

Electronic Supplementary Information

Macroemulsion-Mediated Synthesis of Fibrous ZnO Microrods and Their Surface Morphology Contribution on The High Photocatalytic Degradation Rate

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Table S1. The pH of the polar phase of mixture before and after solvothermal process

Sample name	pH	
	Before solvothermal	After solvothermal
ZnO_Ac_U0	11.38	11.40
ZnO_Ac_U0.5	11.48	11.50
ZnO_Ac_U1	11.62	11.60
ZnO_Ac_U2	11.70	11.69

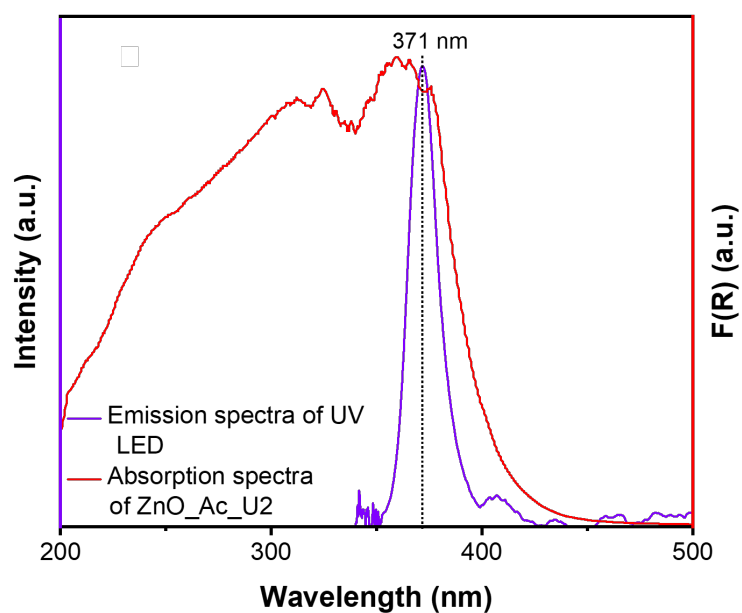


Figure S1. The comparison between the ZnO_Ac_U2 absorption spectra and the UV LED emission spectra.

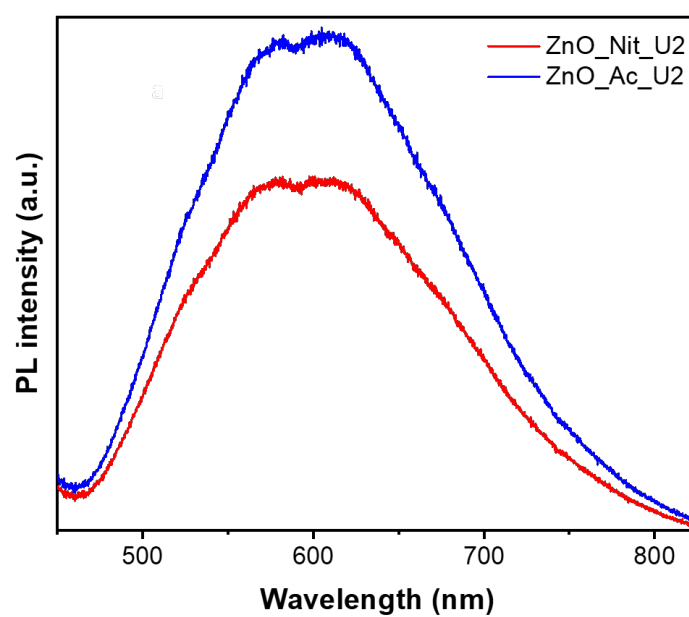


Figure S2. PL spectra of synthesized ZnO samples in terms of wavelength.

