

SUPPLEMENTARY MATERIAL

GO-TiO₂ as a well-performant photocatalyst maximized by proper parameters selection

Aida M. Díez^{1,2,*}, Yury V. Kolen'ko¹, Marta Pazos² and M. Ángeles Sanromán²

¹ Nanochemistry research group, International Iberian Nanotechnology Laboratory, Avenida Mestre José Veiga s/n, 4715-330, Braga, Portugal

² CINTECX, Universidade de Vigo, Grupo de Bioingeniería y Procesos Sostenibles, Departamento de Ingeniería Química, Campus Lagoas-Marcosende, 36310 Vigo, Spain.

*adiez@uvigo.es

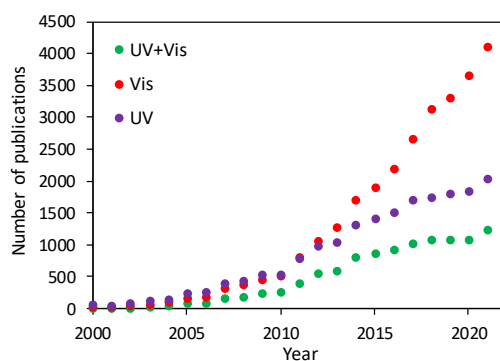


Figure S1-SM. Number of publications indexed on Scopus by searching for photocatalysis+ UV, photocatalysis + Visible or photocatalysis+ Visible and UV.

Table S1-SM. Characteristics of the real working matrixes on the study.

Parameter (units)	Physical treated water	Physical+biological treated water
pH	7.5	7.2
Conductivity (mS/cm)	1.135	1.006
Chemical Oxygen Demand (mg O ₂ /L)	247	46
Suspended solids (mg/L)	66	19

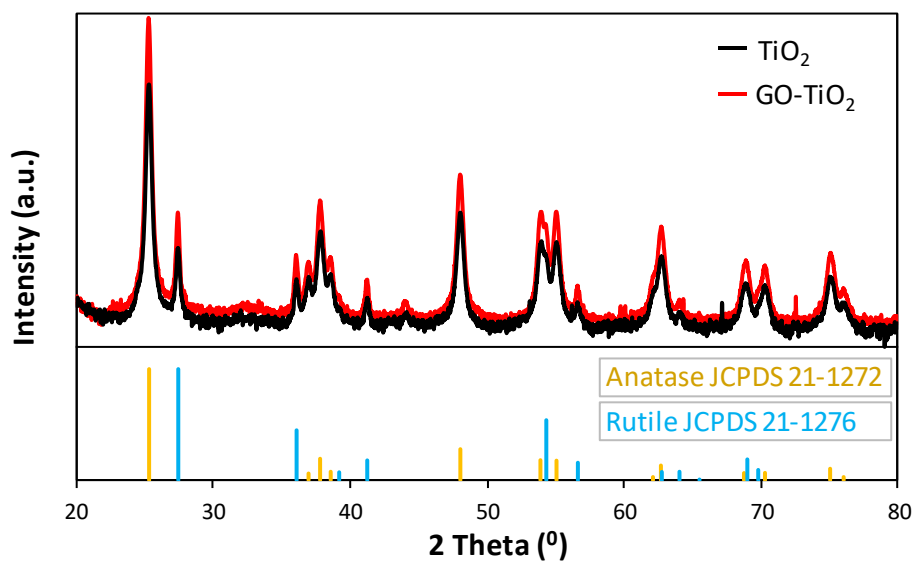


Figure S2-SM. XRD spectra of TiO_2 (black) and GO-TiO_2 (red) catalysts.

