

Supporting Information:

Novel Anatase TiO₂ Boxes and Tree-like Structures Assembled by Hollow Tubes:

**D,L-malic Acid-Assisted Hydrothermal Synthesis, Growth Mechanism and
Photocatalytic Properties**

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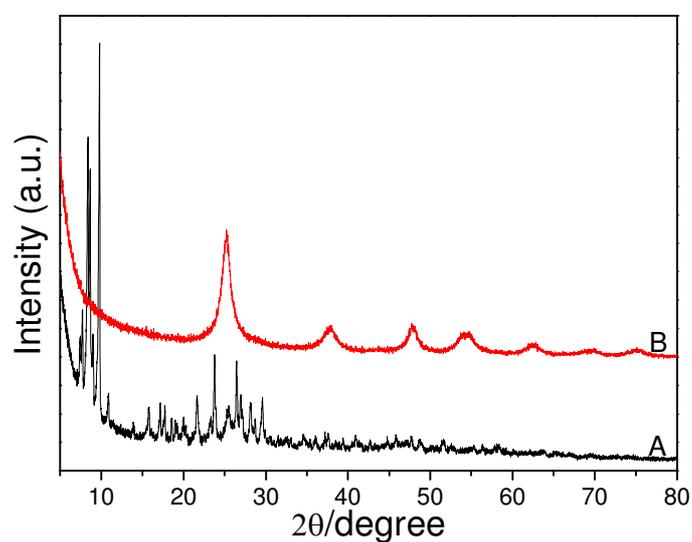


Figure S1. XRD patterns of the products prepared at different reaction temperature with other conditions unchanged: (A) 100 °C; (B) 140 °C.

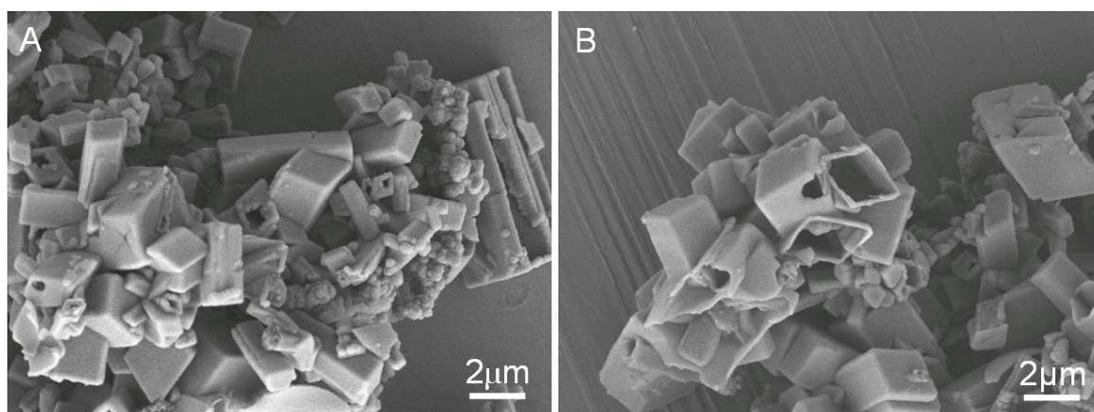


Figure S2. FESEM image of the sample prepared with the molar ratio of 1:1 at 120 °C for 10 h without addition of PVP.

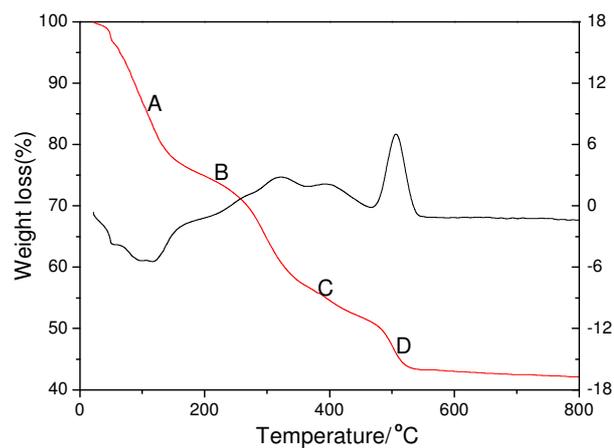


Figure S3. TG-DTA curves of the precursor obtained with $R = 1:1$ at $120\text{ }^{\circ}\text{C}$ for 1.5 h without addition of PVP.

