

Table 1S: Properties of the employed N-F-TiO<sub>2</sub> photocatalyst

Property	N-F-TiO <sub>2</sub>
Crystal phase	anatase
crystallite size (nm)	17.7
Band-gap energy (eV)	2.96
PZC	5.7

**Table 2S:** Operating chromatographic conditions adopted for the identification of TPs A) using GC-MS system, B)HR-LC–MS

<b>A</b>	
Carrier gas flow rate (ml min <sup>-1</sup> )	1.70
Ion source temperature (° C)	200
Injector temperature (° C)	220
Transfer line temperature (° C)	280
Injection volume (µL)	1
Injection mode	splitless
Ionization mode	EI
Ionization potential	70 eV
Column	SLB-5ms (30m×0.25mm and 0.25 µm film thickness) Supelco
Column program of temperatures	0 °C - 70 °C - 2 min 6 °C - 280 °C - 2 min 10 °C - 300 °C - 2 min
Analysis time (min)	43.00
Scan range	<i>m/z</i> 50 to 550
<b>B</b>	
Flow rate (µl min <sup>-1</sup> )	300
Injection volume (µL)	10
Column	C18 Hypersil Gold ( 100 mm x 2.1 mm i.d., 1.9 µm particle size (Thermo Fisher Scientific).
Column temperature (°C)	40
Mobile phase A	H <sub>2</sub> O/ 5mM NH <sub>4</sub> C <sub>2</sub> H <sub>3</sub> O <sub>2</sub>
Mobile phase A	H <sub>2</sub> O /5mM NH <sub>4</sub> C <sub>2</sub> H <sub>3</sub> O <sub>2</sub>
Gradient grade program (A/B)	90/10 in 0 min (0.5 min) 0/100 in 6 min (2 min) 90/10 in 8.1 min (3.9 min)
Analysis time (min)	12
Ionization mode	ESI
Source voltage (kV)	2.90
Capillary voltage (V)	-30
Capillary temperature (°C)	320
Auxiliary gas flow rate (arbitrary units)	10
Sheath gas flow rate (arbitrary units)	35
Normalized collision energy (eV)	35

**Table 3S.** Induction of BNMN, total MN and CBPI values in human lymphocytes treated with PCP concentrations (mg L<sup>-1</sup>)

	<b>BNMN MF(‰) ± se</b>	<b>MN MF(‰) ± se</b>	<b>CBPI MF(‰) ± se</b>
0	3.5±0.5	3.5±0.5	1.98±0.10
1	5.0±0.0	5.5±0.5	1.87±0.02***
5	11.0±2.0**	11.0±2.0**	1.85±0.03***
10	7.5±2.5	8.0±3.0*	1.45±0.01***
15	6.0±1.0	6.0±1.0	1.49±0.08***
20	data could not be measured as a result of cytotoxicity		
25	data could not be measured as a result of cytotoxicity		
30	data could not be measured as a result of cytotoxicity		

PCP: pentachlorophenol, BNMN: micronucleated binucleated cells, MN: micronuclei, CBPI: Cytokinesis Block Proliferation Index, MF(‰) ± se: mean frequencies (‰) ± standard error, MN were scored in 2000 binucleated lymphocytes per experimental point, \*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$  [G-test for BNMN and MN;  $\chi^2$  for CBPI]

**Table 4S.** Rate constants, correlation coefficients and half-life for the photocatalytic degradation of PCP in the presence of scavengers

<b>System</b>	<b>k (min<sup>-1</sup>)</b>	<b>R<sup>2</sup></b>	<b>t<sub>1/2</sub></b>	<b>%Δk</b>
<b>Control</b>	0.032	0.9955	21.6	-
<b>2-i-PrOH</b>	0.0024	0.9218	288.8	92.5
<b>N<sub>3</sub><sup>-</sup></b>	0.0068	0.9113	101.9	78.7
<b>I<sup>-</sup></b>	0.0050	0.9165	138.6	84.4
<b>p-BQ</b>	0.0079	0.9177	87.7	75.3
<b>Cr(VI)</b>	0.0101	0.9276	68.6	68.4