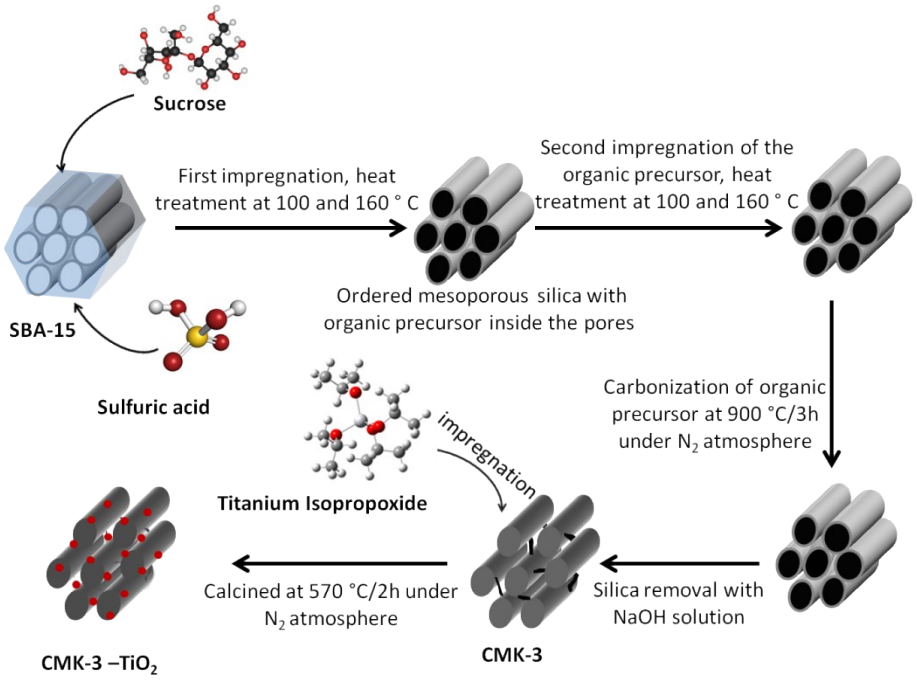
Supplementary material



Scheme S1. Illustrative sequence of the methodology for preparing pure CMK-3 and TiO_2 dispersed on CMK-3 by impregnation.

