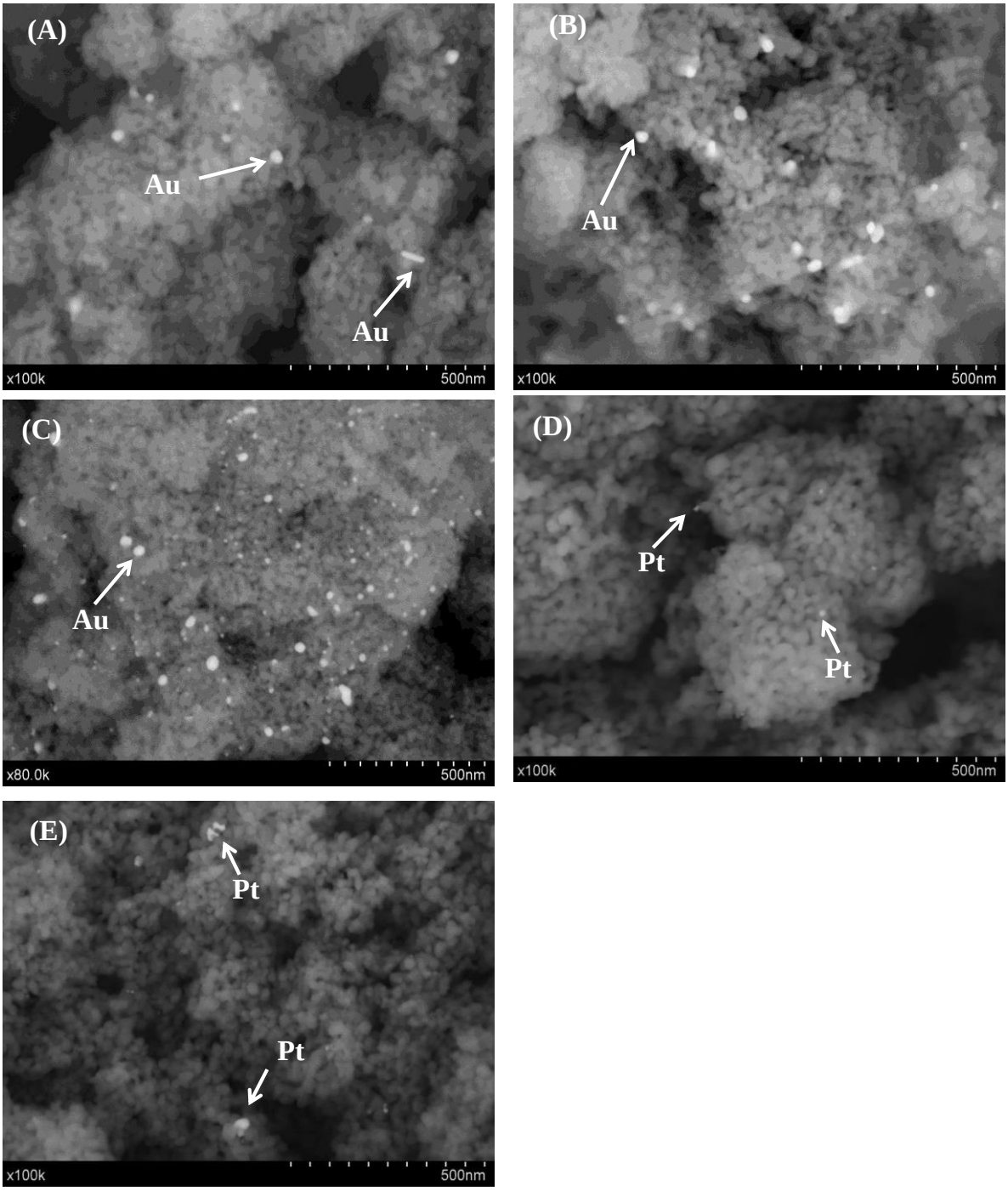

Figure 1. SEM images of photocatalysts synthesized using different methods: photodeposition (PD) and chemical reduction (CR). (A) Au-TiO_2(PD-HI)15min; (B) Au-TiO_2(PD-HI)120min; (C) Au-TiO_2(CR); (D) Pt-TiO_2(PD-HI)15min and (E) Pt-TiO_2(PD-HI)120min.

