Supplementary Materials

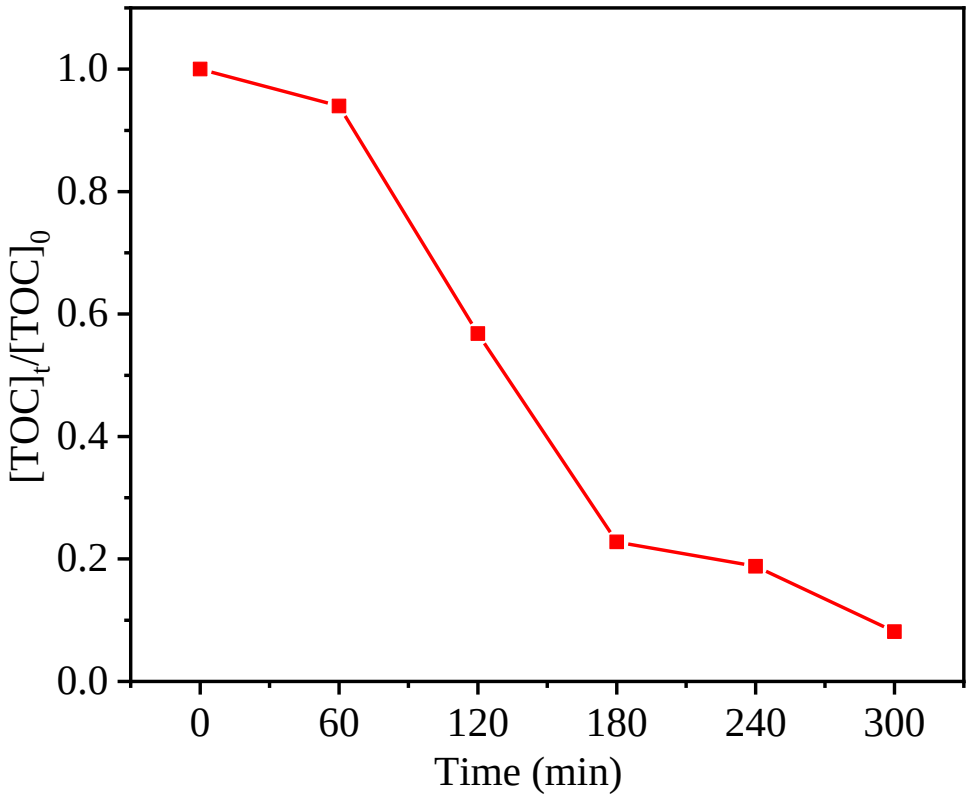
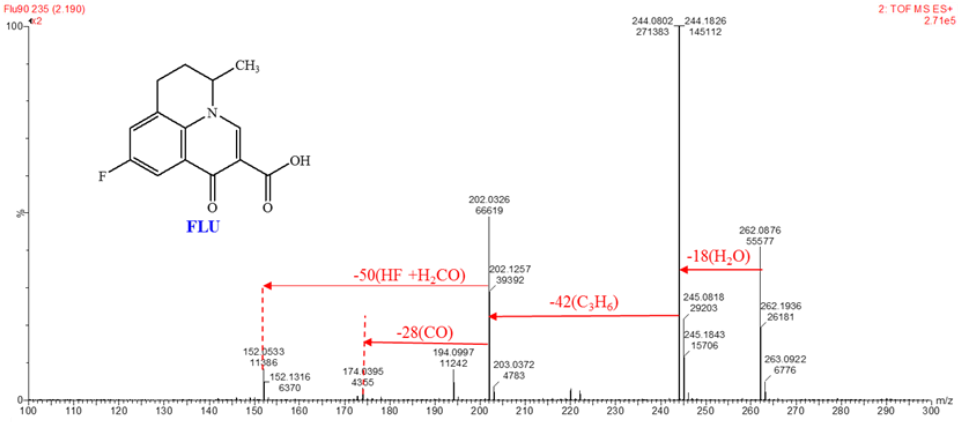
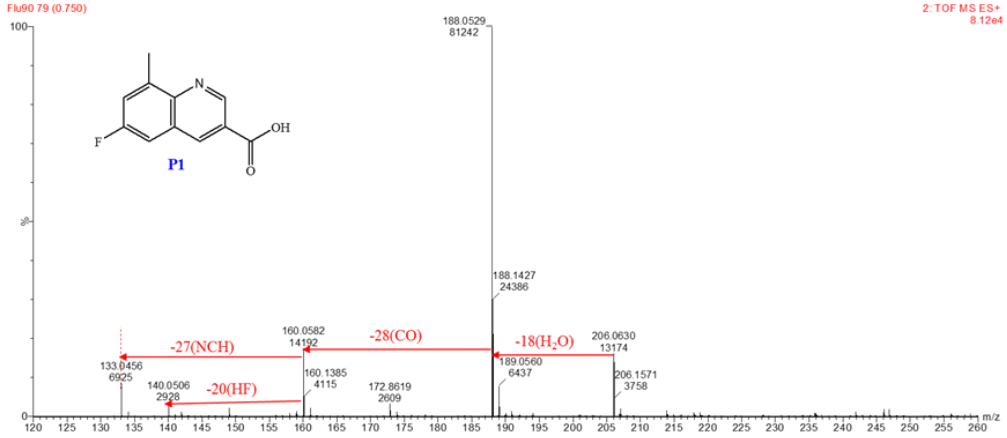