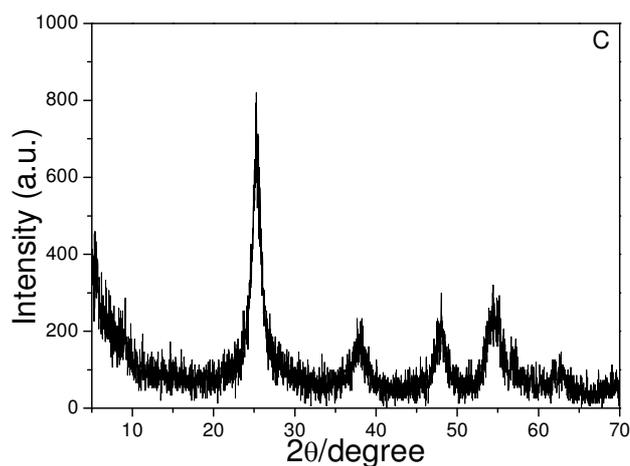
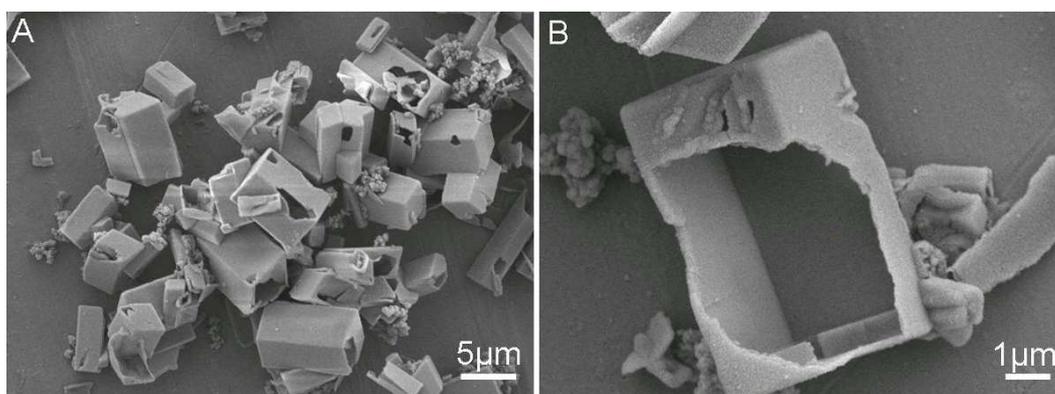


Figure S4. (A) and (B) FESEM images, and (C) XRD pattern of the sample obtained at $120\text{ }^{\circ}\text{C}$ for 1.5 h, $R = 1:1$. Then the precursor was washed with deionized water until pH 7. After this, 25 mL deionized water was added and then the mixed solution was transferred into a 30 ml Teflon-lined autoclave and kept it at $120\text{ }^{\circ}\text{C}$ for another 8.5 h.

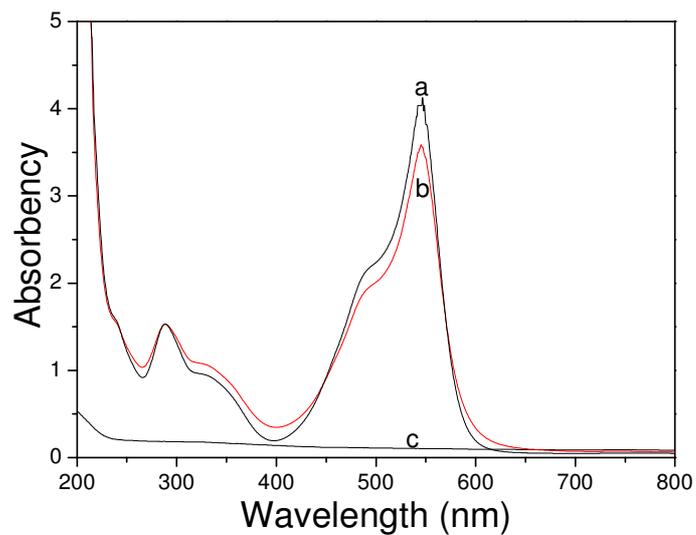


Figure S5. The absorption spectra of the acid fuchsine solution under exposure of the UV illumination (a) without addition of any catalyst for 0 min, (b) without addition of any catalyst for 45 min, and (c) with addition of TiO₂ cubes for 45 min.