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*Supplementary materials*

# Microwave-Assisted Photocatalytic Degradation of Organic Pollutants via CNTs/$TiO_2$

**Yuqing Ren †, Yao Chen †, Qinyu Li †, Hexing Li * and Zhenfeng Bian ***

MOE Key Laboratory of Resource Chemistry and Shanghai Key Laboratory of Rare Earth Functional Materials, Shanghai Normal University, Shanghai 200234, China; ryq18109618310@163.com (Y.R.); 20110220075@fudan.edu.cn (Y.C.); qingyu.l@outlook.com (Q.L.)

* Correspondence: hexing-li@shnu.edu.cn. (H.L.); bianzhenfeng@shnu.edu.cn (Z.B.)

† These authors contributed equally to this work.

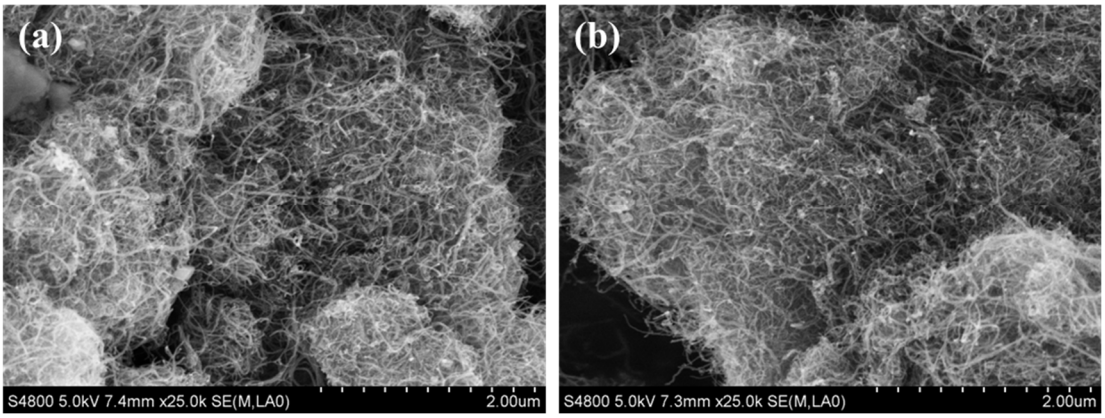


**Figure S1.** The SEM image of (a) CNTs and (b) acidified CNTs (ACNTs).

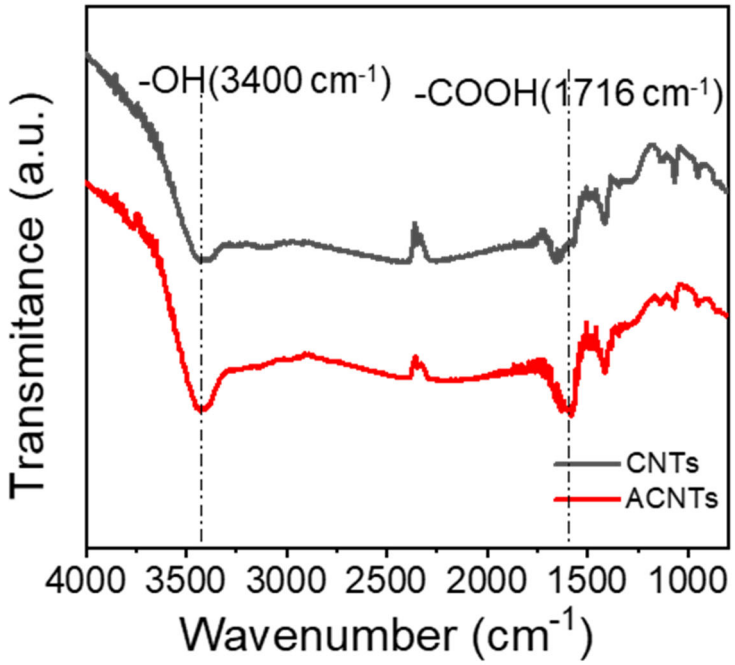


**Figure S2.** FTIR spectra of CNTs and ACNTs.

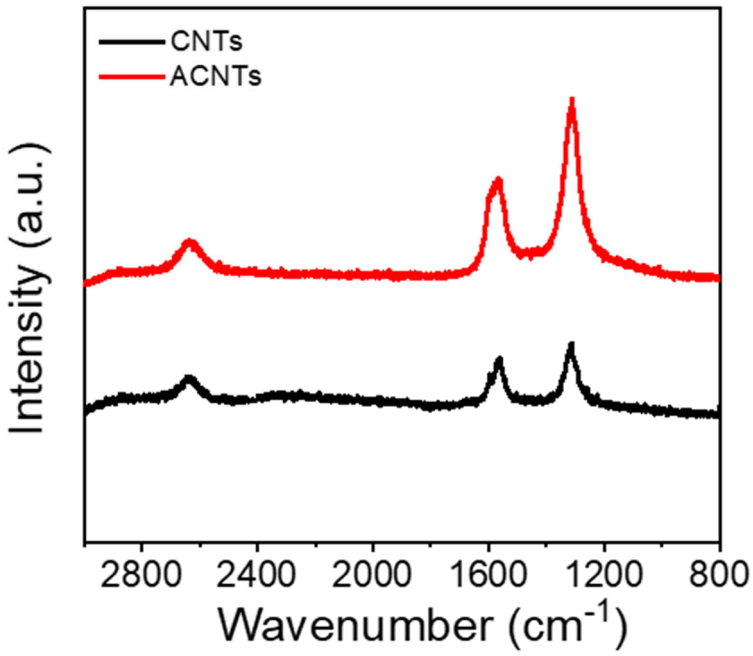


**Figure S3.** Raman spectrum of CNTs and ACNTs.

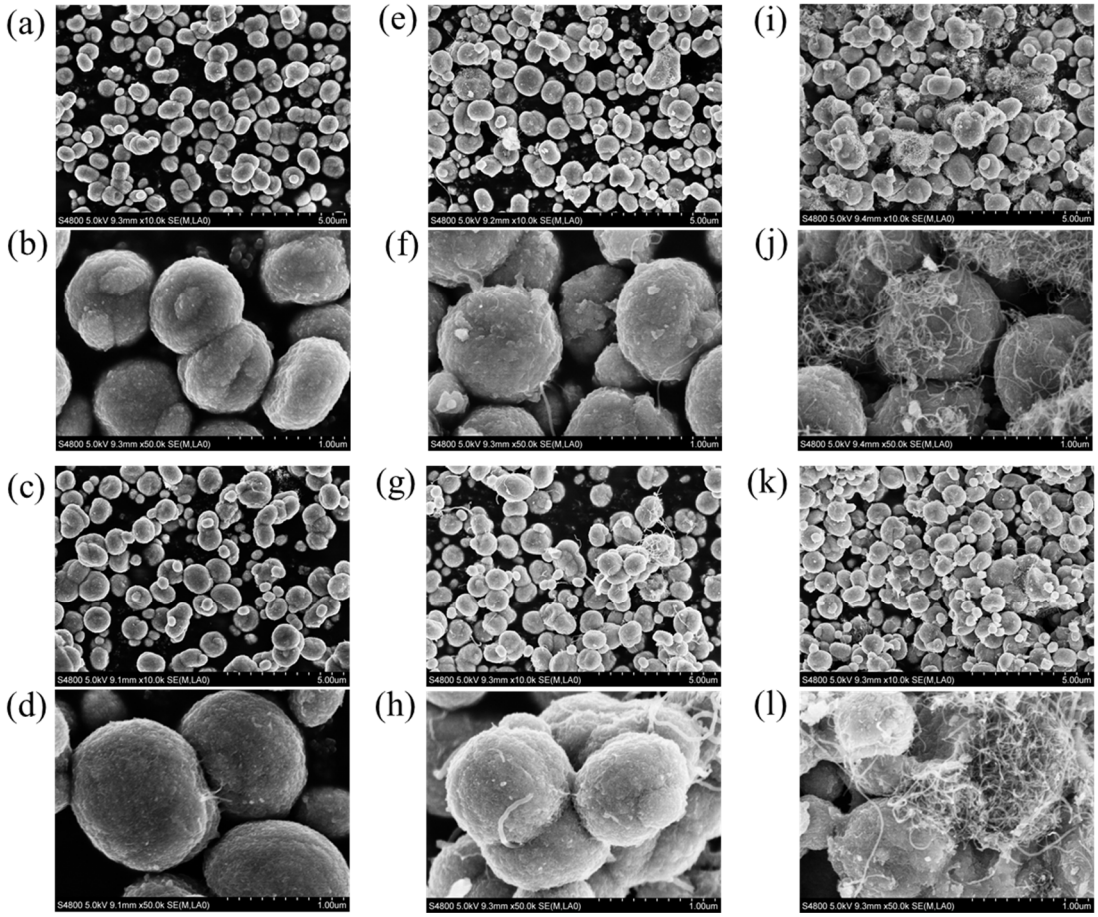