Table S2. Deconvoluted peaks properties of PL spectra for ZnO_Nit_U2 and ZnO_Ac_U2 samples

Sample name	Peak Properties			
	Centre max. (eV)/color	Area (a.u.)	FWHM (eV)	Max. height (a.u.)
ZnO_Nit_U2	1.65/Red	245208	0.17	1350859
	1.82/Red	1110028	0.22	4823546
	1.99/Orange	1388031	0.21	6083645
	2.15/Yellow	946569	0.22	4034125
	2.32/Green	1190140	0.33	3437336
ZnO_Ac_U2	1.65/Red	281422	0.16	1606794
	1.82/Red	1685248	0.23	6944802
	1.99/Orange	1932891	0.21	8471705
	2.15/Yellow	1350656	0.22	5756229
	2.32/Green	1546678	0.32	4467025

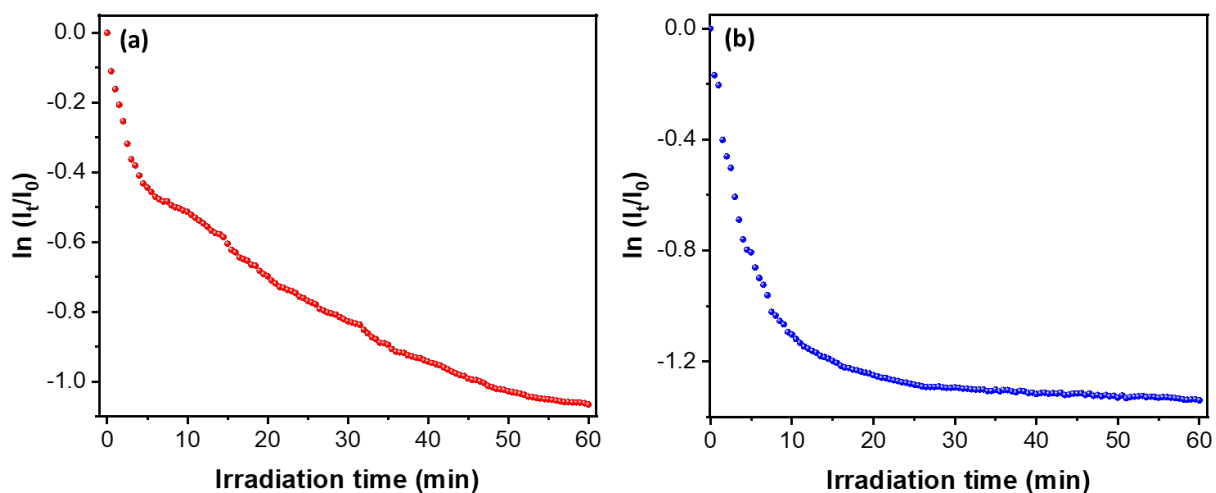


Figure S3. First-order kinetic plot for photocatalytic degradation of rhodamine B with uncondensed x-axis; (a) ZnO_Nit_U2, (b), ZnO_Ac_U2.