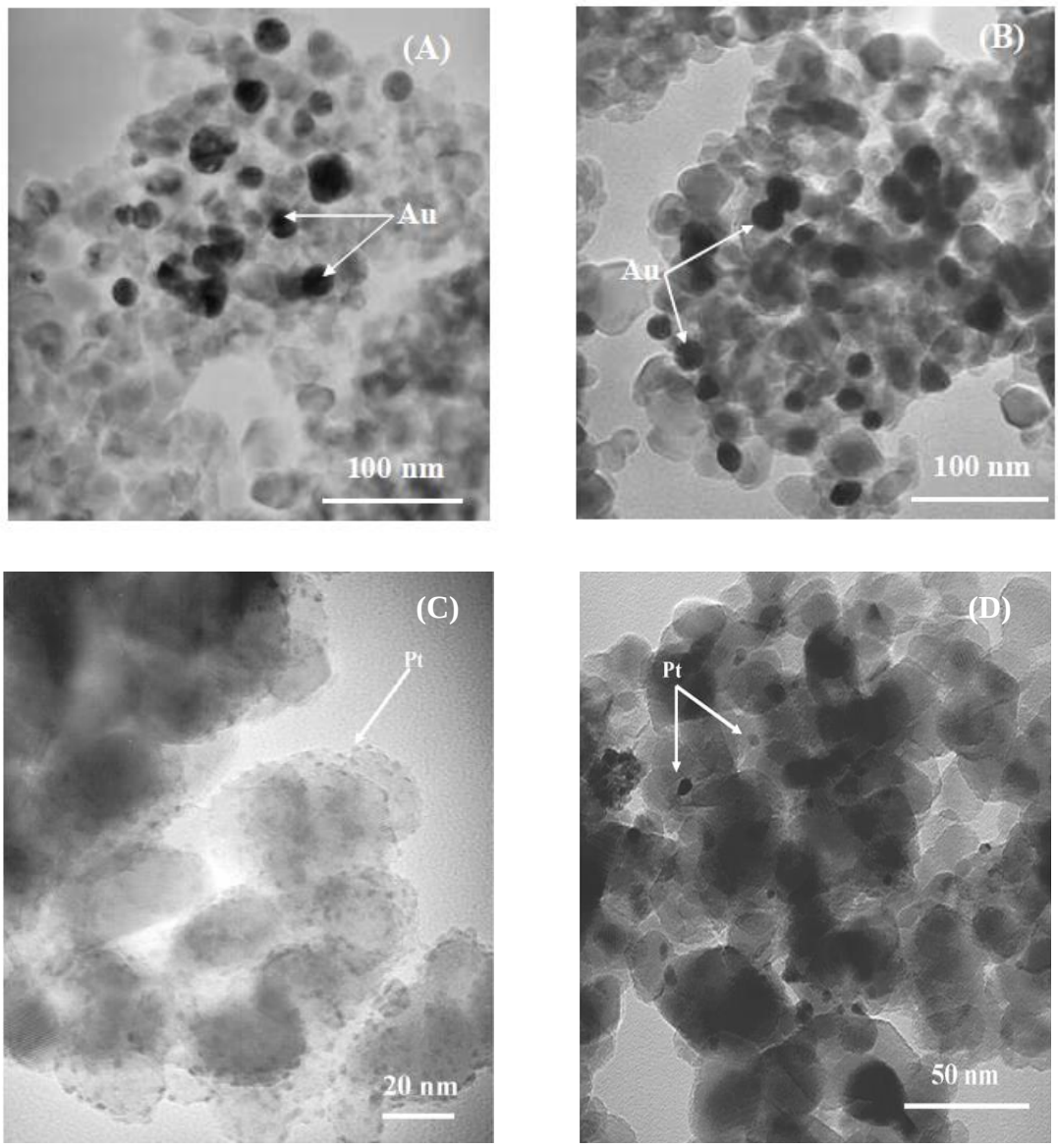

Figure 2. TEM images of metallized S-TiO_2. (A) and (B) Au-TiO_2 catalysts prepared by PD method using 140 W/m^2 of light intensity and different deposition time 15 and 120 min, respectively. (C) and (D) Pt-TiO_2 samples prepared by photodeposition method and different deposition time 15 and 120 min, respectively.

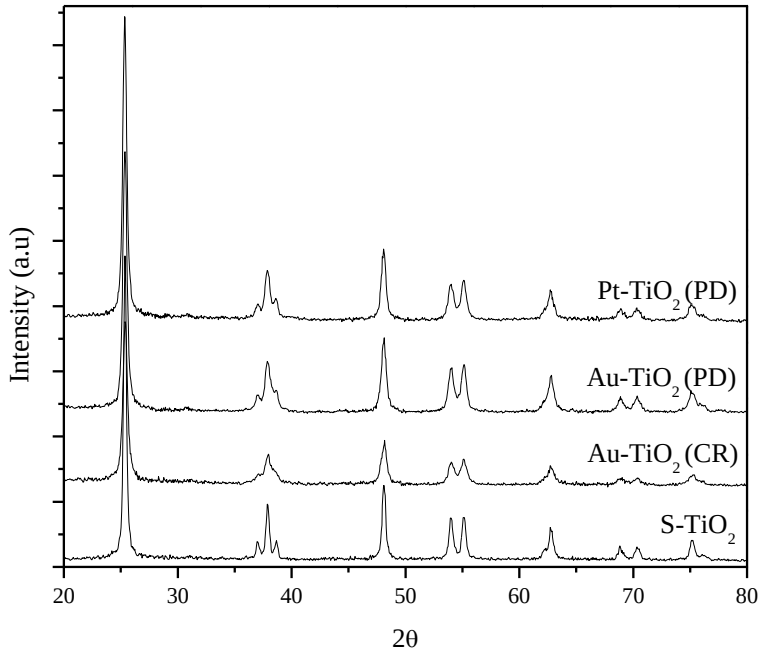

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Figure 3. XRD patterns for TiO_2 and M-TiO_2 photocatalysts (M=Au or Pt) prepared by chemical reduction (CR) and photochemical deposition (PD) using 120 min of deposition time.

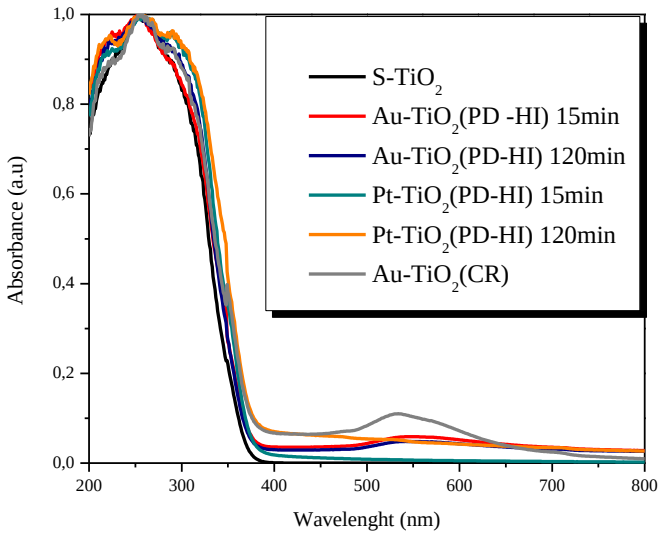

Figure 4. UV-Vis DRS spectra for the investigated photocatalysts.