**Figure S4.** SEM images of $TiO_2$ (a, b), 5CNTs/$TiO_2$ (c, d), 10CNTs/$TiO_2$ (e, f), 15CNTs/$TiO_2$ (g, h), 20CNTs/$TiO_2$ (i, j) and 30CNTs/$TiO_2$ (k, l).

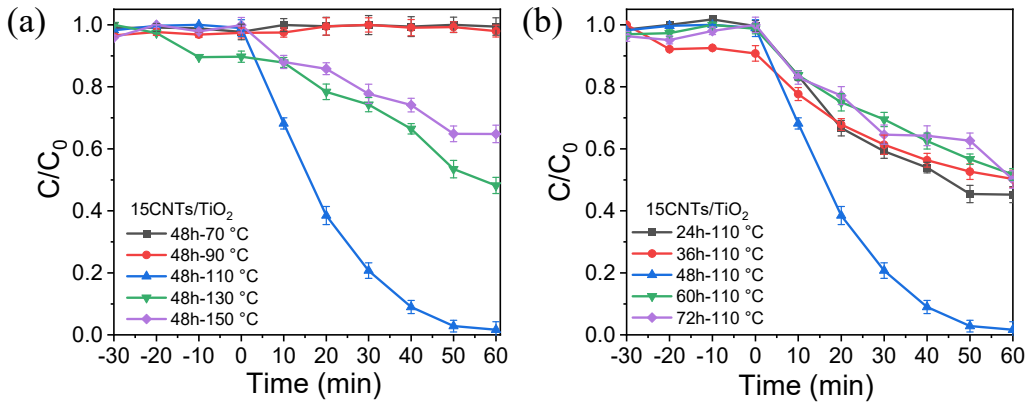


**Figure S5.** (a) Degradation activity of different 15CNTs/$TiO_2$ under microwave and UV irradiation for 1 hour. (b) Degradation activity of different 15CNTs/$TiO_2$ under microwave and UV irradiation for 1 hour.