Fig. S1. TOC remaining for photocatalytic degradation of FLU by using TiO_2/AN as photocatalyst. Experimental conditions: $[FLU]_0$ = 10 mg L^{-1}, catalyst dosage = 0.2 g L^{-1} and $[pH]_0$ = 7.0 ± 0.1.

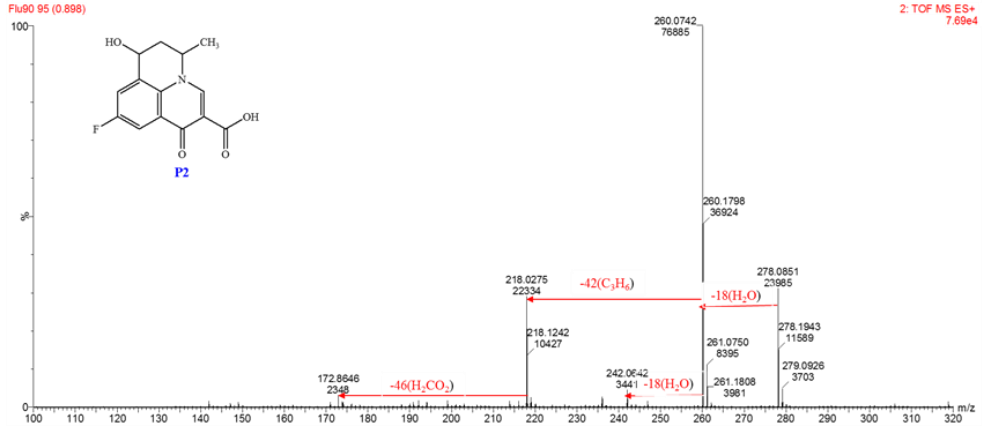
(A)


Flu90 235 (2.190)
2: TOF MS ES+
2.71e5
FLU
-50(HF +H2CO)
-42(C3H6)
-28(CO)
-18(H2O)

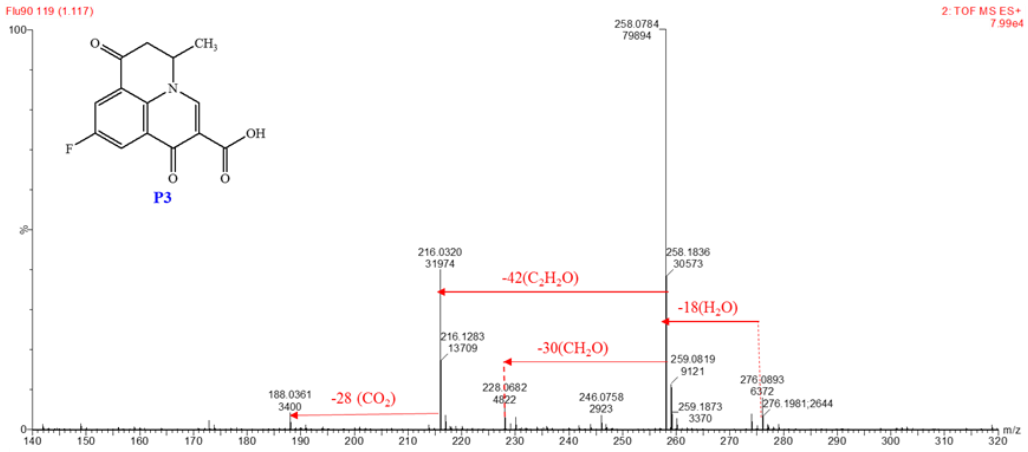
(B)