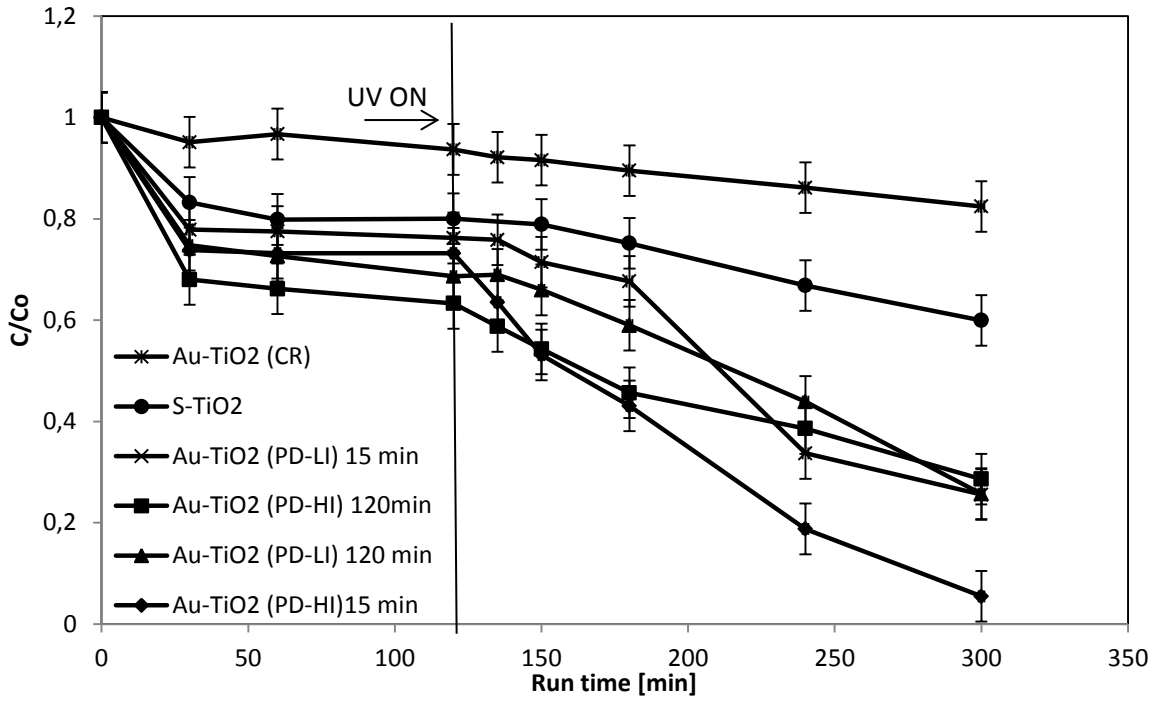

Figure 5. Discoloration of the Patent blue V as a function of run time over the photocatalysts analyzed; Patent blue V initial concentration: 7 mg/L; catalyst dosage: 3 g/L.

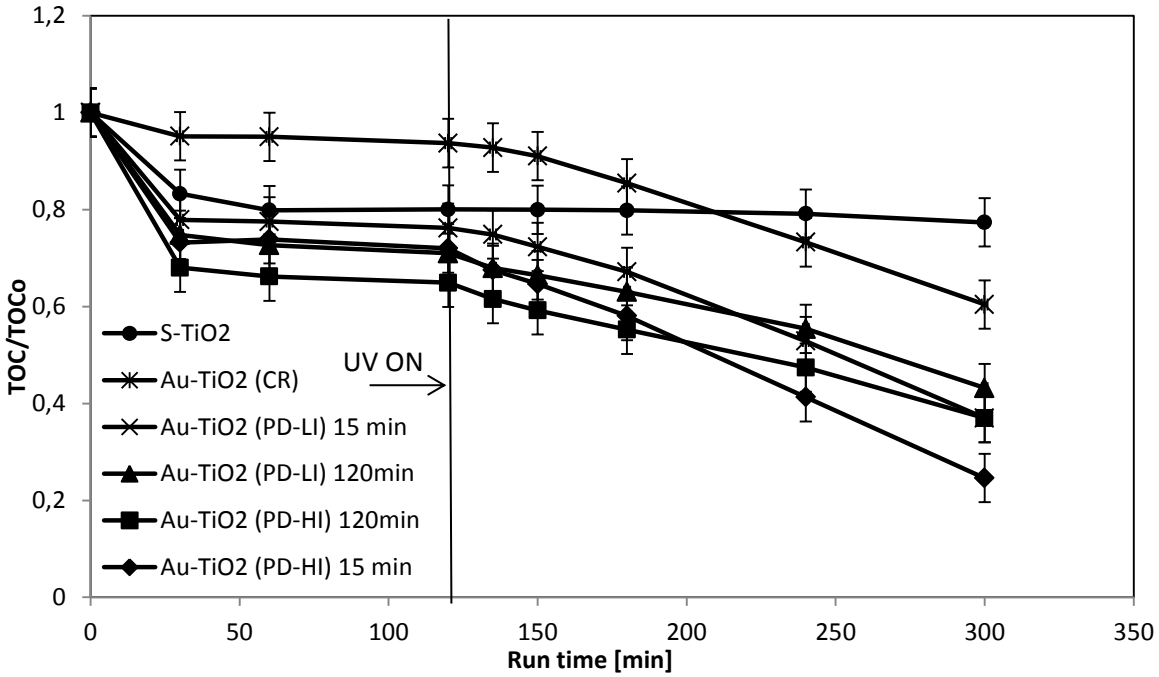

Figure 6. Total Organic Carbon (TOC) removal as a function of run time over the catalysts analyzed. Patent Blue V initial concentration: 7 mg/L; catalyst dosage: 3 g/L.