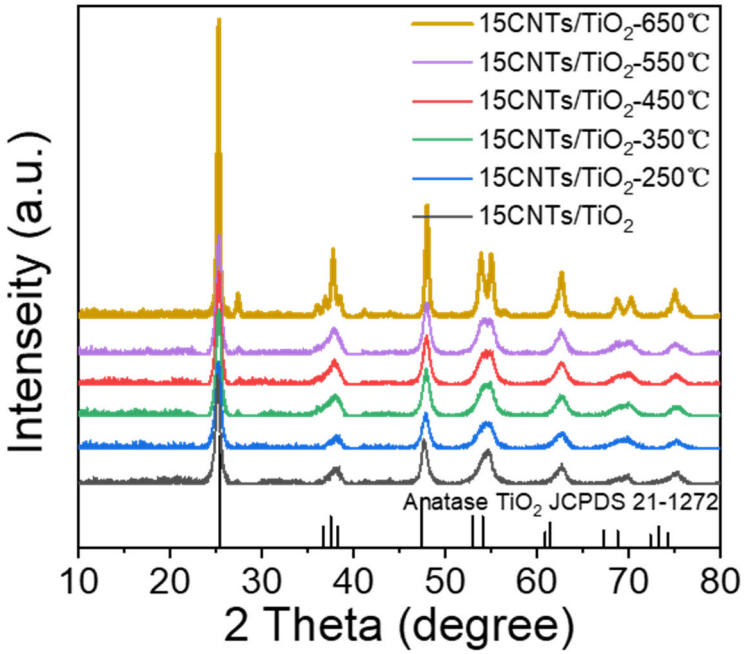


**Figure S6.** XRD spectra of 15CNTs/$TiO_2$ calcined at different temperatures.

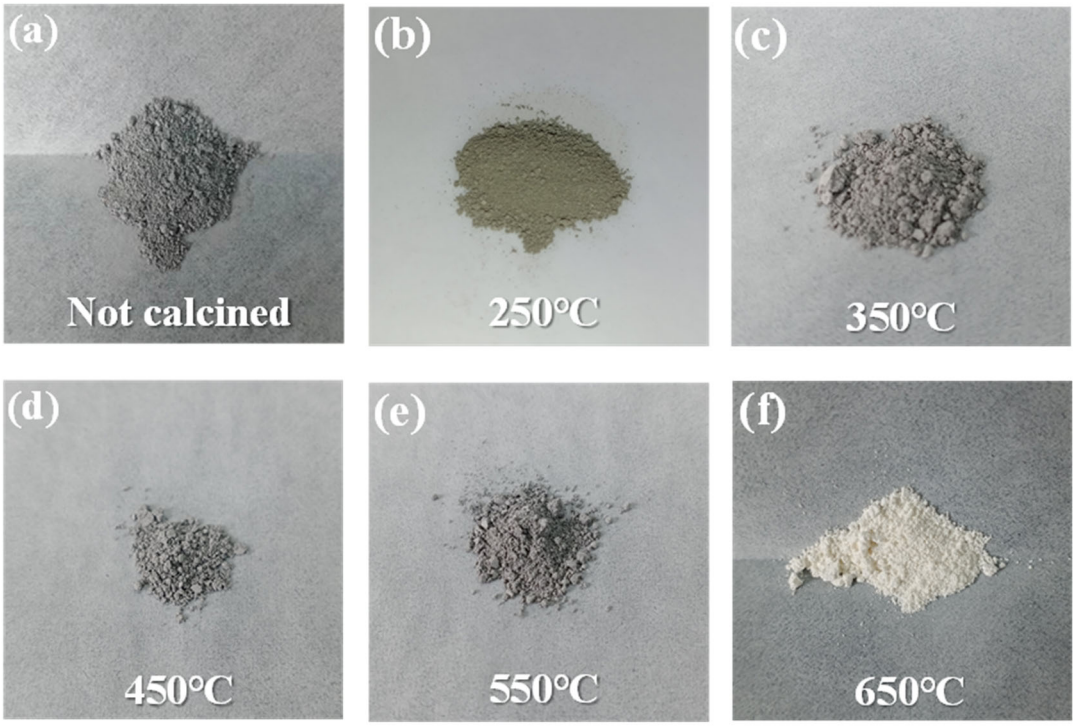


**Figure S7.** Photographs of 15CNTs/$TiO_2$ calcined at different temperatures.

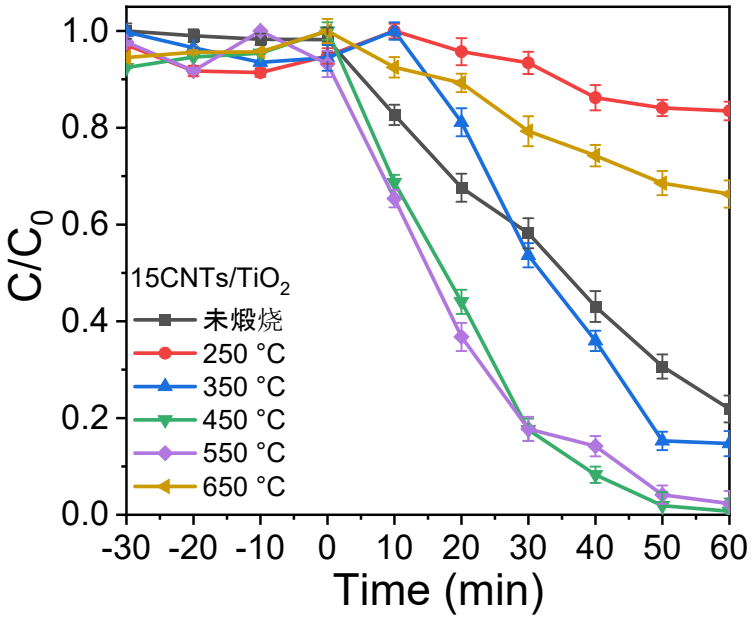


**Figure S8.** Degradation activity of 15CNTs/$TiO_2$ calcined at different temperatures.

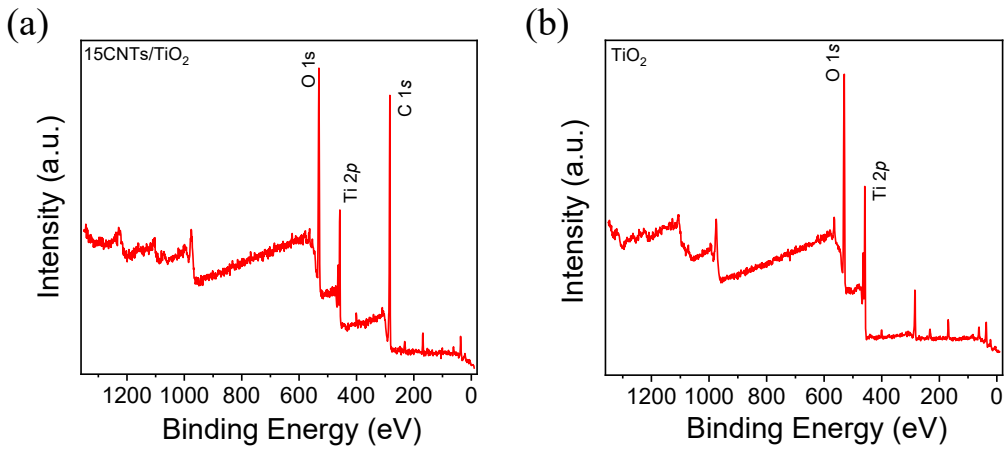