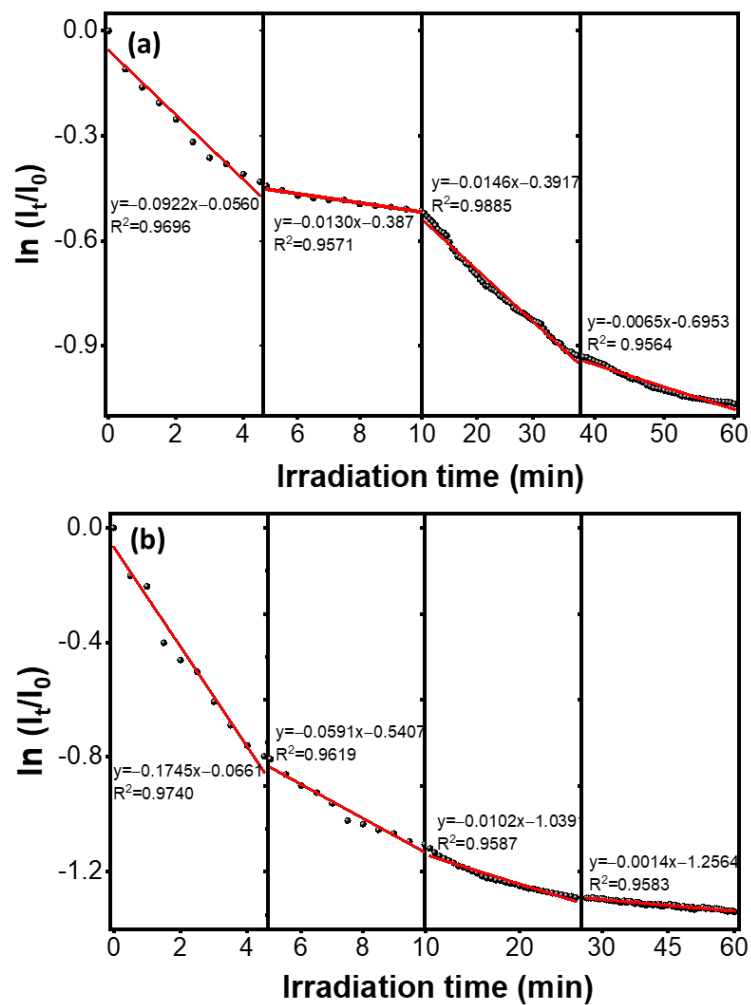


Figure S4. First-order kinetic plot and the detail parameters of the linear fitting.

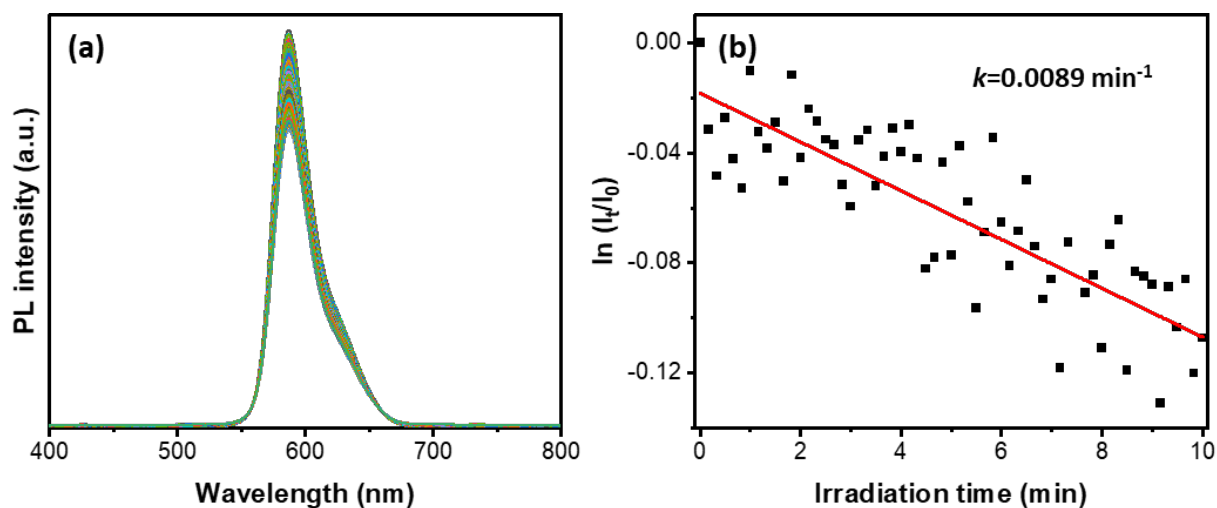


Figure S5. The experimental data of rhodamine B photodegradation without ZnO photocatalyst; (a) PL spectra, (b) first-order kinetic plot.

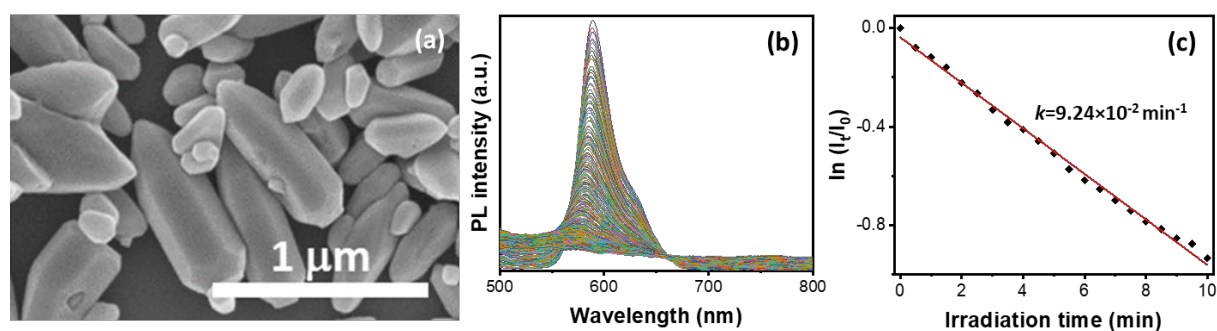


Figure S6. (a) SEM image of smooth ZnO nanorods, (b) evolution of PL intensity during the photocatalytic degradation when using smooth ZnO nanorods as photocatalyst, (c) the corresponding first-order kinetic plot.

