Supporting Information

Phosphotungstic acid supported on aminosilica functionalized perovskite-type $LaFeO_3$ nanoparticles: a novel recyclable and excellent visible-light photocatalyst

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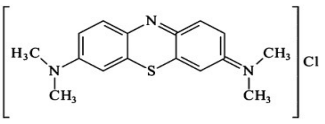
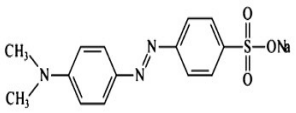
Table S1. The structure and nature of methylene blue and methyl orange dye pollutants

Dye name	Chemical Structure	Ionicity	Size (nm^3)	MW(g/mol)	Absorption λ max(nm)
Methylene Blue (MB)		Cationic	1.38 0.64 0.21	319.85	664
Methyl Orange (MO)		Anionic	1.54 0.48 0.28	327.33	463

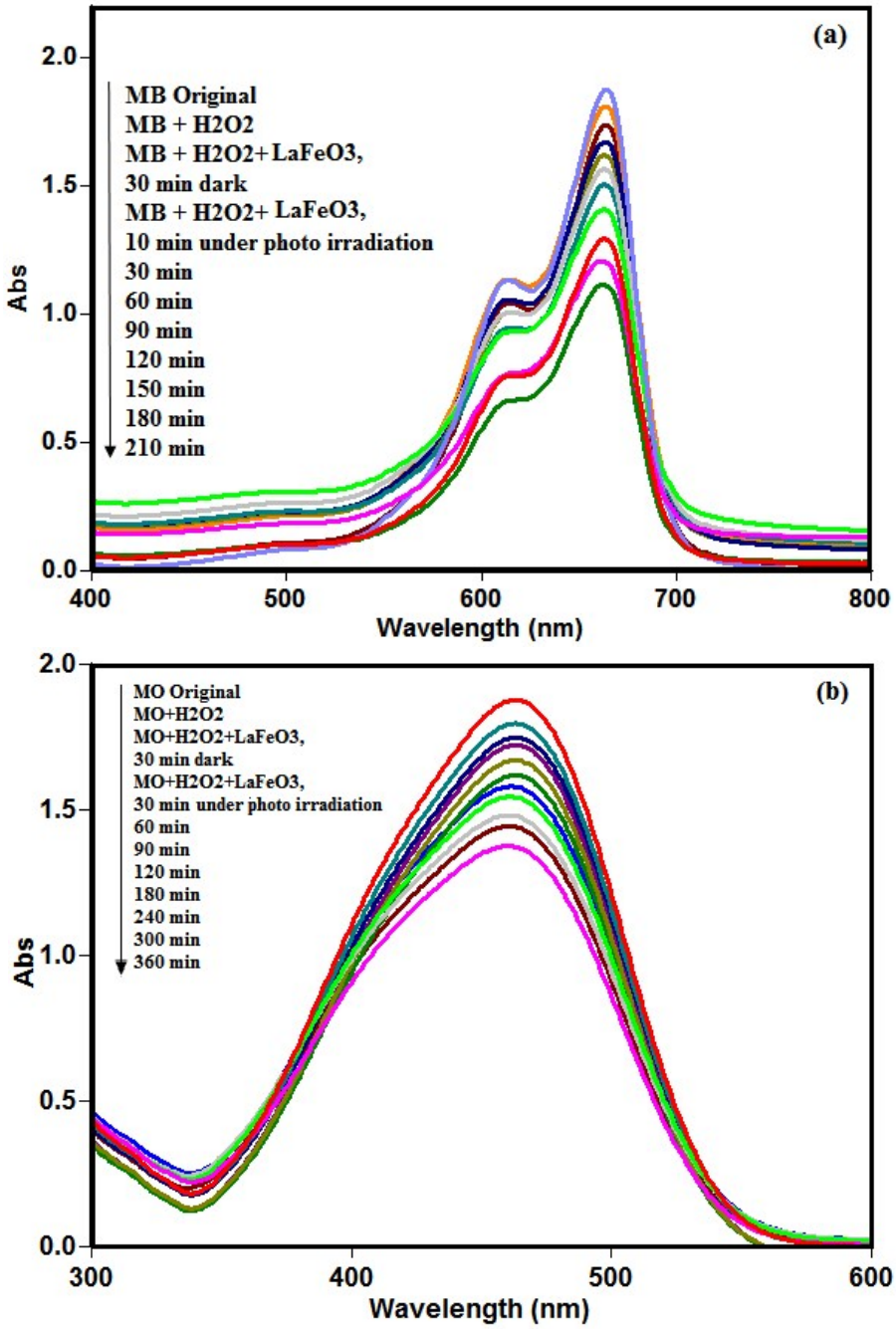


Fig. S1. UV-Vis time dependent absorption spectrum during photocatalytic reaction of MB (a) and MO (b) in the presence of LaFeO3 nanoparticles (concentration of MB and MO= 25 mg/L, amount of catalyst = 20 mg, 2 mL of hydrogen peroxide 0.1 M, reaction temperature =32◦C).