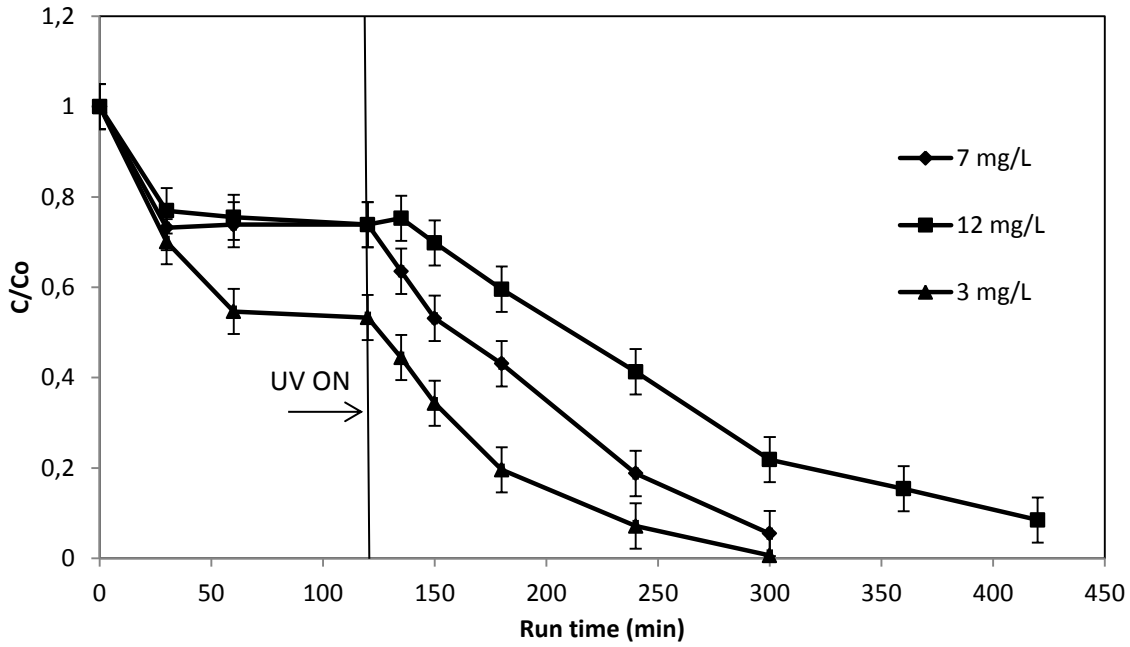

Figure 7. Patent blue V discoloration over Au-TiO_2(PD-HI)15min catayst, varying the initial concentration of the dye; catalyst dosage: 3 g/L.

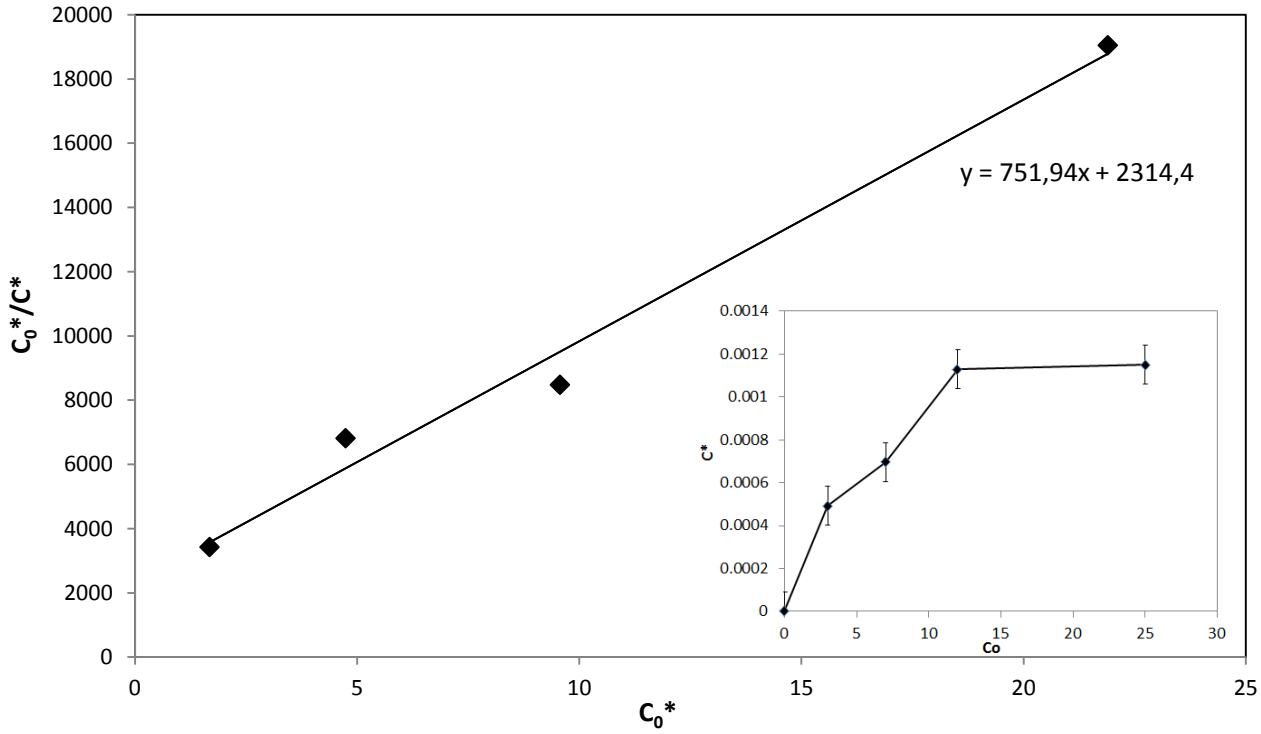

Figure 8. Evaluation of Patent blue V adsorption constant on Au-TiO_2(PD-HI)15min catalyst; catalyst dosage: 3 g/L.

