

Supplementary Information

Vibrational study of adsorption of Congo red onto
TiO₂ and the LSPR effect on its photocatalytic
degradation process

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In Figure S1 A it is shown the extinction spectrum of the Ag NPs with maximum at 420 nm and the absorbance spectra of TiO₂ P25 and nanoTiO₂. The absorption of both TiO₂-based catalysts and the extinction (absorption + scattering effects) overlap with maxima in approximately 380 nm, which was indicated to cause the near field enhancement associated with the photocatalysis improvement.

The emission spectrum of the high pressure Hg lamp is presented in Figure S1 B. The lines at 365.1, 366.4 and 390.7 nm are present in the UV region and the 404.8, 407.8, 435.9, 491.6, 496.0, 546.0, 576.9, 579.0 and 690.7 nm in the visible region.

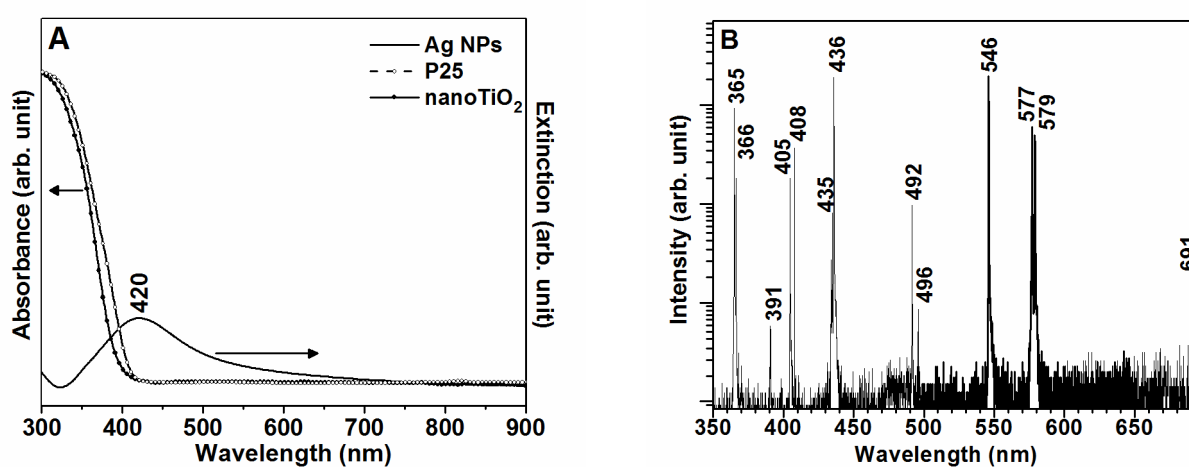


Figure S1. (A) Extinction spectrum of Ag NPs and absorbance spectra of P25 and nanoTiO₂; (B) Hg lamp without glass bulb emission spectrum.