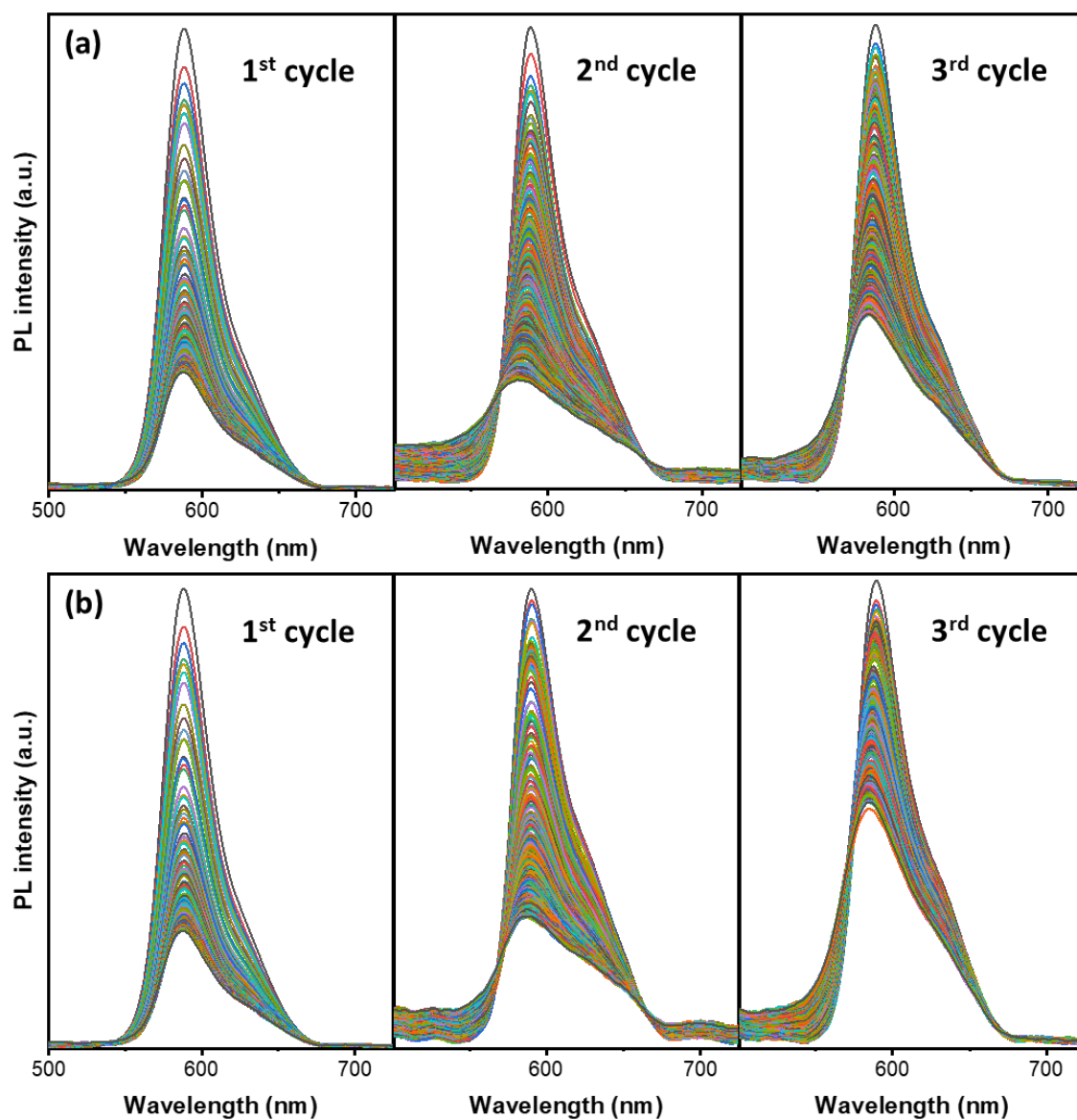


Figure S7. Evolution of PL intensity for the reusability test of ZnO photocatalyst; (a) ZnO_Ac_U2, (b) ZnO_Nit_U2.