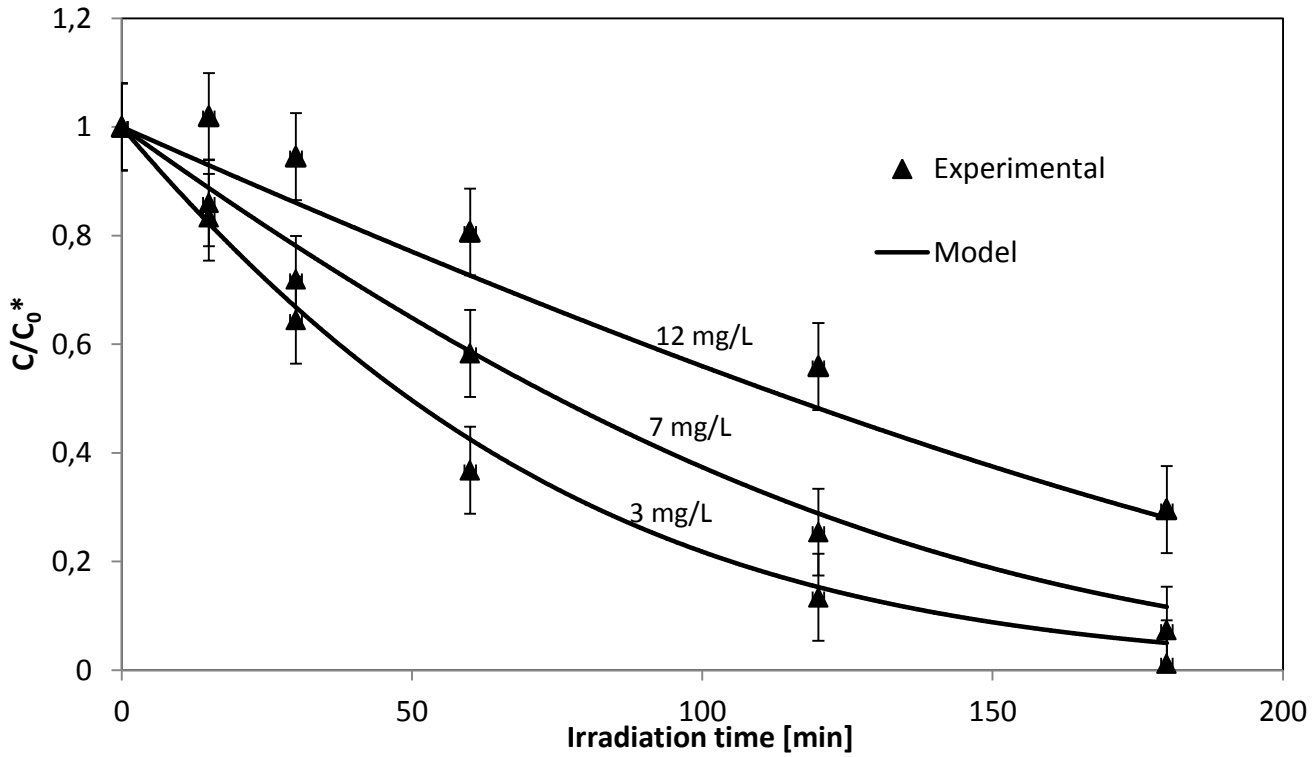

Figure 9. Experimental and predicted data as a function of Patent blue V initial concentration on Au-TiO_2(PD-HI)15min; catalyst dosage: 3 g/L.

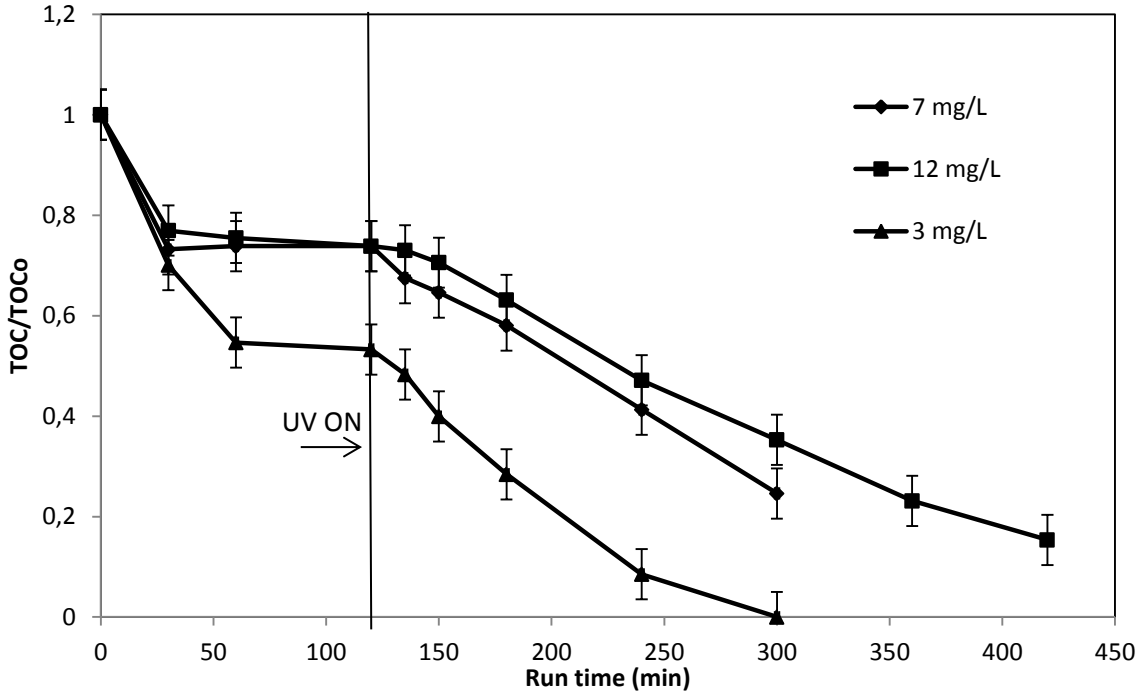

Figure 10. Total Organic Carbon (TOC) removal over the Au-TiO_2(PD-HI)15min catayst, varying the initial concentration of the dye; catalyst dosage: 3 g/L.