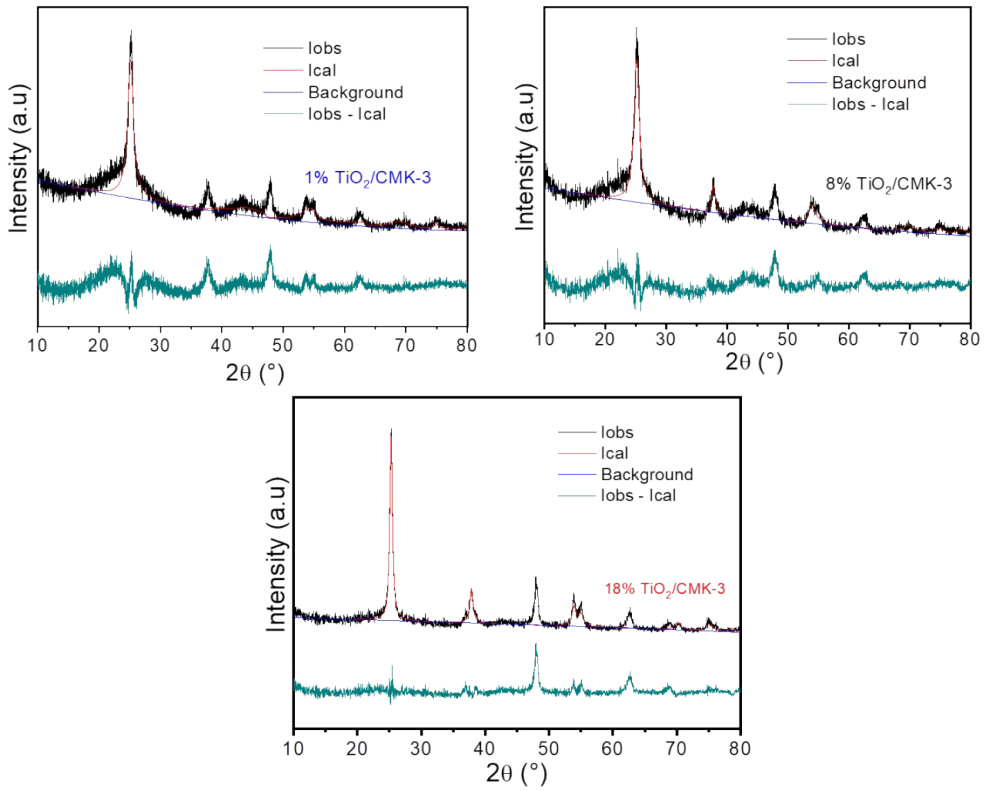


Figure S1. Rietveld refinement results for Ti-based photocatalysts.

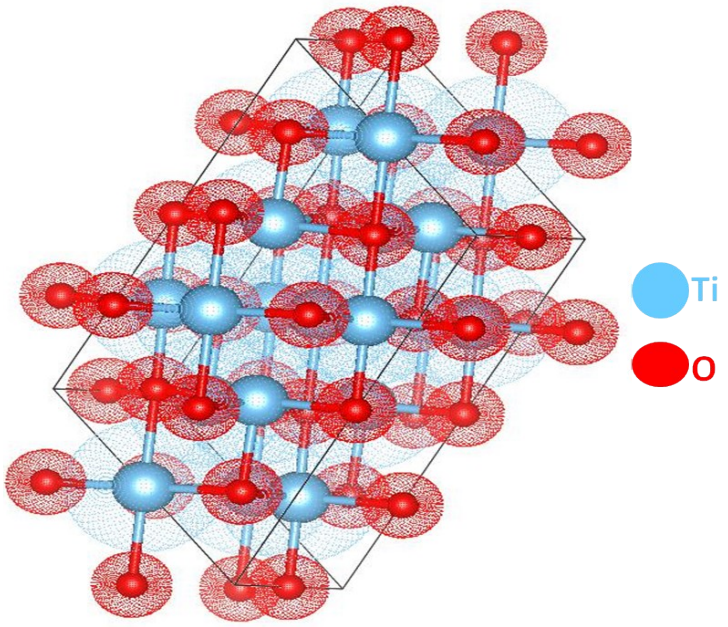


Figure S2. Unit cell for the TiO_2 anatase phase with the direction of parameters a and c. Image extracted from the Vesta software.