Flu90 79 (0.750)
2: TOF MS ES+
8.12e4
P1
-27(NCH)
-28(CO)
-18(H2O)
-20(HF)

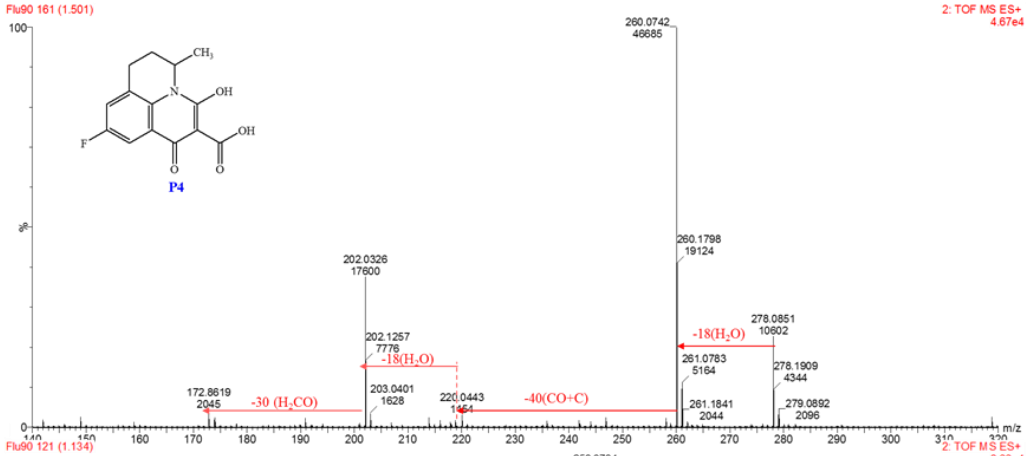
(C)


Flu90 95 (0.898)
2: TOF MS ES+
7.69e4
P2
-42(C3H6)
-18(H2O)
-46(H2CO2)
-18(H2O)

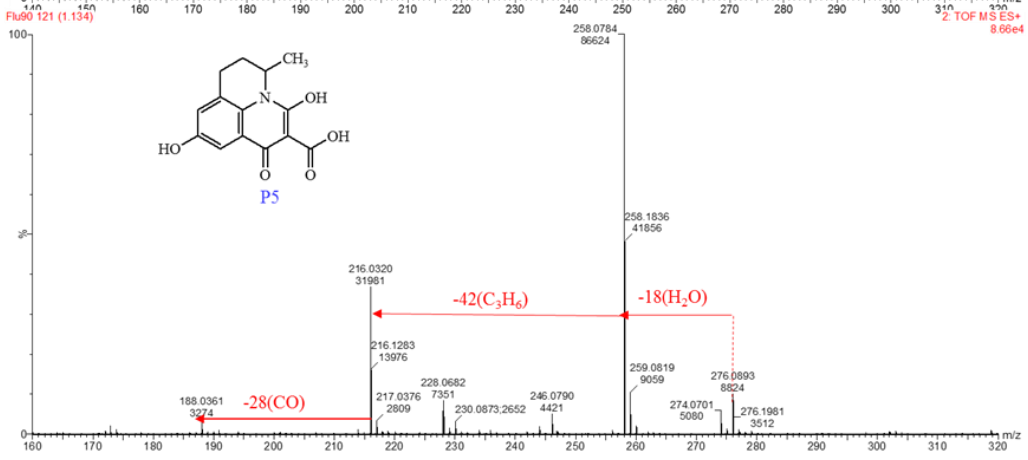
(D)


Flu90 119 (1.117)
2: TOF MS ES+
7.99e4
P3
258.0784
79894
216.0320
31974
-42(C2H2O)
258.1836
30573
-18(H2O)
216.1283
13709
-30(CH2O)
259.0819
9121
276.0893
6372
188.0361
3400
-28 (CO2)
228.0682
4822
246.0758
2923
259.1873
3370
276.1981;2644
m/z

(E)