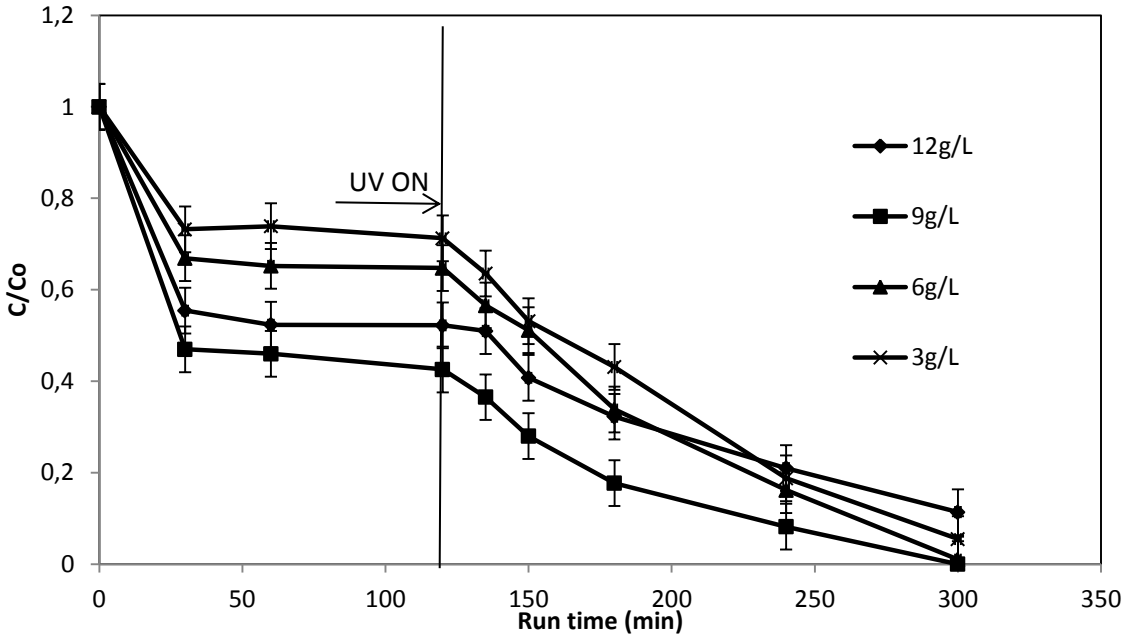

Figure 11. Patent blue V discoloration over the Au-TiO_2(PD-HI)15min catayst, varying the dosage of the photocatalyst (g/L); Patent blue V initial concentration: 7 mg/L.

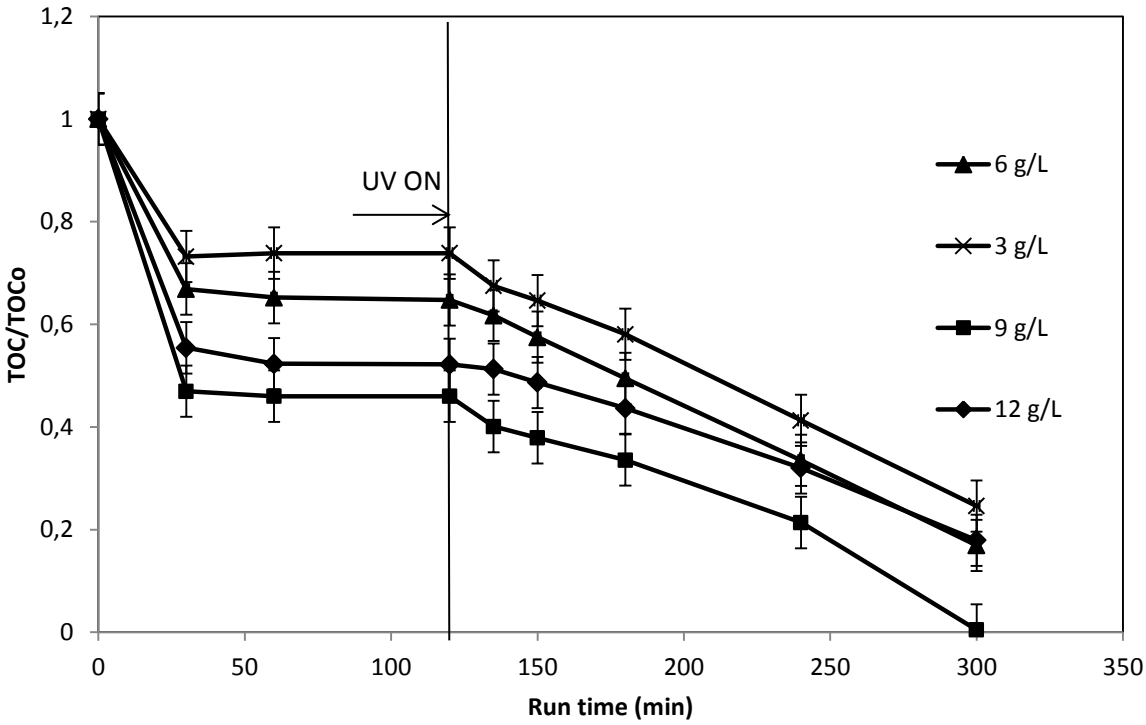

Figure 12. Total Organic Carbon (TOC) removal over the Au-TiO_2(PD-HI)15min catayst, varying the dosage of the photocatalyst (g/L); Patent Blue V initial concentration: 7 mg/L.

