

Supplementary Material: TiO₂-Photocatalyzed Water Depollution, a Strong, yet Selective Depollution Method: New Evidence from the Solar Light Induced Degradation of Glucocorticoids in Freshwaters

Luca Pretali, Angelo Albini, Alice Cantalupi, Federica Maraschi, Stefania Nicolis and Michela Sturini *

Table S1.

GC	AOP	Matrix	Kinetic constant, % removal, degradation time	Ref
DEXA 2-50 mg L ⁻¹	Gamma ray, gamma ray with H ₂ O ₂ or Fenton	Pure water, pH 7.2	$5 \times 10^{-4} - 4.7 \times 10^{-3} \text{ Gy}^{-1}$, $8 \times 10^{-4} - 1.6 \times 10^{-3} \text{ Gy}^{-1}$	[35]
PRED 50 mg L ⁻¹	Electrochemical oxidation process 20 mA cm ⁻²	Pure water, pH 11, Na ₂ SO ₄ 1 g L ⁻¹	0.1052 mg h ⁻¹ , 78% removal 4 h	[33]
PRED Acetate 5 mg L ⁻¹	O ₃ 50 mg min ⁻¹	Pure water, pH 3	0.0595 min ⁻¹ , 90% removal 30 min	[32]
PREDLO 3.6 mg L ⁻¹	UV/chlorine, 254 nm	Phosphate buffer pH 7, artificial fresh water pH 6	$5.53 \times 10^{-3} \text{ s}^{-1}$	[31]
PRED 100 mg L ⁻¹	UV-Fenton, 360 nm	Pure water, pH 3	Quantitative removal 15 min	[30]
DEXA 5 mg L ⁻¹	ZrO ₂ 1.5 g L ⁻¹ , 365 nm WO ₃ 0.5 g L ⁻¹ , >380 nm	Pure water, pH 3	ZrO ₂ 0.0078 min ⁻¹ , 76% removal 180 min WO ₃ 0.0277 min ⁻¹ , 100% removal 80 min	[34]
BETA Phosphate 30 mg L ⁻¹	ZnO 0.44 g L ⁻¹ , 254 nm ZnO 0.44 g L ⁻¹ , persulfate, 254 nm	Pure water, pH 9	Removal 63%, 180 min Removal 98%, 180 min	[36]
PREDLO 25 mg L ⁻¹	TiO ₂ P25 1 g L ⁻¹ , 365 nm or solar light	Pure water, pH 6.7	Removal 94% 1h solar light Removal 73% 1h 365 nm	[29]

CORT acetate 10 mg L ⁻¹	TiO ₂ P25, 375 nm, air saturated, TiO ₂ P25, 375 nm, persulfate air saturated	Different buffer solution, air saturated	0.040 min ⁻¹ , quantitative removal 100 min, 0.071 min ⁻¹ , quantitative removal 30 min	[28]
DEXA 10 mg L ⁻¹	TiO ₂ P25 0.2 g L ⁻¹ , simulated solar light	Pure water, air saturated	Quantitative removal 15 min	[27]
CORT, HCORT, BETA, DEXA, PRED, PREDLO, TRIAM 10 mg L ⁻¹	TiO ₂ P25 0.5 g L ⁻¹ , simulated solar light	Tap water, natural pH	0.184(5), 0.230(7), 0.19(1), 0.206(5), 0.177(7), 0.224(3), 0.24(1) min ⁻¹ Removal >95% 15 min	[This work]