**Figure S9.** The XPS spectra of 15CNTs/$TiO_2$ (a) and $TiO_2$ (b).

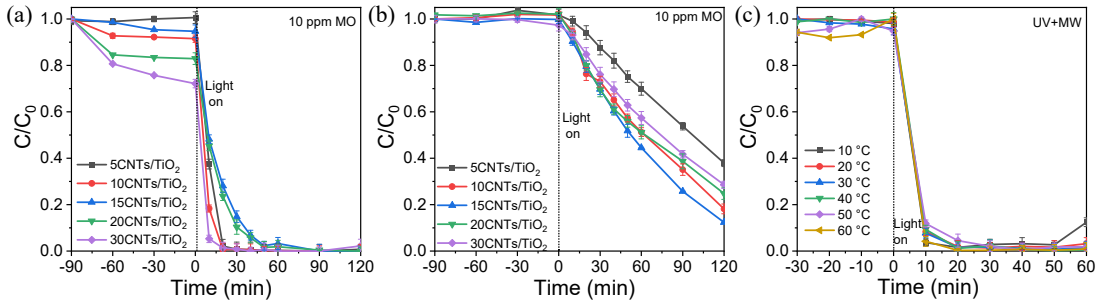


**Figure S10.** The degradation activity of xCNTs/$TiO_2$ under microwave and UV irradiation in (a) 10 ppm and (b) 40 ppm MO. (c) The degradation activity of 15CNTs/$TiO_2$ under microwave and UV irradiation in 20 ppm MO with different temperatures.

