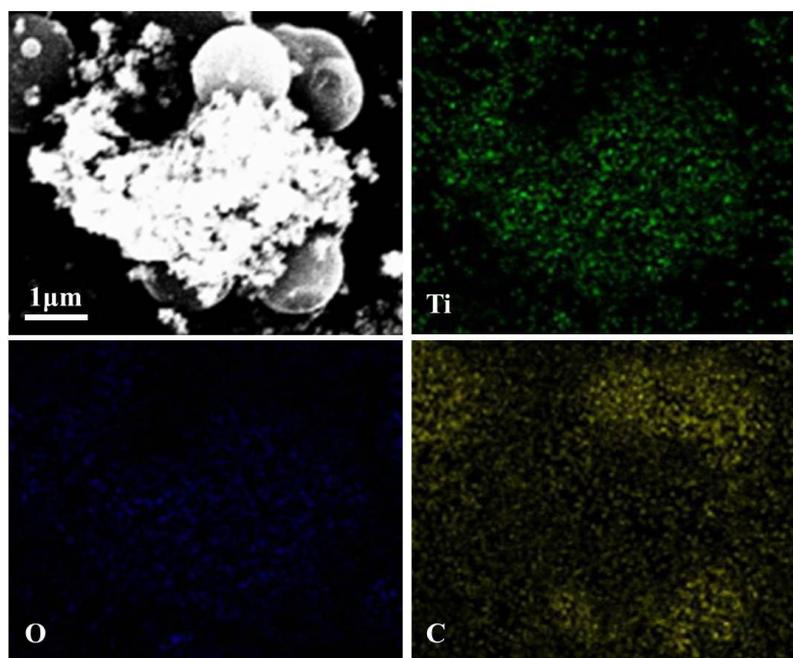


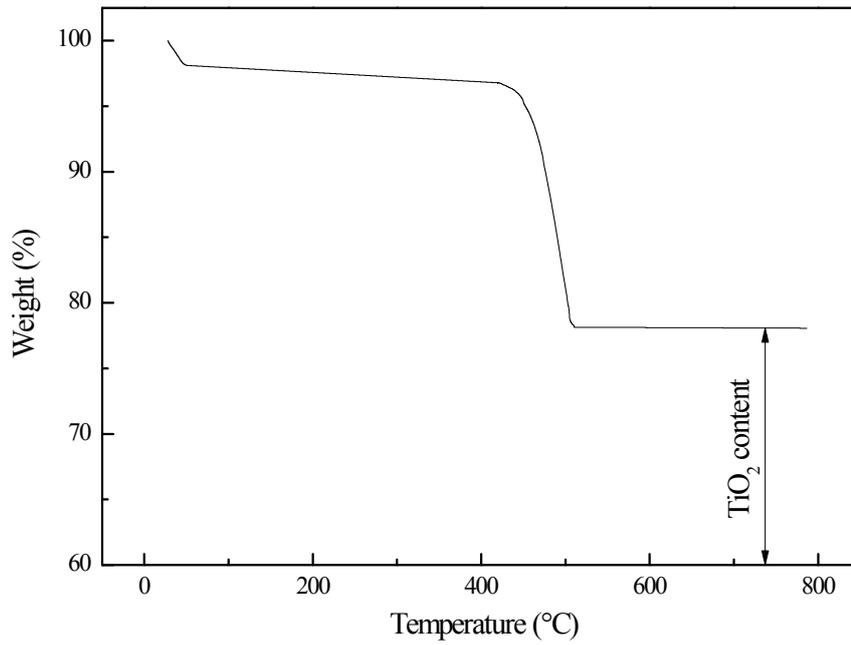
## Supplementary Material

### Facile one-pot synthesis of carbon incorporated three-dimensional hierarchical TiO<sub>2</sub> nanostructures for highly efficient pollutant removal

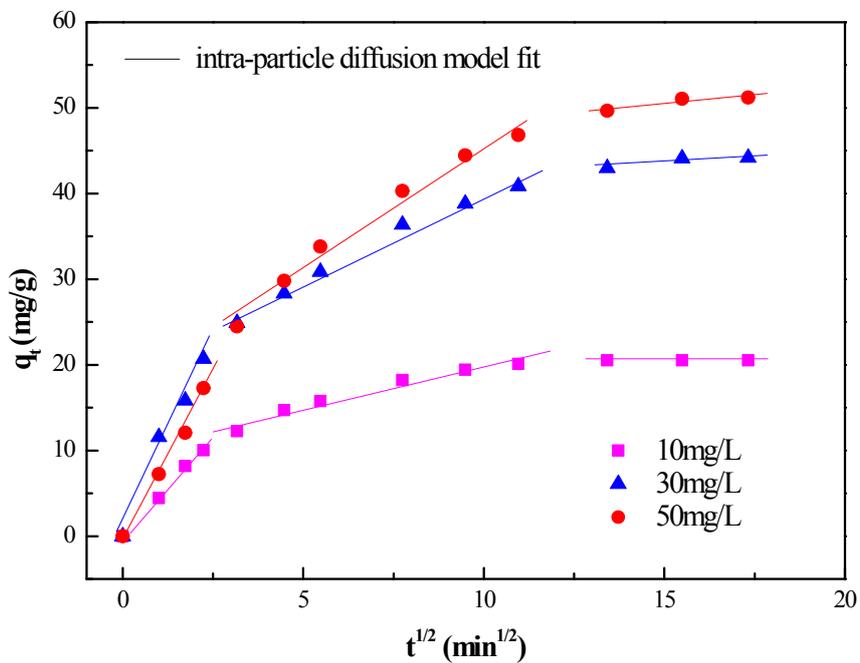
Shiping Xu\*, Yuan Gao, Xiang Sun, Min Yue, Qinyan Yue, Baoyu Gao  
Shandong Key Laboratory of Water Pollution Control and Resource Reuse, School of Environmental Science and Engineering, Shandong University, Jinan 250100, China  
Email: shiping.xu@sdu.edu.cn



