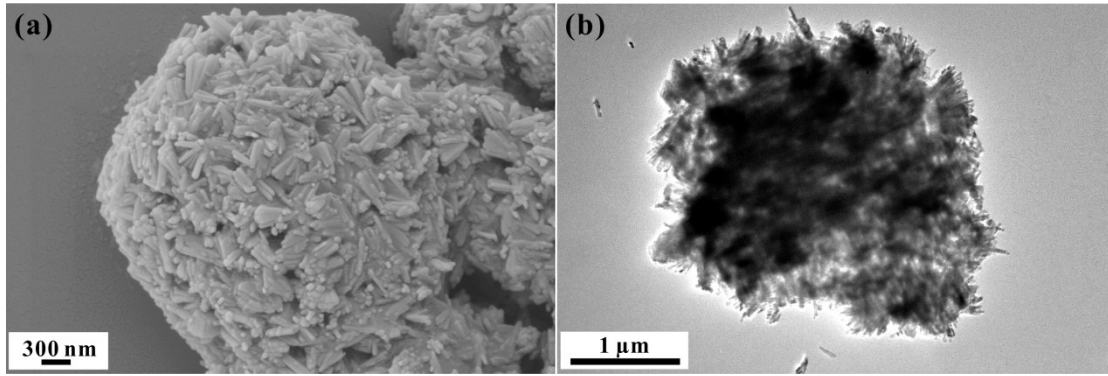


Fig. S1 (a) SEM and (b) TEM images of the pristine TiO₂ (r=0) sample synthesized without using (NH₄)₂TiF₆.

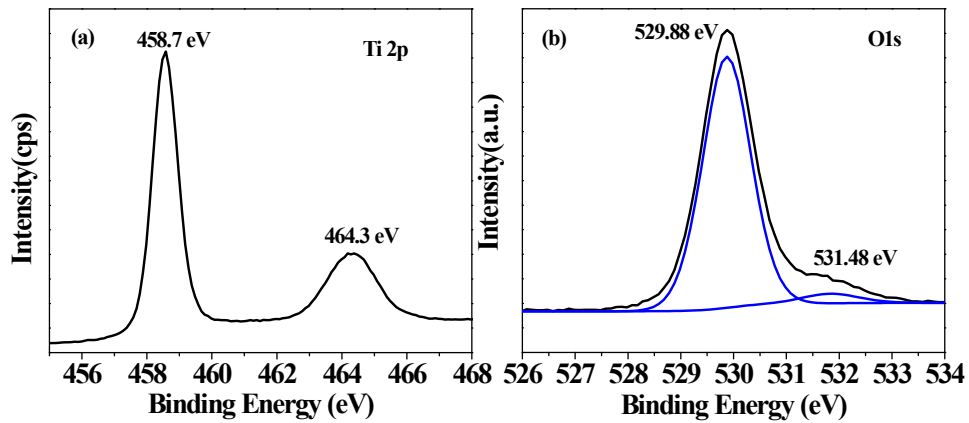


Fig. S2 XPS spectra of Ti2p and O1s for pristine TiO₂ (r=0) sample.

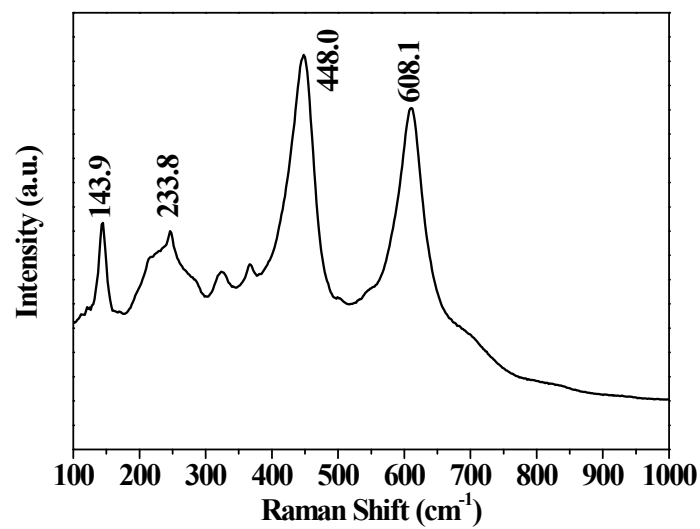


Fig. S3 Raman spectrum of pristine TiO₂ (r=0) sample.