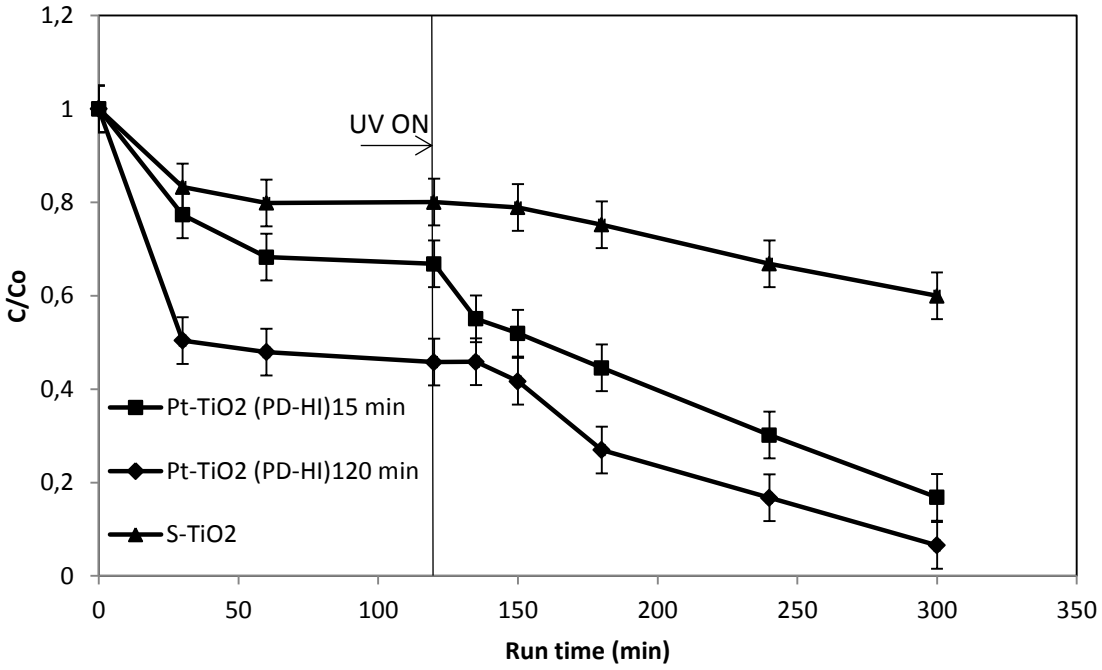

Figure 13. Patent blue V discoloration over the Pt-TiO_2 photocatalyst prepared with 140 W/m^2 of light intensity and different deposition time (15 and 120 min); Patent blue V initial concentration: 7 mg/L; catalyst dosage: 3 g/L.

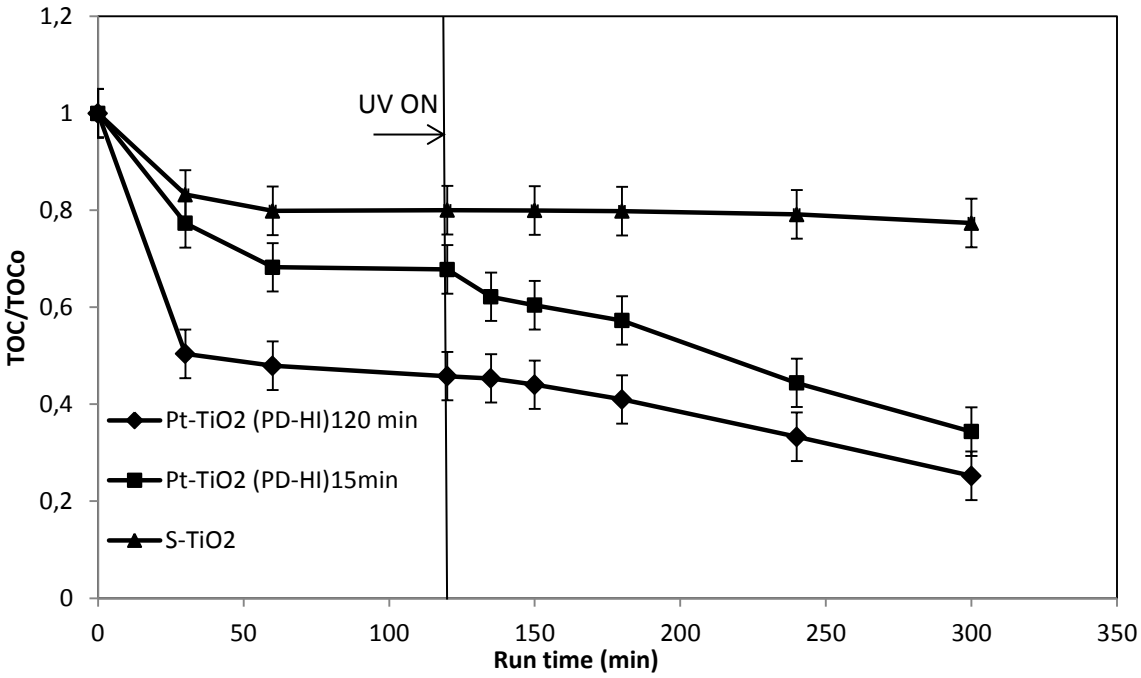

Figure 14. Total Organic Carbon (TOC) removal over the Pt-TiO_2 photocatalyst prepared with 140 W/m^2 of light intensity and different deposition time (15 and 120 min); Patent Blue V initial concentration: 7 mg/L; catalyst dosage: 3 g/L.