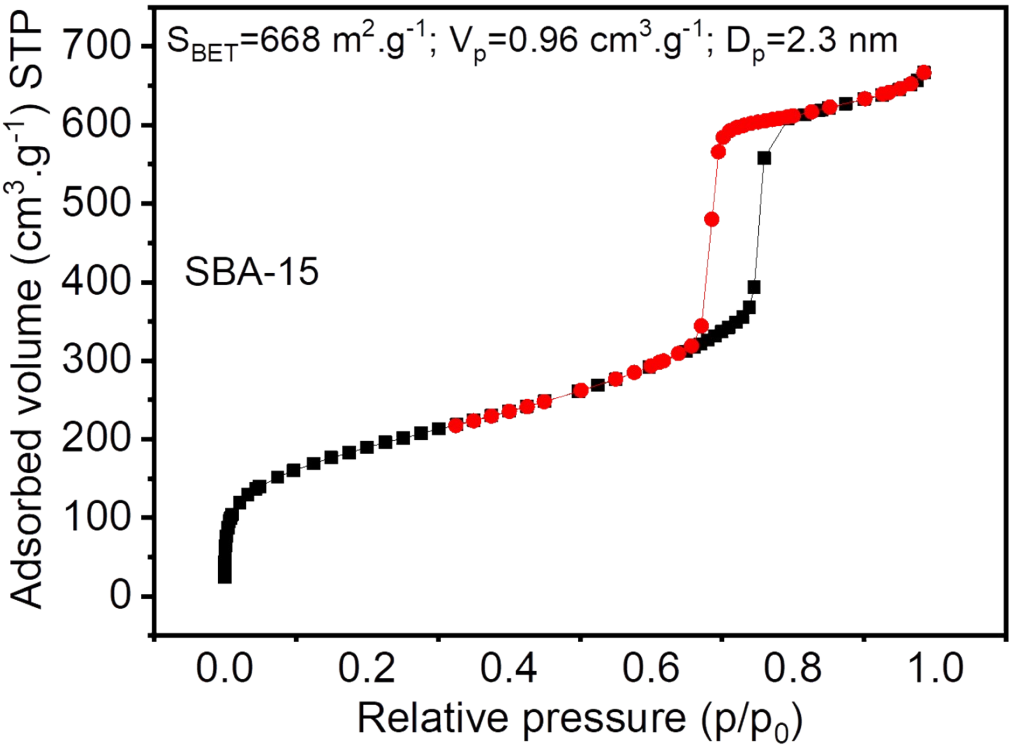


Figure S3. N_2 adsorption-desorption isotherms for SBA-15 template.

