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Supplementary Material

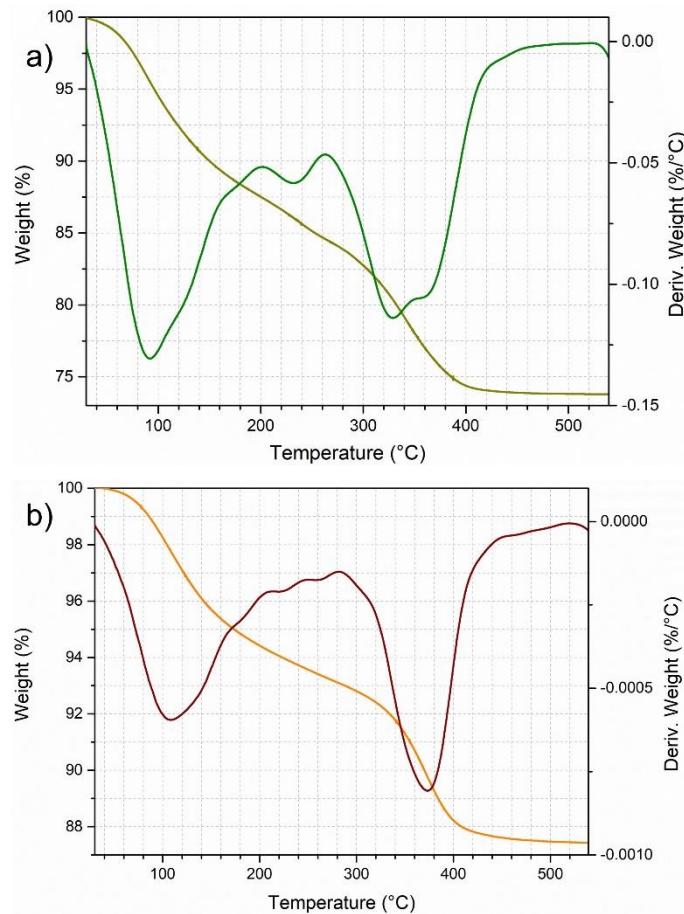
**TiO<sub>2</sub>-Acetylacetone as an efficient source of superoxide radicals under reduced power visible light: Photocatalytic degradation of chlorophenol and tetracycline**

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## S1.

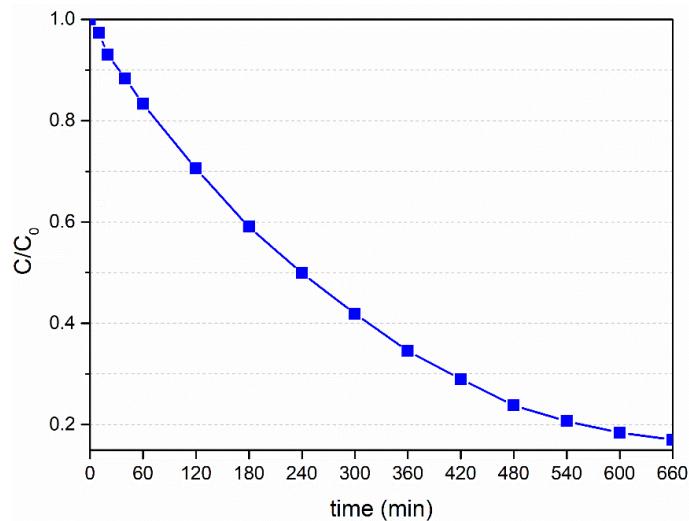
TGA and DTG curves of  $\text{TiO}_2$ -ACAC xerogel and  $\text{TiO}_2$ -A300 sample.