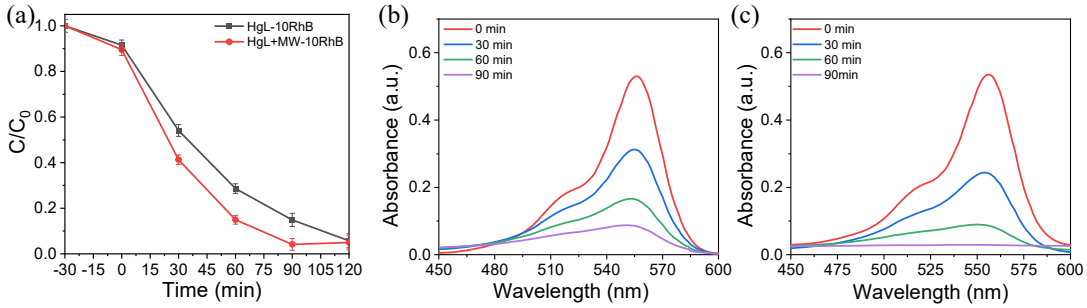


**Figure S11.** (a) The RhB degradation activity of 15CNTs/$TiO_2$ under different conditions. The UV-vis spectra of RhB degraded by 15CNTs/$TiO_2$ at different times under (b) ultraviolet alone (UV) and (c) UV illumination and Microwave radiation conditions.

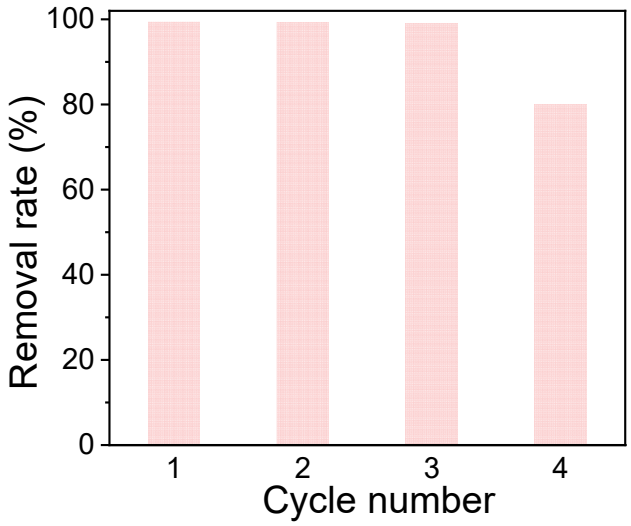


**Figure S12.** Recycling test of 15CNTs/$TiO_2$ for MO degradation under microwave and UV irradiation.

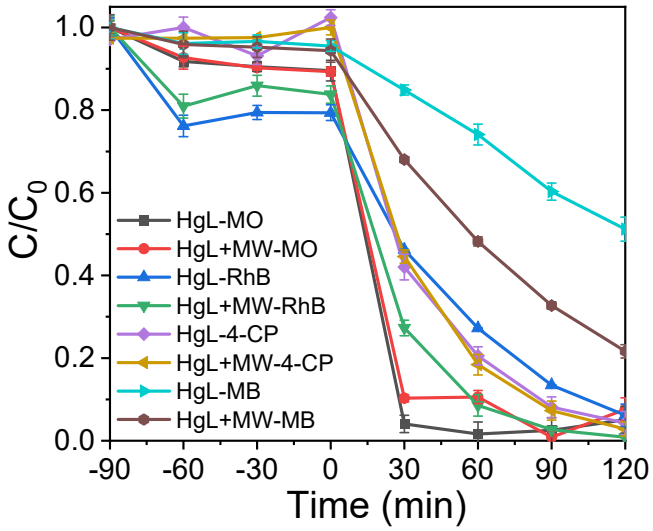


**Figure S13.** The microwave-photocatalytic degradation of 4-CP, MB, and RhB by 15CNTs/$TiO_2$.