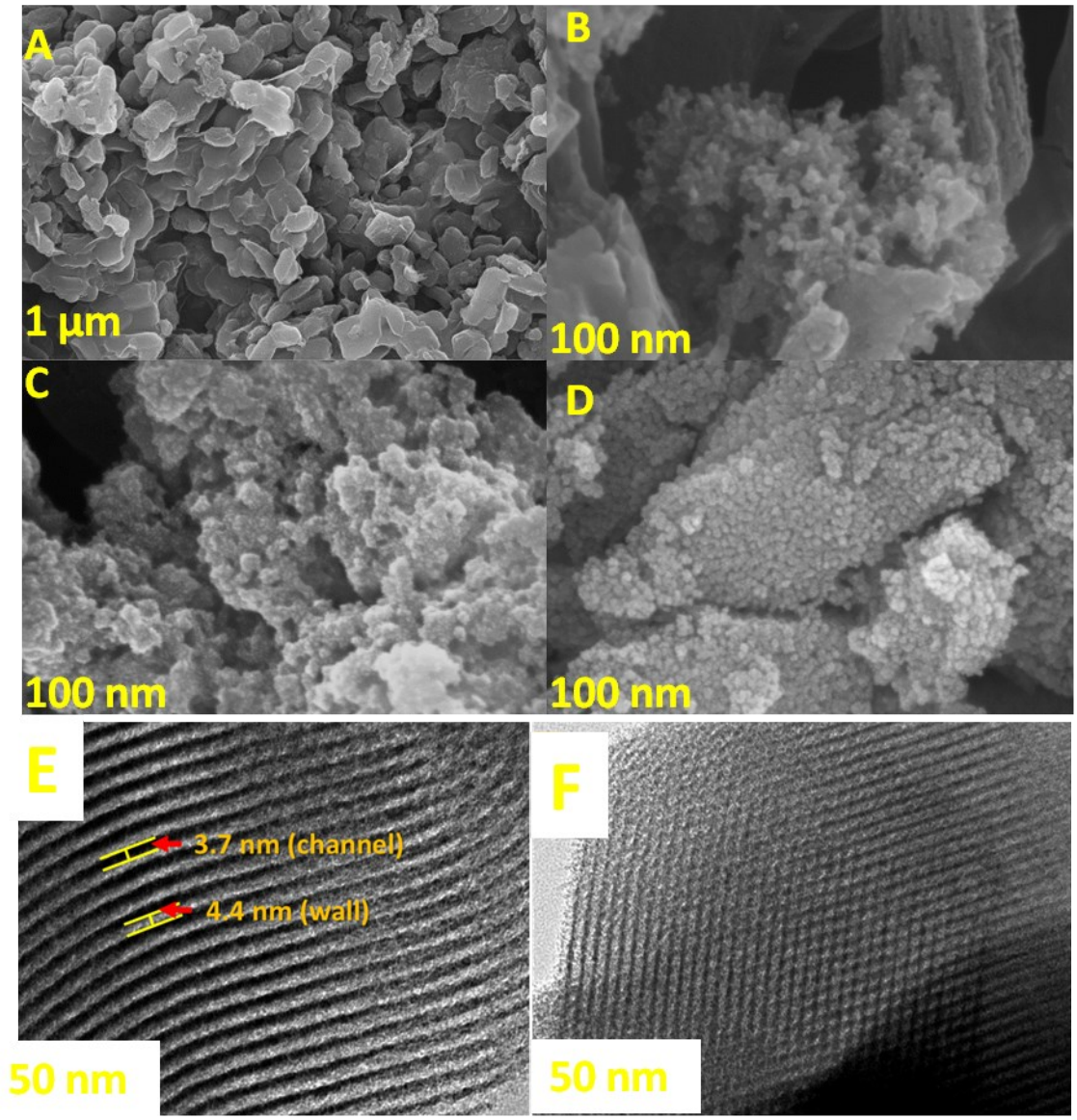


Figure S4. Images obtained by SEM analysis: A) CMK-3; B) 8%-TiO_2-CMK-3 C) 18%-TiO_2-CMK-3 D) 1%-TiO_2-CMK-3. E) and F) Images obtained by TEM analysis for pure SBA-15 template.

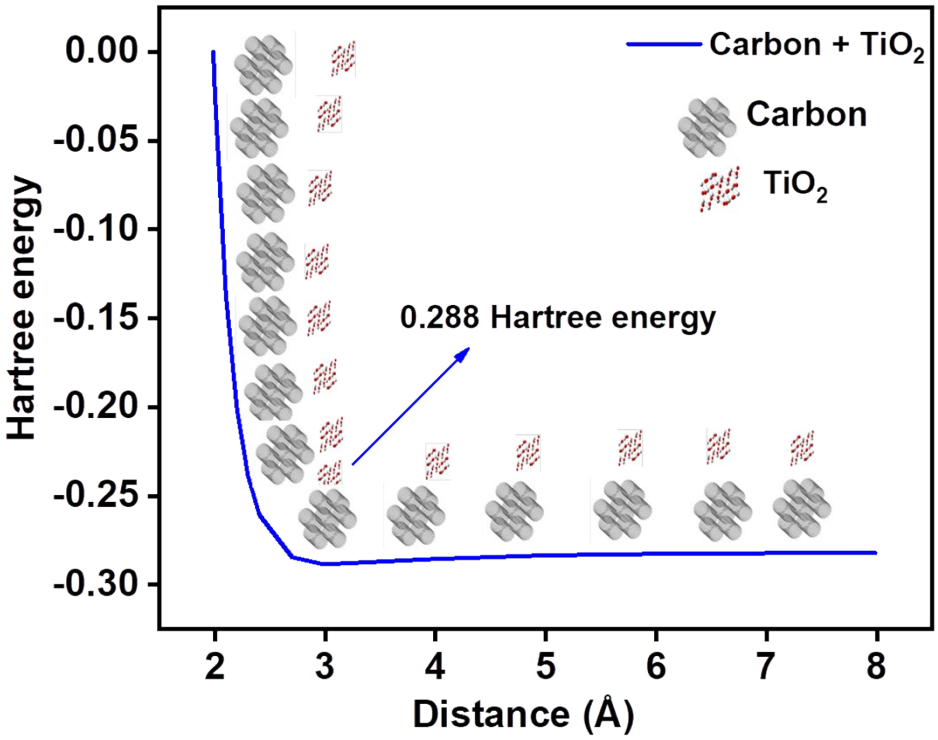


Figure S5. Dependence of potential energy and the molecular interaction distance between carbon and TiO_2.