**Figure S1:** TGA and DTG curves of a)  $\text{TiO}_2$ -ACAC xerogel and b)  $\text{TiO}_2$ -A300 sample.

## S2.

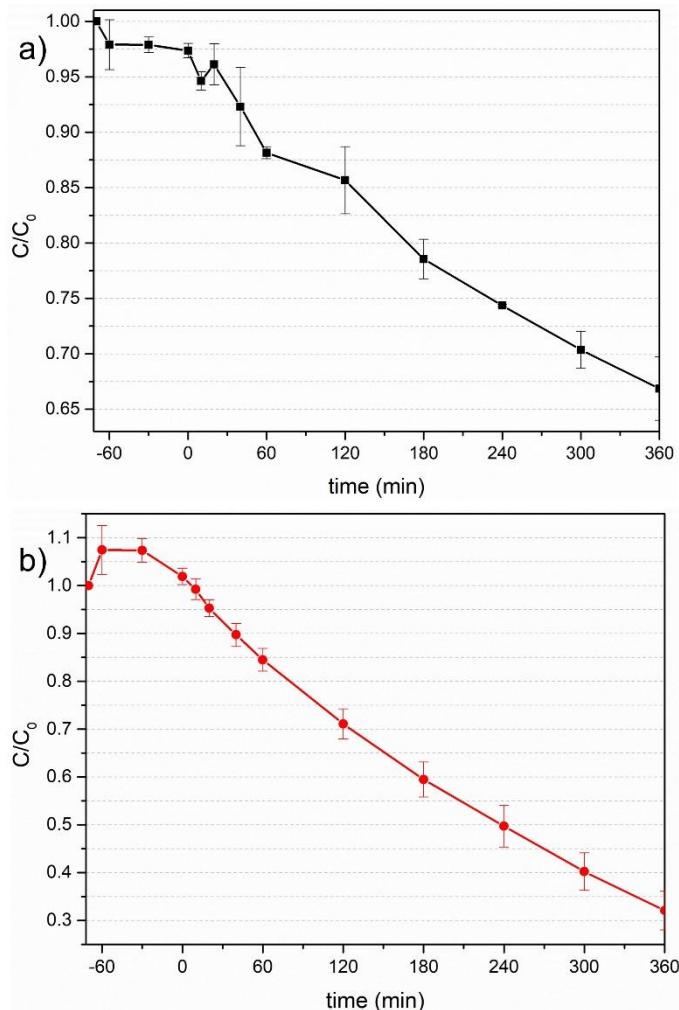
Photodegradation of TC until the abatement stabilization using  $\text{TiO}_2$ -A300.



**Figure S2:** Tetracycline photodegradation by  $\text{TiO}_2$ -A300.

S3.

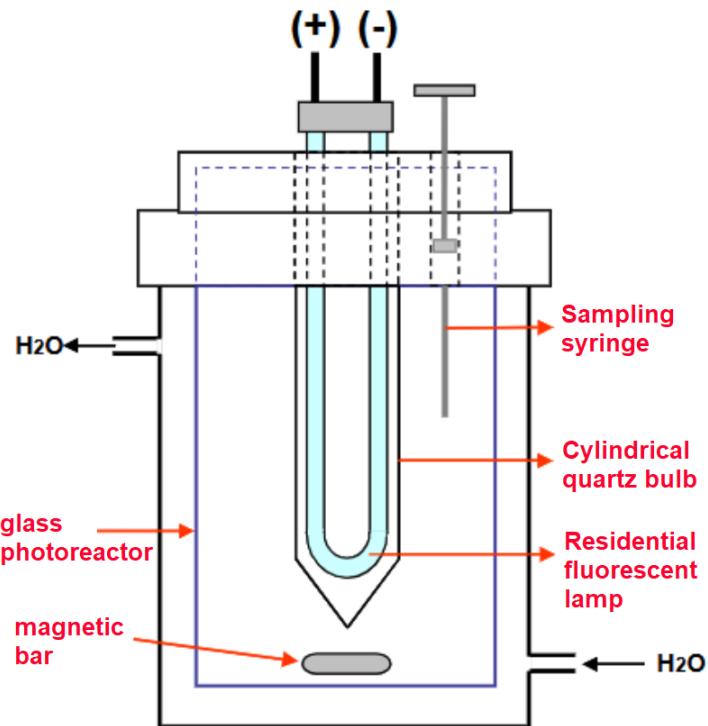
**Curve of adsorption and photocatalytic activity of 4-CP and TC using TiO<sub>2</sub>-A300.**



**Figure S3:** Curves of adsorption (1 h in dark) and photocatalytic activity of 4-CP and TC using TiO<sub>2</sub>-A300 of a) 4-CP and b) TC by TiO<sub>2</sub>-A300 without scavengers addition during 6 h.

S4.