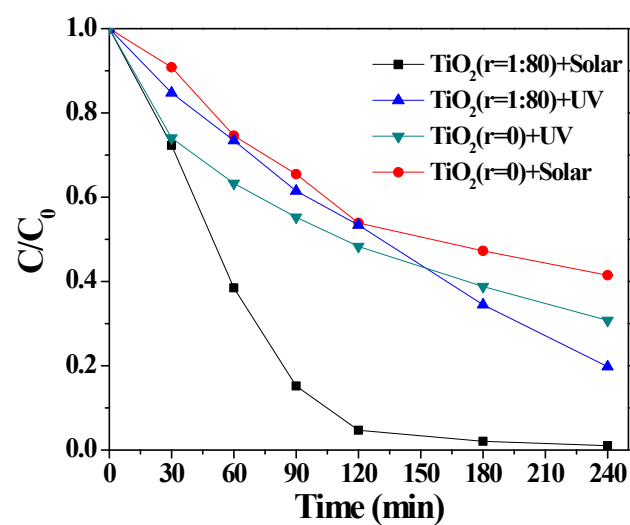


Fig. S4 The relative concentrations of MB solution as a function of irradiation time with different TiO₂ nanocrystals as the photocatalysts under natural solar irradiation and UV irradiation, respectively.

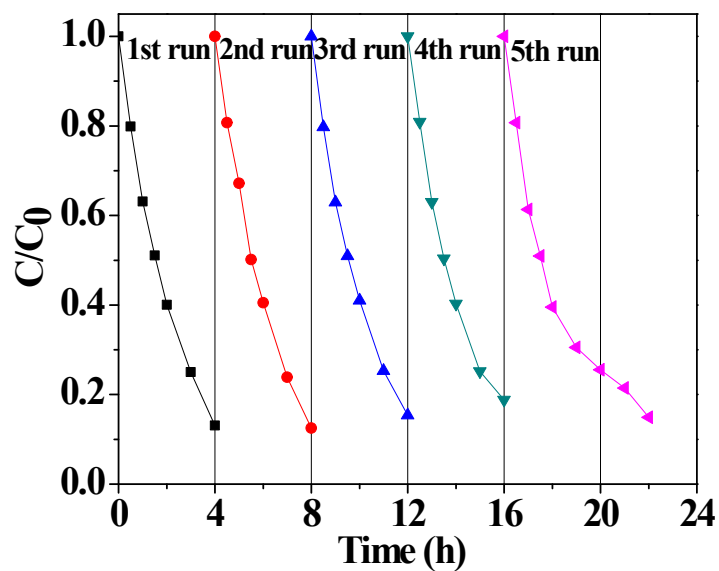


Fig. S5 Life recycle performance of Ti³⁺ self-doped TiO₂ nanocrystals (r=1:80) under simulated visible light irradiation.

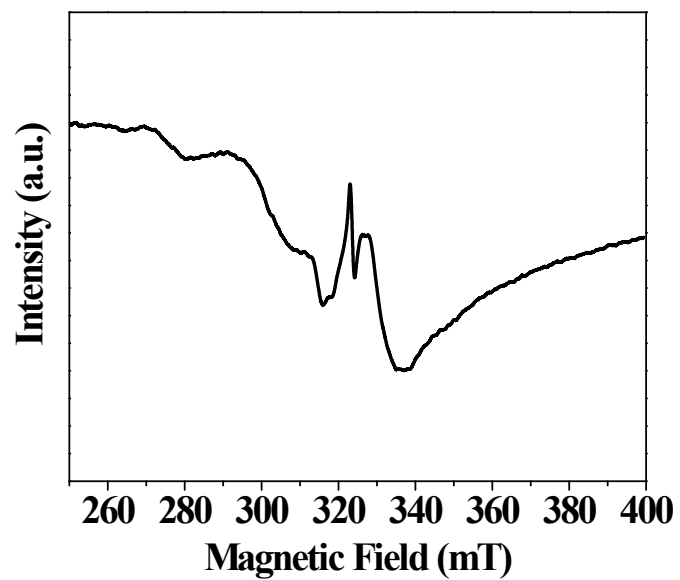


Fig. S6 The EPR spectrum of Ti^{3+} self-doped TiO_2 nanocrystals after fifth run of photocatalytic reactions.