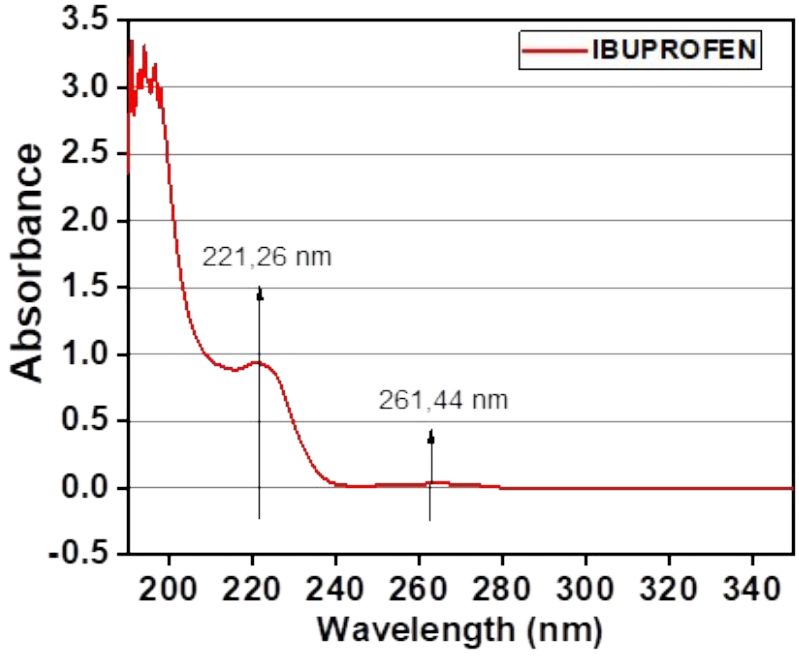


Figure S6. Absorptive properties of the ibuprofen molecule.

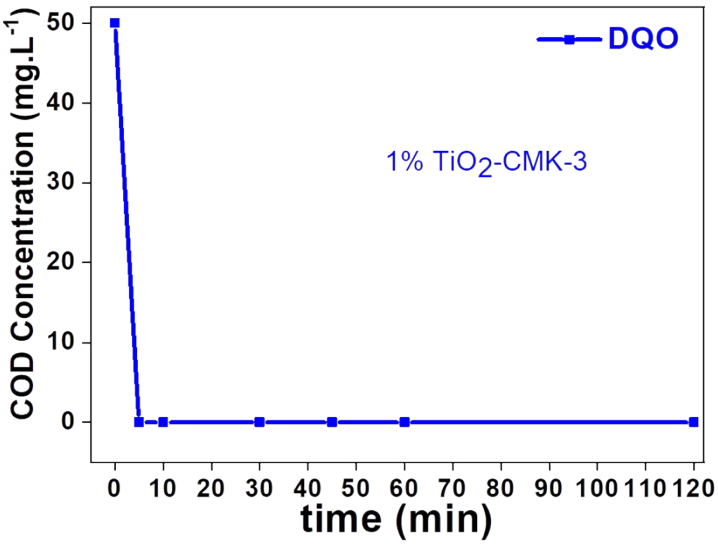


Figure S7. COD concentration over time in the degradation of ibuprofen for the sample 1% Ti/CMK-3.