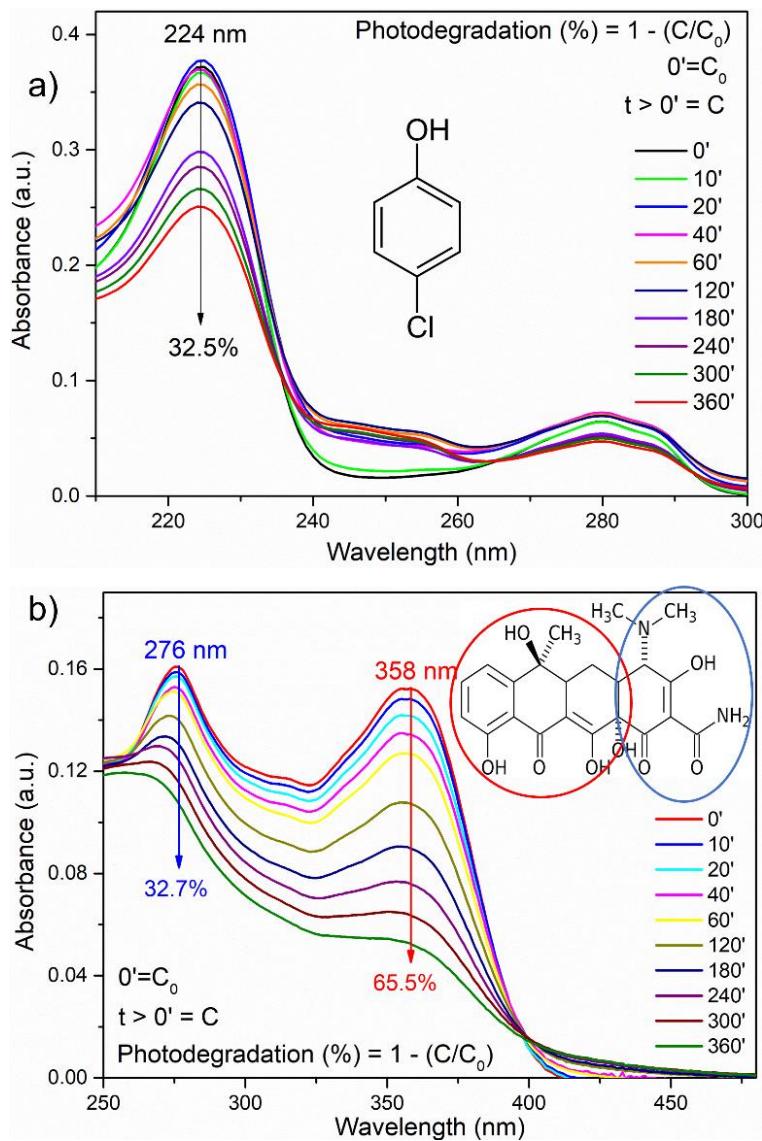
Photocatalytic system for aqueous pollutants degradation.



**Figure S4:** Photocatalytic system for aqueous pollutants degradation.

S5.

**Relationship between UV absorbance of 4-CP and TC and their respective photodegradation during the test time.**



**Figure S5:** Absorbance of a) 4-CP band, situated at 224 nm, and b) TC band at 358 nm, over the time.

**Table S1:** 4-CP and TC degradation data obtained in the first repetition of the photocatalytic test using TiO<sub>2</sub>-A300.

time (min)	Absorbance (a.u.)		C/C0		Degradation (%)		Average degradation (%)		Standard deviation (%)	
	4-CP	TC	4-CP	TC	4-CP	TC	4-CP	TC	4-CP	TC
-70 (pure pollutants)	0.3836	0.1474	-	-	-	-	-	-	-	-
-60	0.3843	0.1507	-	-	-	-	-	-	-	-
-30	0.3786	0.1625	-	-	-	-	-	-	-	-
0	0.3717	0.1523	1.000	1.000	0.0	0.0	0.0	0.0	0.0	0.0
10	0.3665	0.1482	0.986	0.973	1.4	2.7	2.8	2.6	1.3	0.6
20	0.3769	0.1417	1.014	0.930	-1.4	7.0	1.3	6.5	2.3	0.6
40	0.3696	0.1345	0.995	0.883	0.5	11.7	5.2	12.0	4.0	1.0
60	0.3366	0.1268	0.906	0.833	9.4	16.7	9.5	17.1	0.9	1.0
120	0.3410	0.1074	0.918	0.705	8.2	29.5	12.0	30.3	3.6	2.0
180	0.2983	0.0899	0.803	0.590	19.7	41.0	19.3	41.7	2.1	2.8
240	0.2853	0.0760	0.768	0.499	23.2	50.1	23.6	51.2	0.4	3.6
300	0.2662	0.0638	0.716	0.419	28.4	58.1	27.7	60.6	1.9	3.2
360	0.2507	0.0526	0.675	0.345	32.5	65.5	31.3	68.6	3.1	3.5