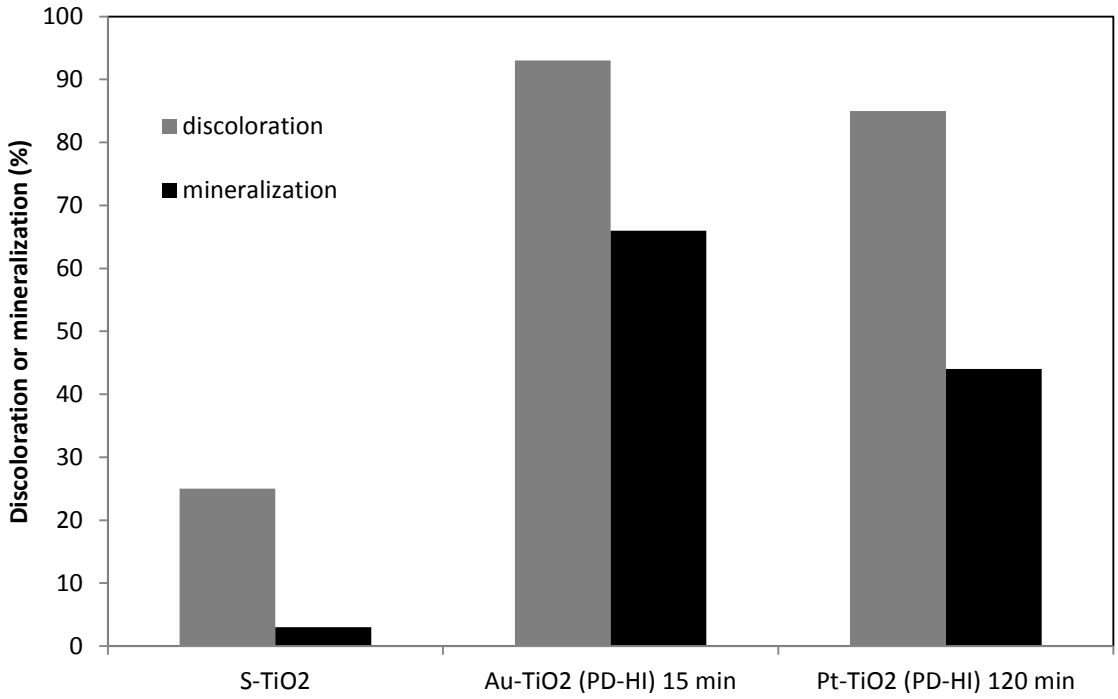

Figure 15. Comparison of the Patent blue V discoloration and mineralization over the S-TiO_2 and the most effective M-TiO_2 photocatalysts; Patent blue V initial concentration: 7 mg/L; catalyst dosage: 3 g/L.

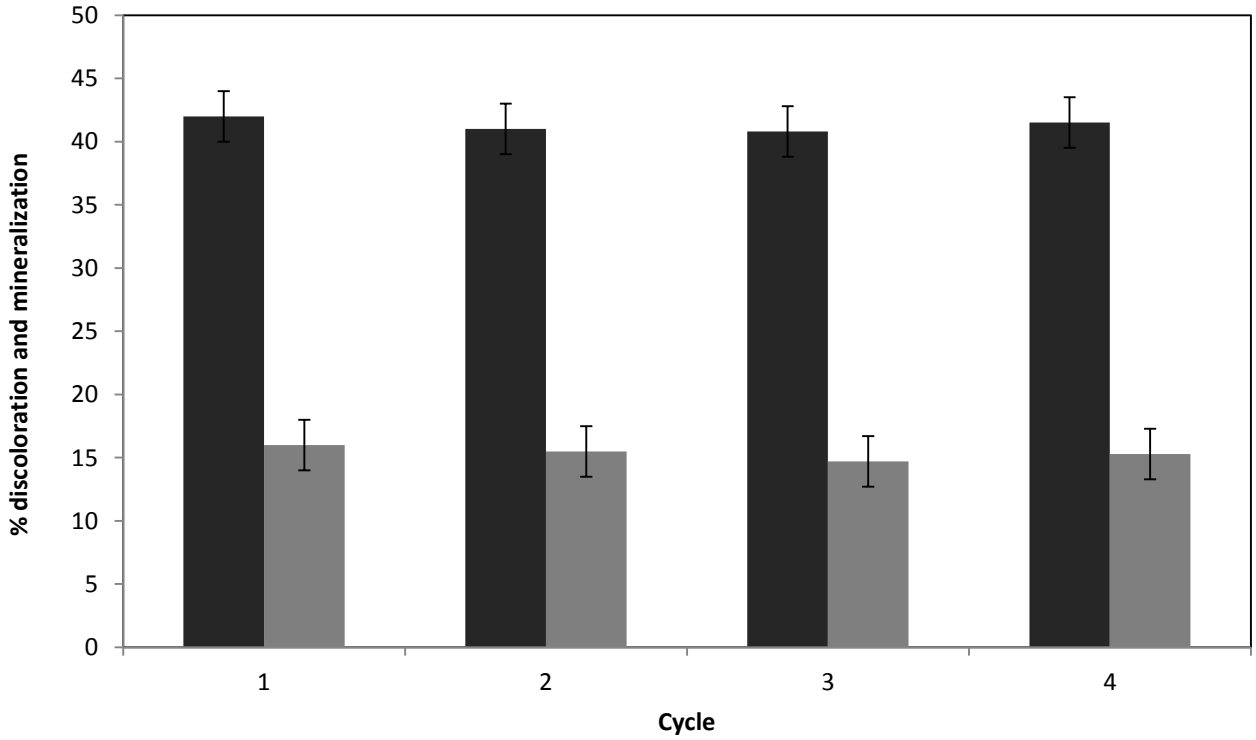

Figure 16. Evaluation of Patent blue V discoloration and mineralization after 60 minutes of irradiation on Au-TiO_2(PD-HI)15min catalyst for different cycles; Patent blue V initial concentration: 4.7 mg/L; catalyst dosage: 3 g/L.