Supporting information

Oxygen vacancies and CDs synergisitically mediated CDs/TiO_2 composite materials: Investigation of electronic energy band structure modulation, photocatalytic performances, and mechanisms

Dahui Feng[a], Han Zhao[a], Yanhua Song[a], Ruyan Xie[a], Xiaozhen Zhang[a], Shuzhe Zhang[a] , Peng Chen*[b] and Haifeng Zou*[a]

[a] College of Chemistry, Jilin University, Qianjin Street 2699, Changchun 130012, China.

E-mail: haifengzou0431@sohu.com

[B] The Second Hospital of Jilin University , Jilin University，Yatai Street 4026, Changchun 130022，China.

E-mail: c_p@jlu.edu.cn

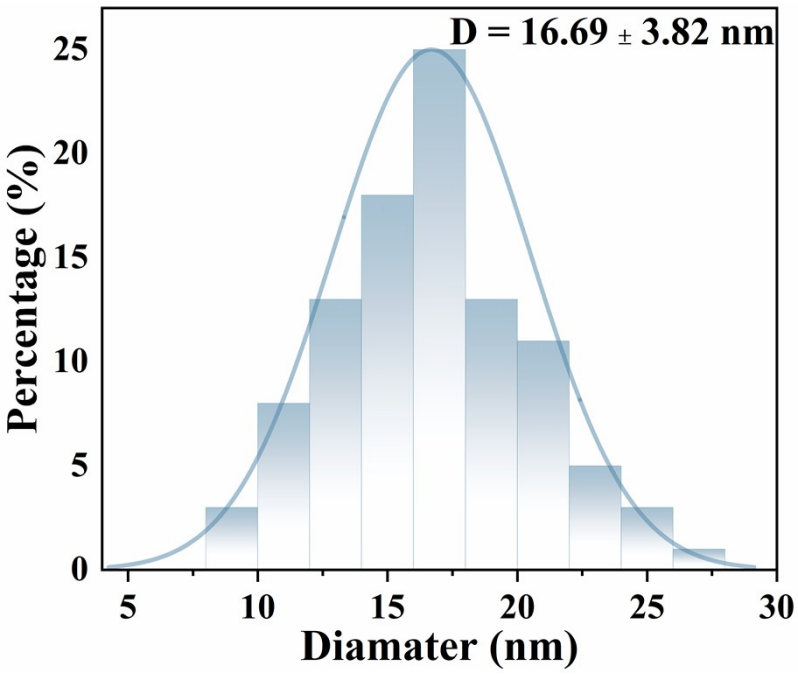

Fig. S1. Column diagram of DT dimension analysis in TEM.

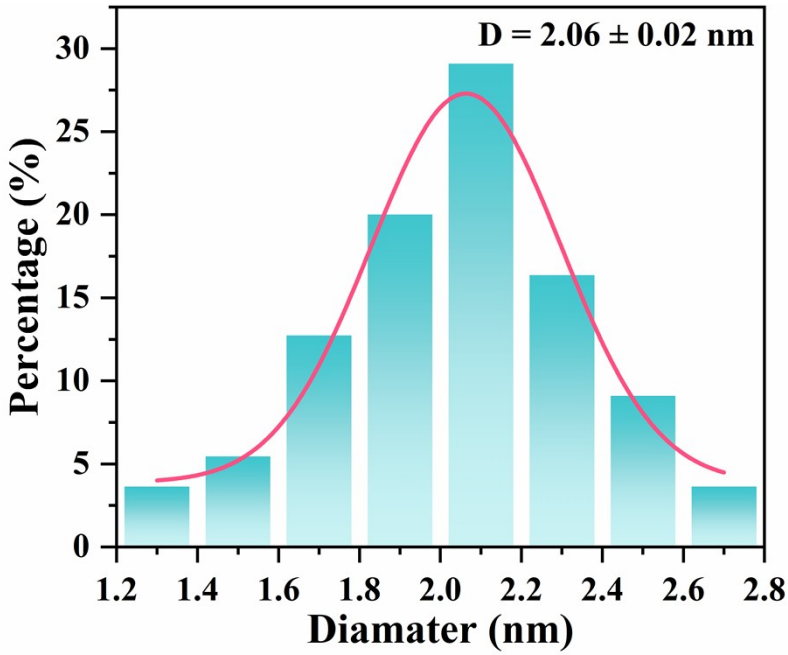

Fig. S2. Particle size analysis of CDs on the surface of CDT in transmission electron microscopy.

