Enhanced Photocatalytic Degradation of Ciprofloxacin Under Natural Sunlight Using a Waste-Derived Carbon Dots–TiO_2 Nanocomposite

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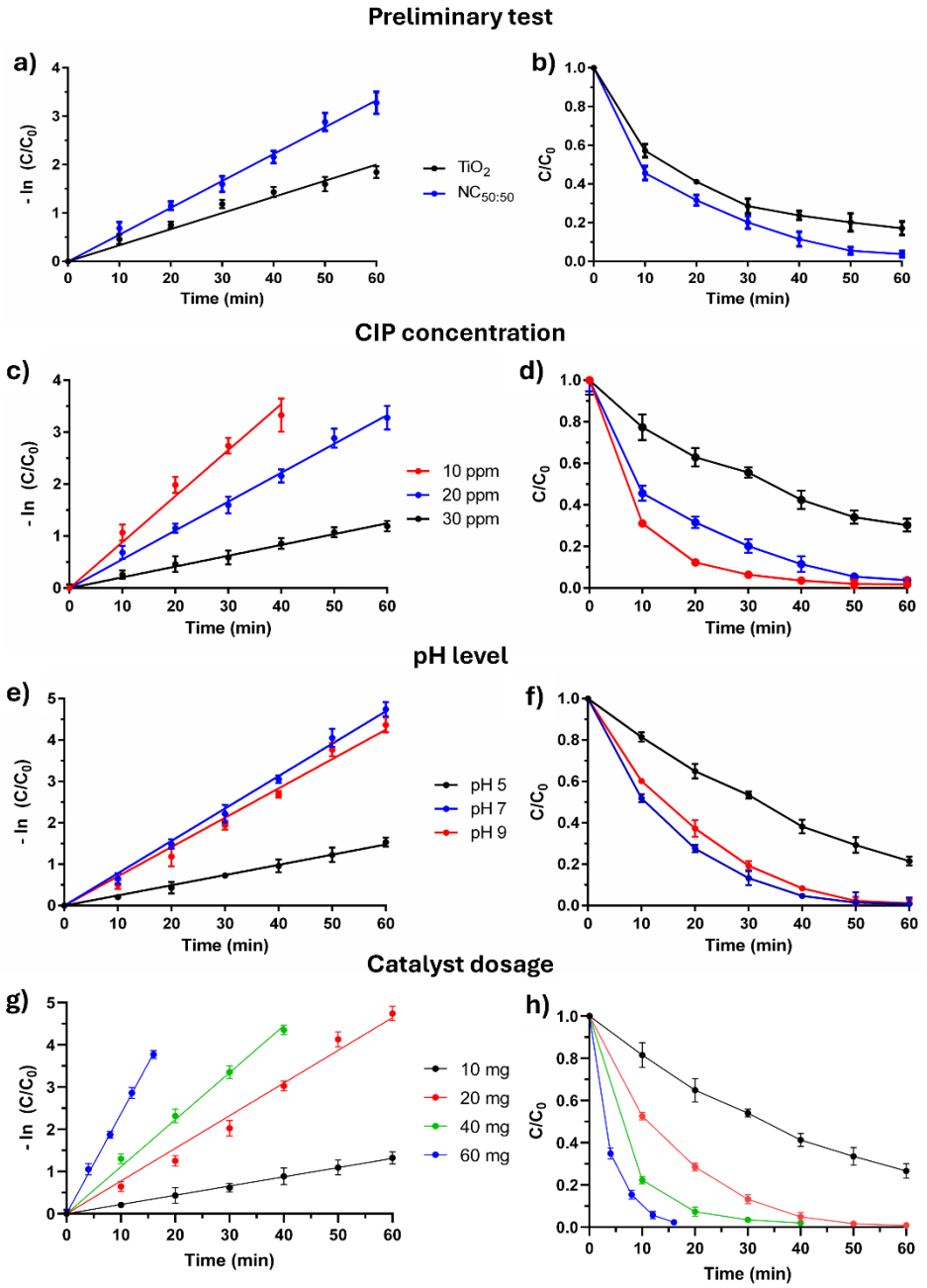