Flu90 161 (1.501)
2: TOF MS ES+
4.67e4
P4
260.0742
46685
260.1798
19124
202.0326
17600
278.0851
10602
202.1257
7776
-18(H2O)
-18(H2O)
261.0783
5164
278.1909
4344
172.8619
2045
-30 (H2CO)
203.0401
1628
220.0443
1454
-40(CO+C)
261.1841
2044
279.0892
2096
m/z

(F)


Flu90 121 (1.134)
2: TOF MS ES+
8.66e4
P5
258.0784
86624
258.1836
41856
216.0320
31981
-42(C3H6)
-18(H2O)
216.1283
13976
259.0819
9059
276.0893
8824
228.0682
7351
188.0361
3274
-28(CO)
217.0376
2809
246.0790
4421
230.0873;2652
274.0701
5080
276.1981
3512
m/z

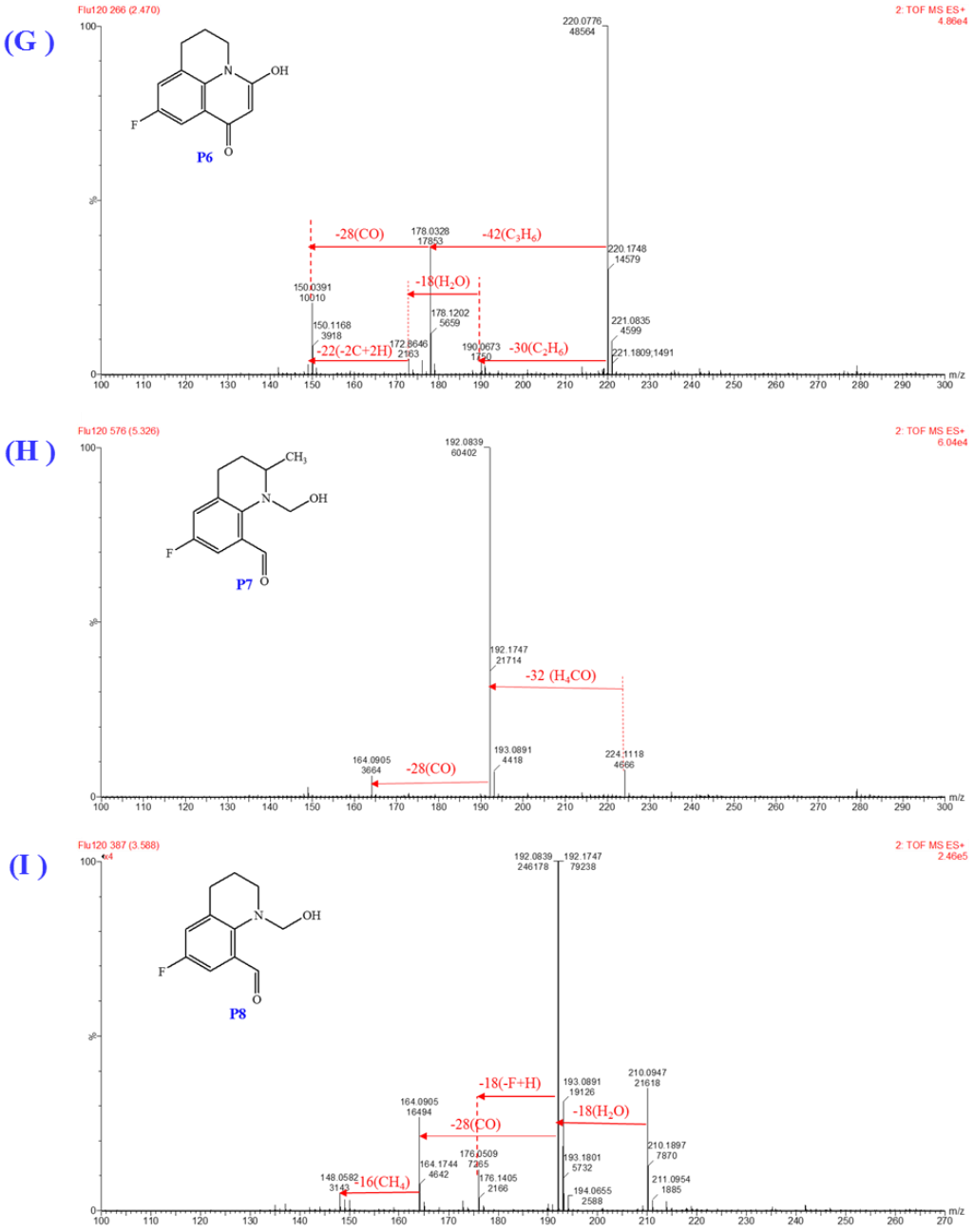


Fig. S2. Ion spectra of the transformation intermediates for photocatalytic degradation of FLU determined by HPLC-TOF-MS/MS. Experimental conditions: $[FLU]_0$ = 10 mg L^{-1}; $[TiO_2/AN]_0$ = 0.2 g L^{-1} and pH = 7.0.