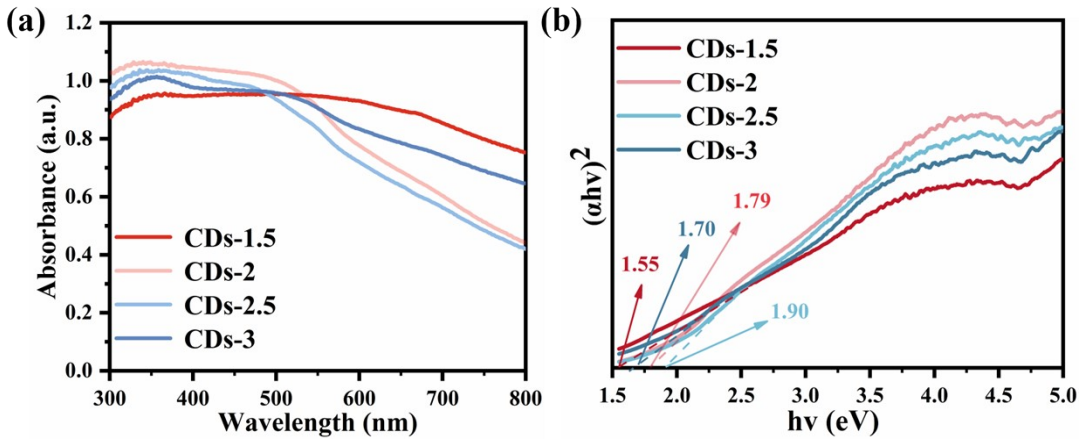

Fig. S3. (a) UV-visible diffuse reflection spectra of CDs synthesized with different amounts of citric acid (1.5, 2.0, 2.5 and 3.0 g); (b) Plots of the band-gap values.

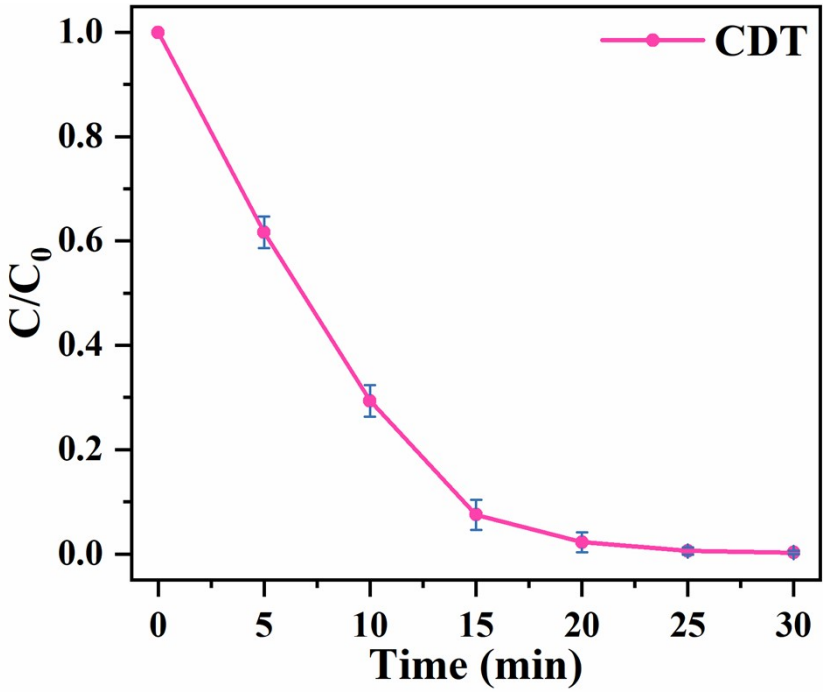

Fig. S4. Visible light degradation curve of RhB by CDT.