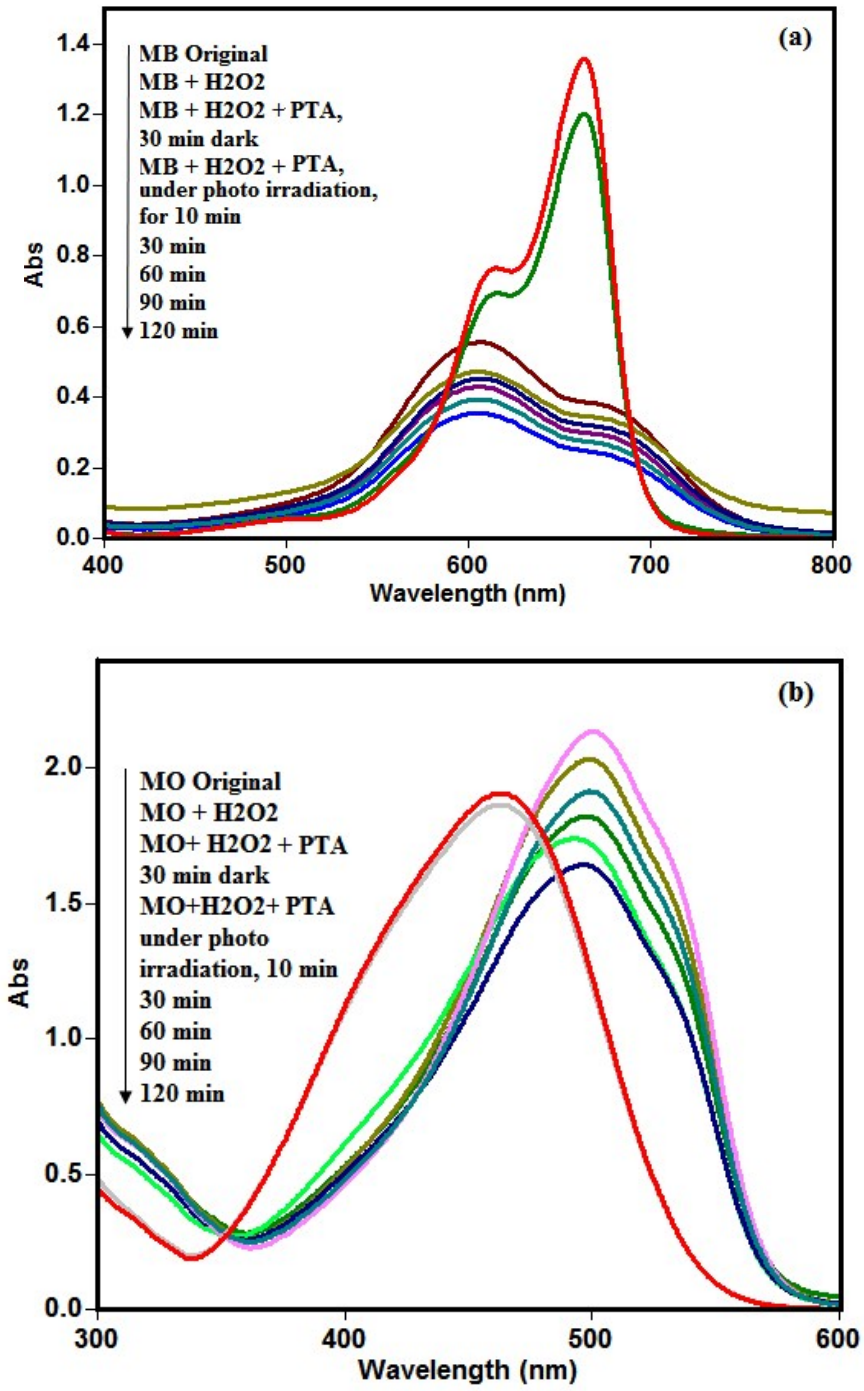


Fig. S2. UV-Vis time dependent absorption spectrum during photocatalytic reaction of MB (a) and MO (b) in the presence of PTA (concentration of MB and MO= 25 mg/L, amount of catalyst = 10 mg, 2 mL of hydrogen peroxide 0.1 M, reaction temperature =32◦C).

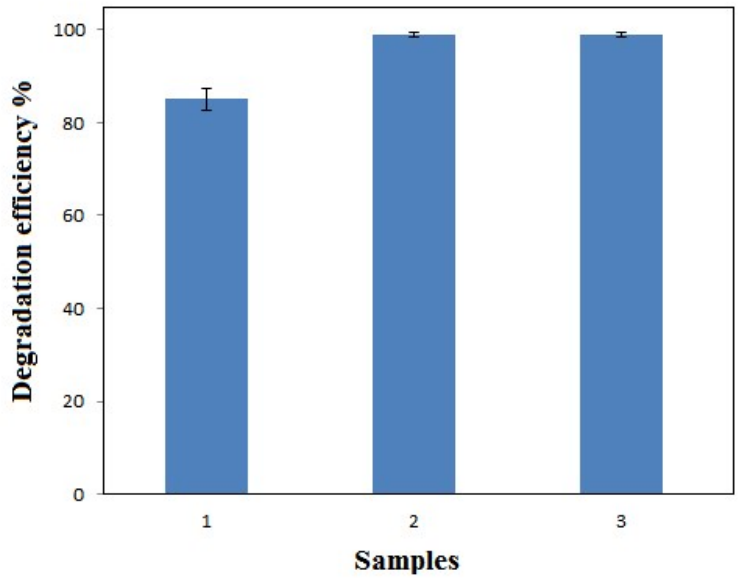