Table S1. Intermediates Identification through HPLC-MS/MS Analysis in Positive Mode

Intermediates	RT[a] (min)	Formula $[M+H]^+$	Calculated m/z	Experimental m/z	Error (ppm)
FLU	2.19	$C_{14}H_{13}FNO_3^+$	262.0879	262.0876	1.14
P1	0.750	$C_{11}H_9FNO_2^+$	206.0617	206.0630	6.30
P2	0.89	$C_{14}H_{13}FNO_4^+$	278.0829	278.0851	7.90
P3	1.12	$C_{14}H_{11}FNO_4^+$	276.0872	276.0893	7.60
P4	1.50	$C_{14}H_{13}FNO_4^+$	278.0829	278.0851	7.90
P5	1.13	$C_{14}H_{14}NO_5^+$	276.0872	276.0893	7.60
P6	2.47	$C_{12}H_{11}FNO_2^+$	220.0774	220.0776	0.91
P7	5.33	$C_{12}H_{15}FNO_2^+$	224.1087	224.1108	9.37
P8	3.59	$C_{11}H_{13}FNO_2^+$	210.0930	210.0947	8.09

[a] RT, retention time

Table S2. Predicted Acute and Chronic Toxicity of FLU and Its Degradation Intermediates by the ECOSAR Program

Compound	Acute toxicity (mg L^{-1})			Chronic toxicity (mg L^{-1})		
	Fish (LC50)/96 h	Daphnid (LC50)/48 h	Green algae (EC50)/96 h	Fish ChV	Daphnid ChV	Green algae ChV
FLU	51	31	29	5.4	3.6	9.1
P1	/	/	/	/	/	/
P2	1302	587	542	116	54	81
P3	890	415	384	81	39	63
P4	338	172	160	32	17	33
P5	2829	1187	1093	242	102	137
P6	152	82	76	15	8.7	18
P7	196	103	96	19	11	21
P8	436	212	196	41	21	36

Green: Not harmful. LC50/EC50/ChV > 100 mg L^{-1}.

Blue: Harmful. 10 mg L^{-1} < LC50/EC50/ChV ≤ 100 mg L^{-1}.

Purple: Toxic. 1 mg L^{-1} < LC50/EC50/ChV ≤ 10 mg L^{-1}.

Red: Very toxic. LC50/EC50/ChV ≤ 1 mg L^{-1}.

Table S3. Comparison of This Study for the Degradation of FLU with Previous Studies

Reference	Pollutant	Photocatalyst	Experimental Conditions	Degradation (%)	TOC Removal (%)
Palominos et al., 2008 [8]	FLU	TiO_2 (Degussa P25)	[FLU] = 0.0765 mM [catalyst] = 0.5 g L^{-1} Initial pH = 6	100	74
Nieto et al., 2008 [35]	FLU	Urea and Thiourea-doped TiO_2	[FLU] = 20 ppm [catalyst] = 1.6 g L^{-1} pH < 7	90	-
Paul et al., 2007 [47]	FLU	TiO_2 (Degussa P25)	[FLU] = 0.10 mM [catalyst] = 0.5 g L^{-1} pH = 3	55	-
Guo et al., 2019 [48]	FLU	Graphene-TiO_2 Nanocomposites	[FLU] = 40 mg L^{-1} [catalyst] = 0.2 g L^{-1}	99	35.8
Vaizoğullar, 2017 [49]	FLU	TiO_2/ZnO/sepiolite	[FLU] = 10 mg L^{-1} [catalyst] = 0.2 g L^{-1} Initial pH = 5	85	-
Present Study	FLU	NH_4NO_3-doped TiO_2	[FLU] = 10 mg L^{-1} [catalyst] = 0.2 g L^{-1} Initial pH = 7	100	81.2