

# Synthesis and Characterization of N and Fe-Doped TiO<sub>2</sub> Nanoparticles for 2,4-Dimethylaniline Mineralization

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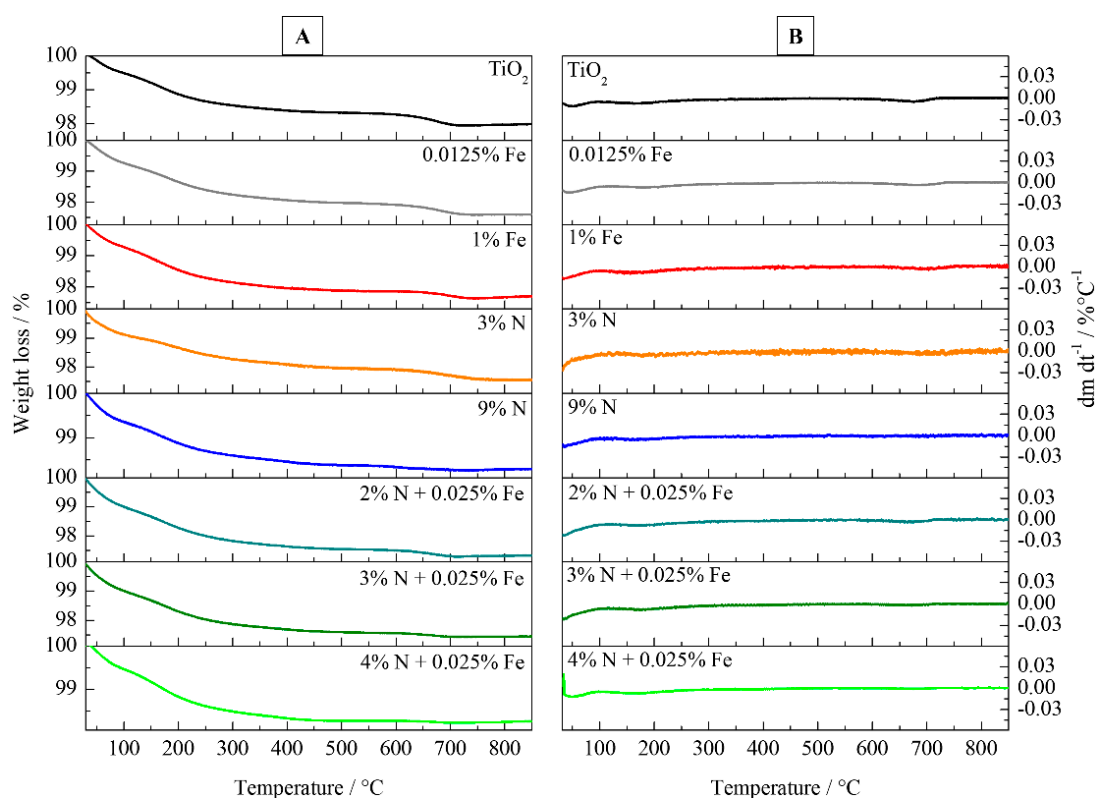
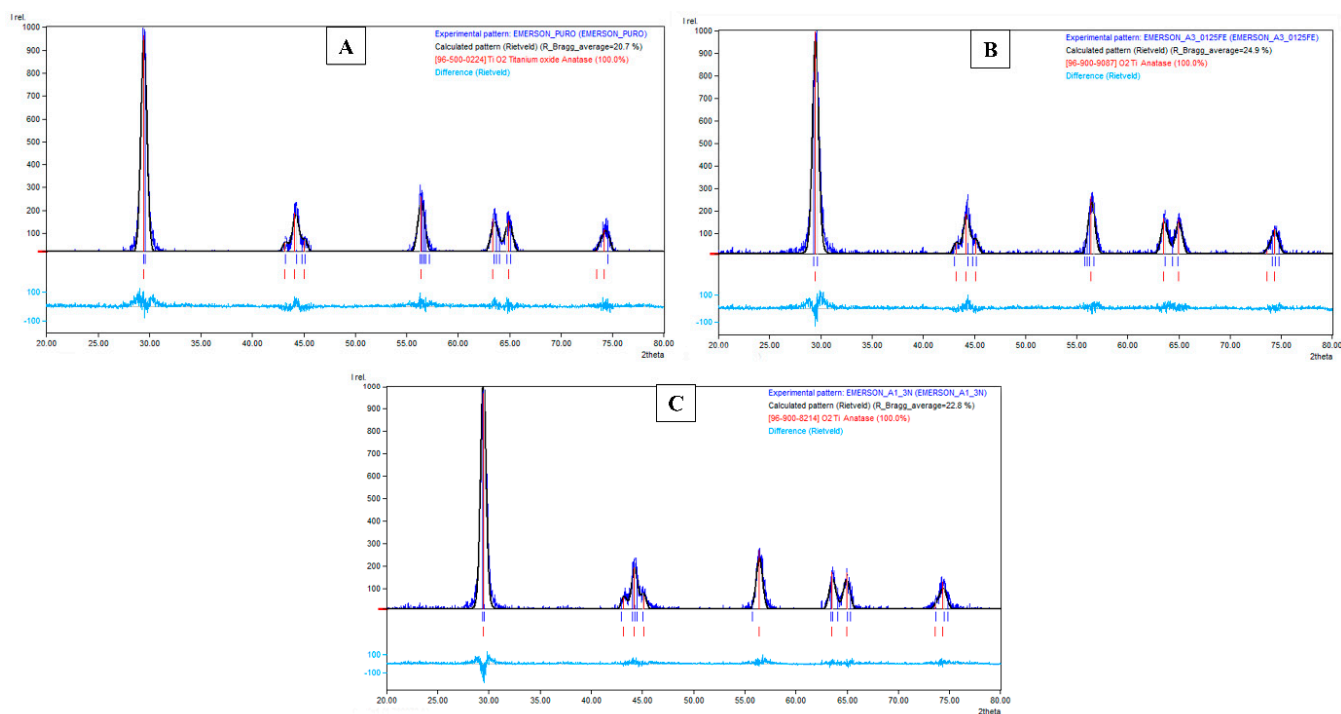
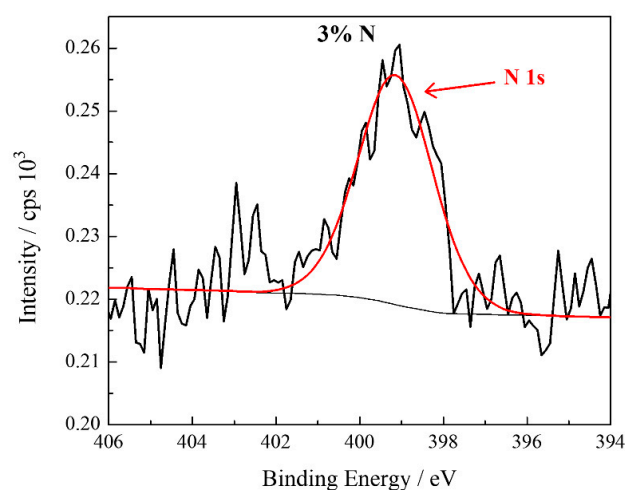
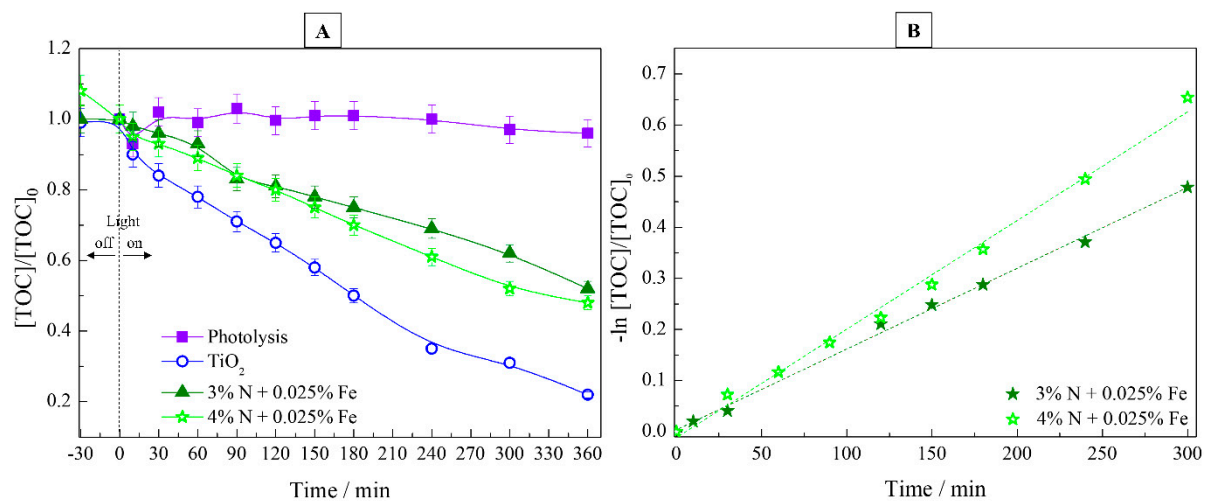


Figure S1. Thermal analysis. A) TG, and B) DTG.

**Table S1.** Rietveld refinement parameters for photocatalysts.

Parameters	TiO <sub>2</sub>	0.0125% Fe	3% N
<i>Phase</i>	Anatase	Anatase	Anatase
<i>a</i>	3.783 (Å)	3.780(Å)	3.782 (Å)
<i>b</i>			
<i>c</i>	9.503 (Å)	9.496 (Å)	9.495 (Å)
$\alpha$			
$\beta$	90.0000	90.0000	90.0000
$\gamma$			
<i>Space group</i>	I 41/amd (141)	I 41/amd (141)	I 41/amd (141)
<i>Density</i>	3.874 / g cm <sup>-3</sup>	3.893 g cm <sup>-3</sup>	3.894 g cm <sup>-3</sup>
<i>Crystal System</i>	Tetragonal	Tetragonal	Tetragonal

**Figure S2.** XRD with Rietveld refinement for TiO<sub>2</sub> (A), 0.125% Fe (B) and 3% N (C).**Figure S3.** High-resolution XPS spectra of N 1s.



**Figure S4.** Results for 2,4-DMA mineralization using co-doped photocatalysts fixing 0.025%Fe and varying N doping by 3 and 4%.