Figure S1 – Representation of the preliminary results of CIP photodegradation with $NC_{50:50}$ in terms of a) - ln (C/C_0) and b) C/C_0 in function of different simulated sunlight irradiation times; c) - ln (C/C_0) and d) C/C_0 values for different initial CIP concentrations; e) - ln (C/C_0) and f) C/C_0 values at different pH and g) - ln (C/C_0) and h) C/C_0 values for different catalyst dosages obtained during the optimization of the reactional conditions.

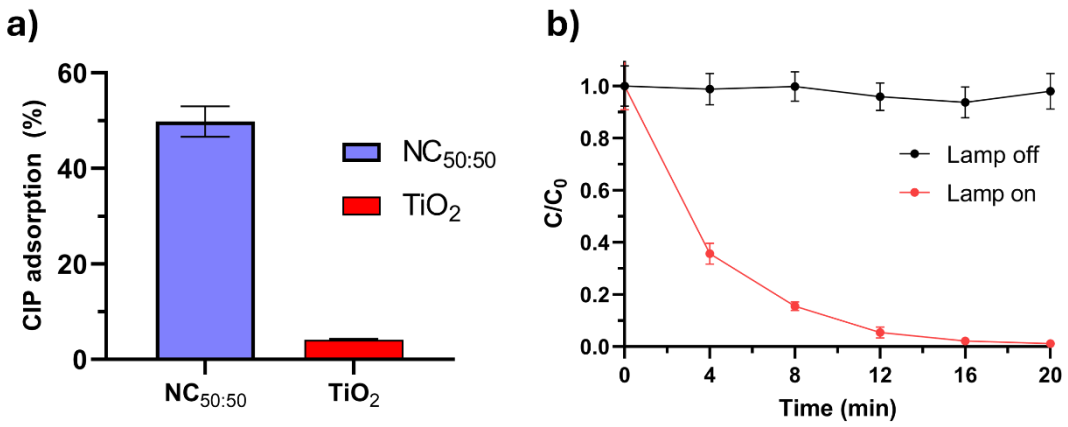


Figure S2 – a) CIP adsorption by $NC_{50:50}$ and TiO_2 occurred during the 30 minutes in the dark prior to turning on the lamp (corresponding to t_{-30} to t_0). Calculated by using the following equation: CIP adsorption = (($C - C_0$) / C_0) *100. B) Representation of the C/C_0 of CIP in the presence of $NC_{50:50}$ with and without an irradiation source. Variation with the lamp off corresponds to the effect of adsorption alone, whereas lamp on represents photocatalytic degradation.

Table S1 - Overview of chromatogram peaks appearing over the course of a 300 minutes CIp degradation photocatalytic assay with $NC_{50:50}$ under solar irradiation. Values are expressed as a percentage of the area of the initial CIP peak ($A(P1\text{-}t_0) / A(Px\text{-}t_y) * 100$.

IRRADIATION TIME (MIN)	PEAK					
	P1 (RT 3.53)	P2 (RT 2.60)	P3 (RT 3.07)	P4 (RT 4.83)	P5 (RT 4.83)	P6 (RT 2.86)
0	100.000					
30	2.477	0.619	1.583	15.505	25.737	
60	1.099	3.387	2.203	10.774	23.007	
90	0.663	1.126	3.030	7.777	15.504	
120	0.753	1.031	4.449	5.517	9.098	
150	0.728	0.787	1.980	3.889	7.405	0.762
180	0.822	0.645	1.696	2.709	4.220	1.466
210	0.910	0.658	1.724	1.930	2.530	1.280
240	0.852	0.643	1.141	0.599	0.972	2.041
270	0.792	0.311	0.884	0.467	0.621	2.567
300	0.752	0.363	0.987			0.945