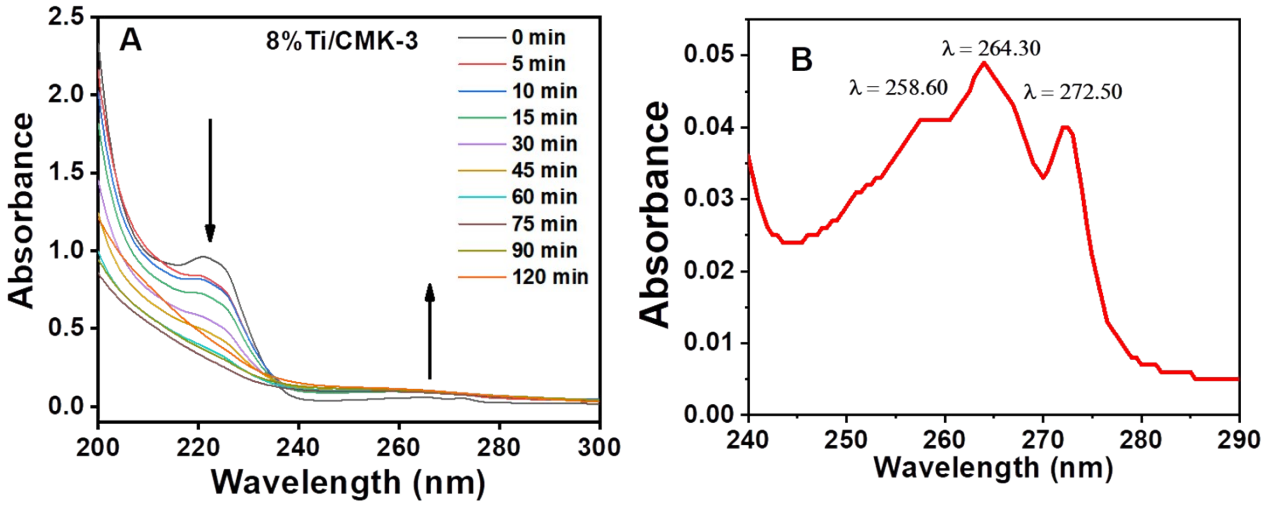


Figure S8. (A) Absorption spectrum of ibuprofen at different times during the photocatalytic tests for the solid 8% TiO_2-CMK-3; (B) UV spectra in the wavelength range between 250 and 280 nm, showing the bands referring to the by-products formation.

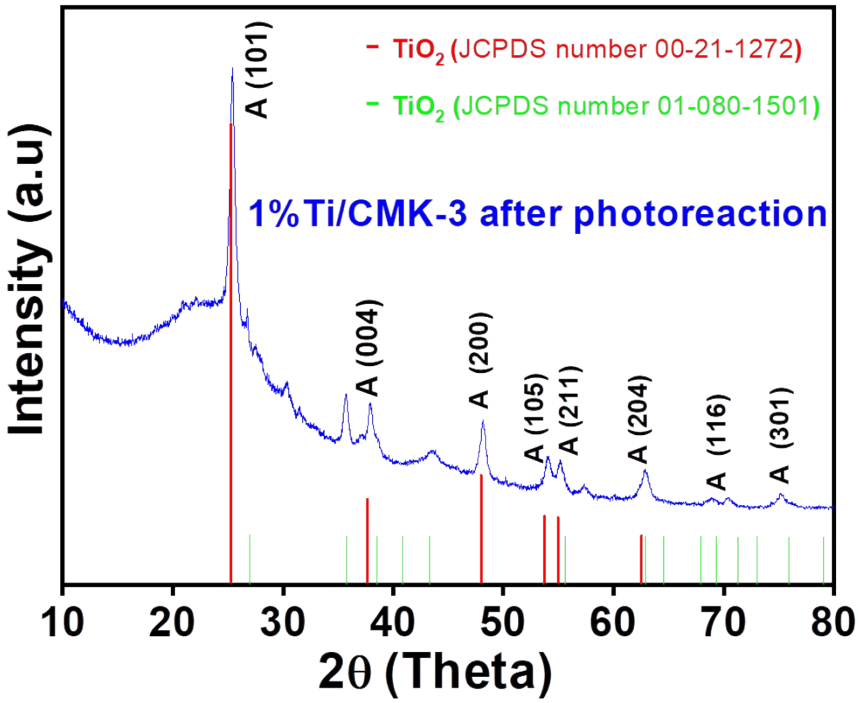


Figure S9. XRD results for the sample 1% Ti/CMK-3 after the photocatalytic test.

Table S1. Structural parameters such as lattice constants (*c* and *a*), *c*/*a* ratio, interplanar spacing, cell volume (Vcell), crystallite size (D).

				Anatase unit cell parameters (Å)			
%Ti	2θ (q)	d(hkl) (Å)	D (nm)	*c*	*a*=*b*	*c*/*a* ratio	Vcell (Å^3)
1	25.24	3.523	8	9.489	3.795	2.5	136.66
8	25.24	3.507	9	9.511	3.801	2.502	137.411
18	25.34	3.519	15	9.509	3.788	2.51	136.444