

Supporting Information

Low-Cost and Recyclable Photocatalysts: Metal Oxide/Polymer Composites Applied in the Catalytic Breakdown of Dyes

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Table S1. The apparent absorbance limits of the composites.

Composites	Apparent absorbance limits (eV)
1 wt% ZnO/poly-PEG	3.4
2 wt% ZnO/poly-PEG	3.3
3 wt% ZnO/poly-PEG	3.3
4 wt% ZnO/poly-PEG	3.2
5 wt% ZnO/poly-PEG	3.2
1 wt% CeO ₂ /poly-PEG	3.6
2 wt% CeO ₂ /poly-PEG	3.6
3 wt% CeO ₂ /poly-PEG	3.5
4 wt% CeO ₂ /poly-PEG	3.5
5 wt% CeO ₂ /poly-PEG	3.4
6 wt% CeO ₂ /poly-PEG	3.4

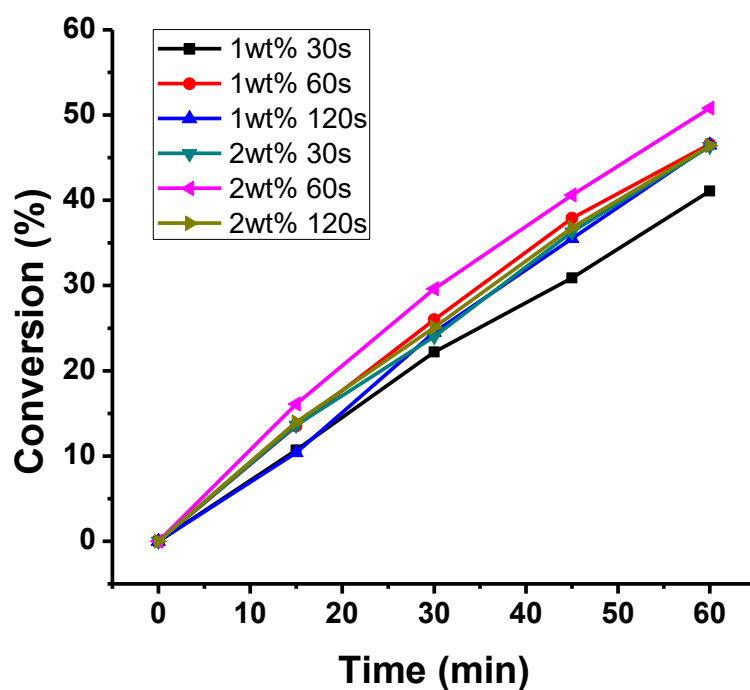


Figure S1. The Acid Black degeneration by 1 wt% ZnO/polymers and 2 wt% ZnO/polymers from syntheses using different irradiation times. $[AB]_0=15\text{ppm}$, $\text{pH}=7$, irradiation source: UV Lamp.

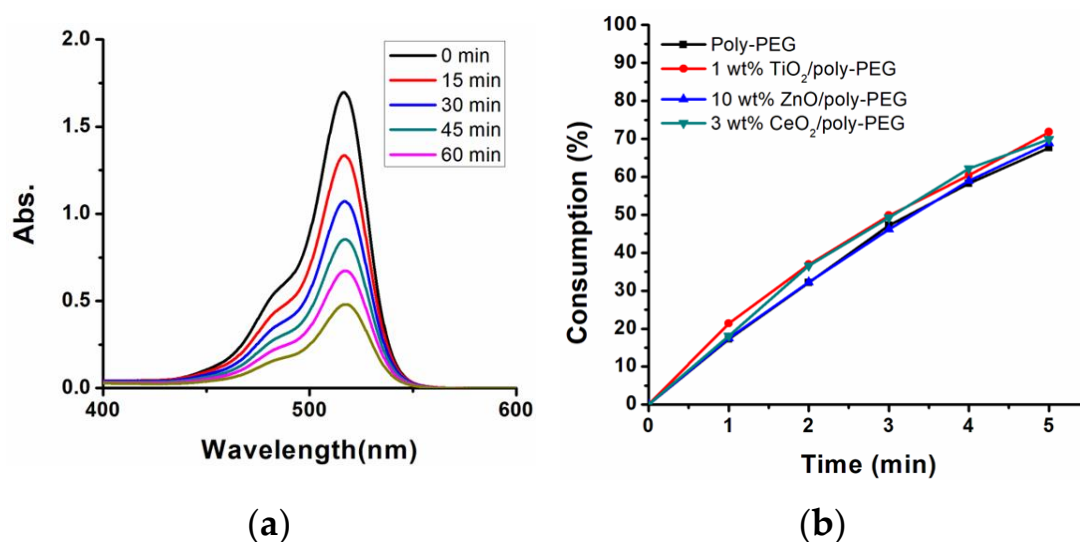


Figure S2. UV-visible absorption spectra of Eosin-Y water solutions under air during the photocatalytic degradation process under UV lamp irradiation in the presence of (a) 10 wt% ZnO/poly-PEG composite. $[\text{Eosin-Y}]_0 = 15 \text{ ppm}$, $\text{pH} = 7$. Degradation plot of Eosin-Y (15 ppm) under Omnicure lamp irradiation (b) in the presence of Poly-PEG, 1 wt% TiO_2 /poly-PEG composite, 10 wt% ZnO/poly-PEG composite and 3wt% CeO_2 /poly-PEG composite.