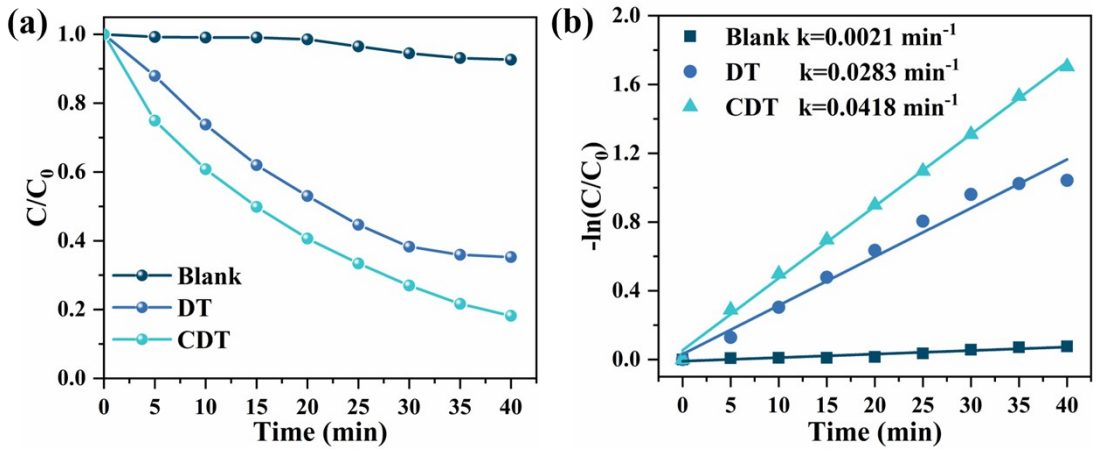

Fig. S5. (a) Degradation curves of Blank, DT, and CDT on 20 mg/L TC under visible light illumination; (b) Reaction kinetics curve.

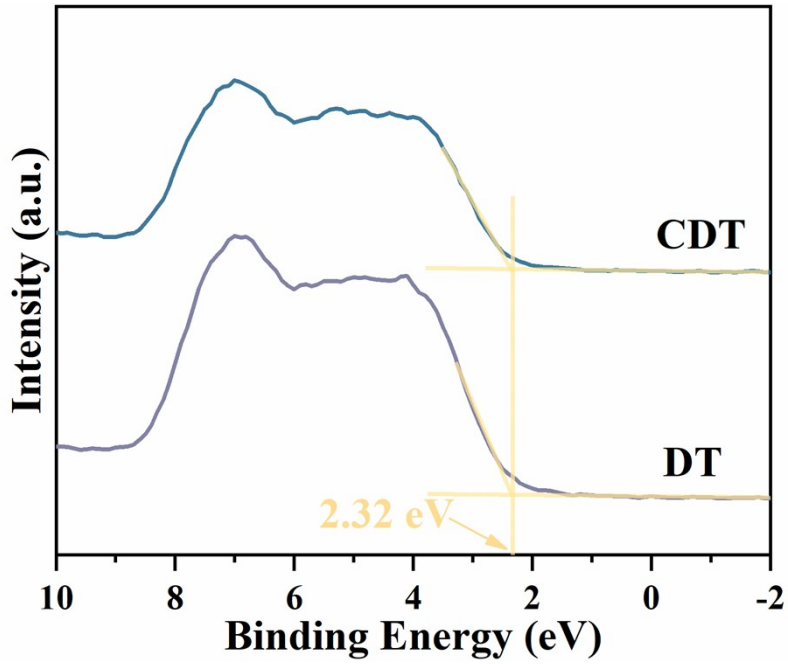

Fig. S6. XPS valence band spectra of DT and CDT.

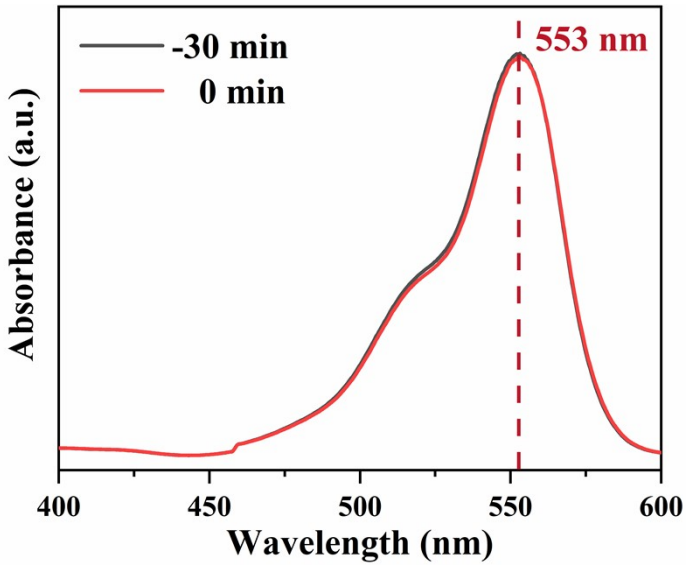

Fig. S7. Changes of RhB absorbance before and after dark state adsorption.