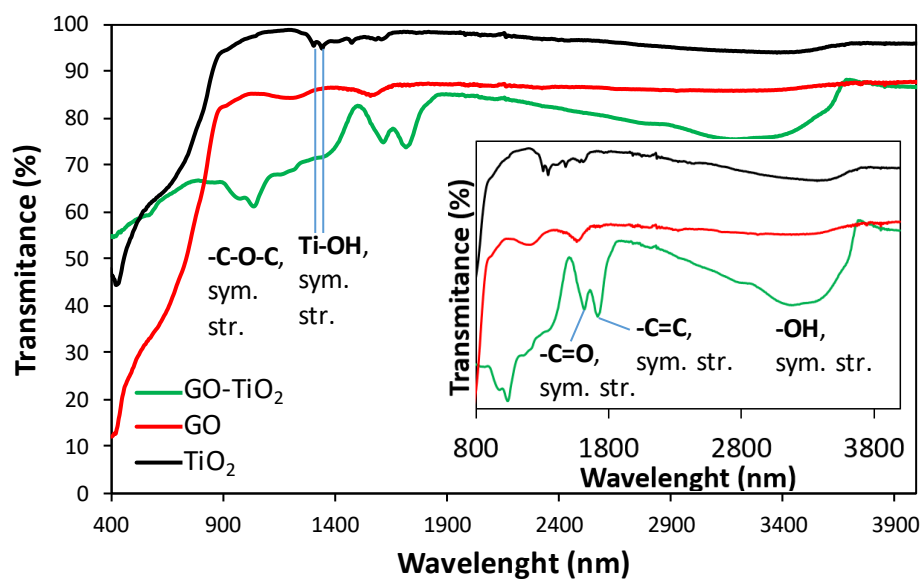


Figure S3-SM. FTIR spectra of TiO_2 (black), GO (green) and GO-TiO_2 (red) compounds. The insert figure is the zoom in of the spectra between 800 and 3700 nm. Sym. str.=symmetric stretching.

Table S2-SM. Porous characteristics of TiO_2 and GO-TiO_2 .

Photocatalyst	Surface area (m^2/g)	Pore volume (cm^3/g)	Pore diameter (nm)
TiO_2	61.265	0.519	34.3
GO-TiO_2	73.197	0.742	39.9

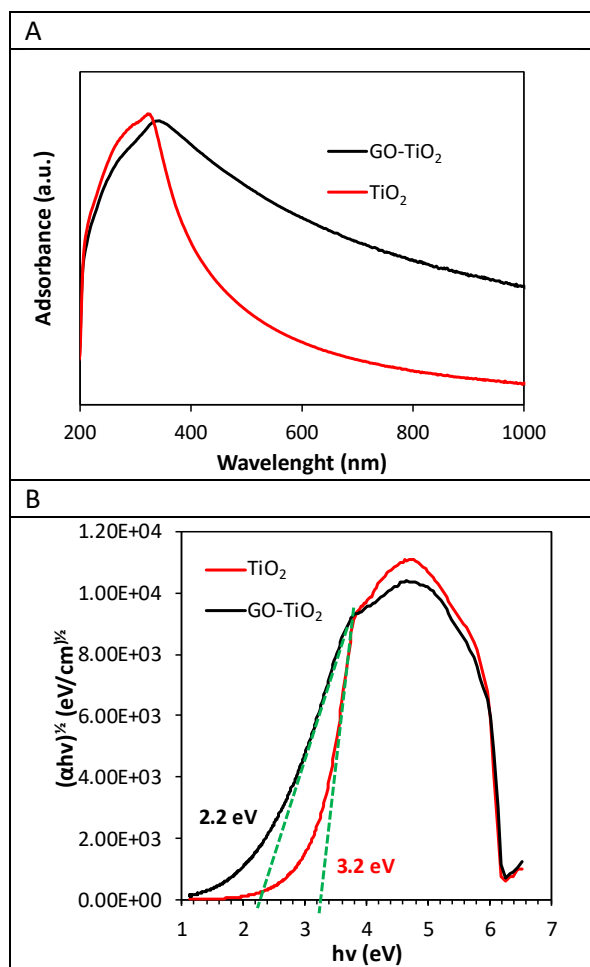


Figure S4-SM. A: UV-Vis spectra of TiO_2 and GO-TiO_2 . B. Tauc plots of both TiO_2 and GO-TiO_2 photocatalysts.

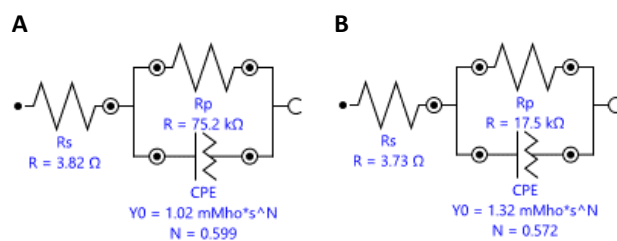


Figure S5-SM. Fitted reactors to the Nyquist results for TiO_2 (a) and GO-TiO_2 (B) catalysts.