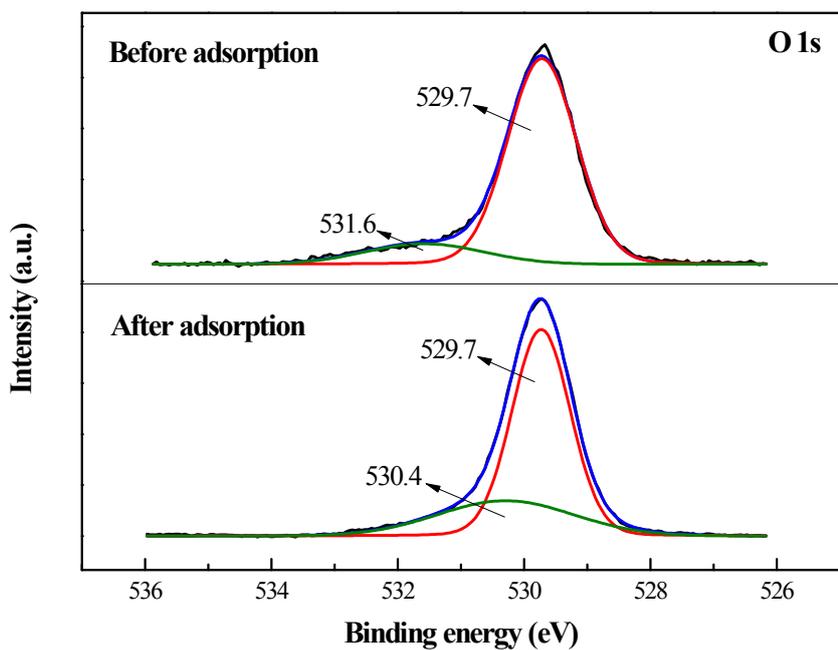
**Fig. S1** Elemental mapping of Ti, O, C elements of C<sub>RF</sub>-TiO<sub>2</sub>



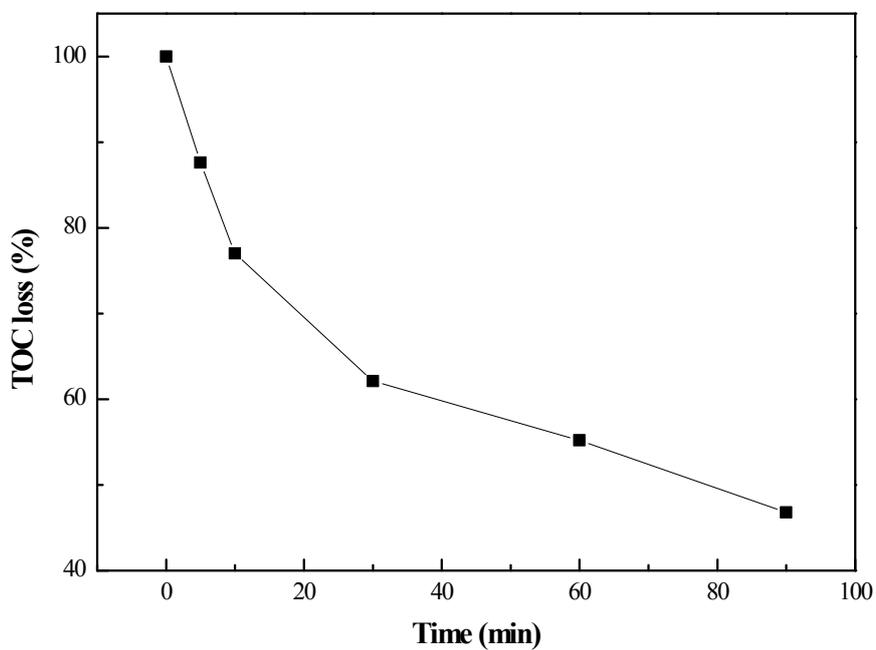
**Fig. S2** TGA analysis of  $C_{RF}$ -TiO<sub>2</sub> under atmospheric conditions.



**Fig. S3** Fitted curve of GR adsorption kinetics on  $C_{RF}$ -TiO<sub>2</sub> using intraparticle diffusion model.



**Fig. S4** XPS high-resolution spectra of O 1s in C<sub>RF</sub>-TiO<sub>2</sub> before and after GR adsorption.



**Fig. S5** TOC decay curve of GR solution with C<sub>RF</sub>-TiO<sub>2</sub> as photocatalyst under UV irradiation.