Fig. S3. Effect of different amounts of hydrogen peroxide on the photocatalytic degradation of MB in the presence of composite catalyst. concentration of MB= 25mg/L, amount of catalyst = 25 mg, amount of hydrogen peroxide addition, 1 mL (sample 1), 2mL (sample 2), 3 mL (sample 3), reaction temperature =32◦C).

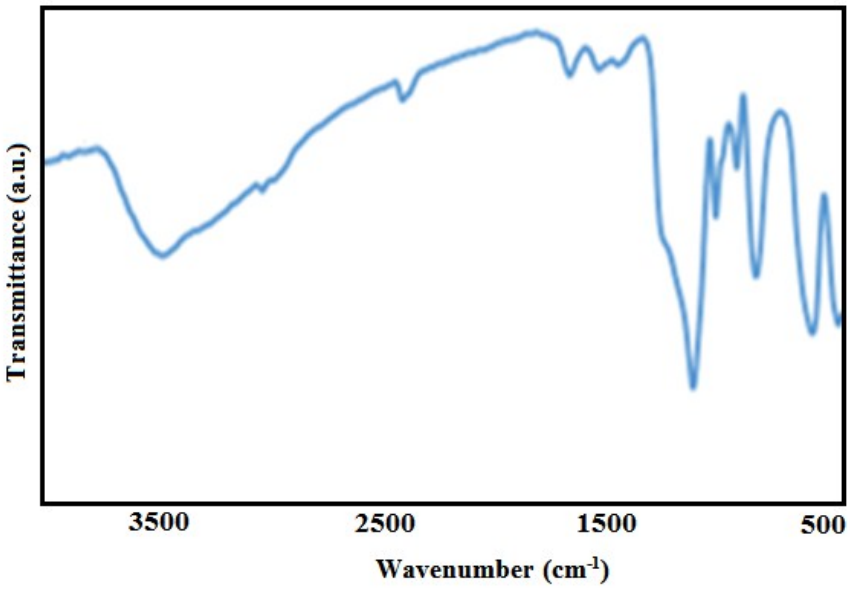


Fig. S4. The FT-IR spectra of recovered catalyst after three cycles of photodegradation reactions.