Supplementary Material

2D/2D Phosphorus-Doped g-C_3N_4/Bi_2WO_6 Direct Z-Scheme Heterojunction Photocatalytic System for Tetracycline Hydrochloride (TC-HCl) Degradation

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Table S1. Feedstock dosage for each catalyst

Photocatalysts	PCNS (g)	CNS (g)	$Bi(NO_3)_3·5H_2O$ (g)	$Na_2WO_4·2H_2O$ (g)
0.5%PCNS/BWO	0.0035	0	0.9701	0.3299
10%PCNS/BWO	0.0698	0	0.9701	0.3299
30%PCNS/BWO	0.2093	0	0.9701	0.3299
50%PCNS/BWO	0.3489	0	0.9701	0.3299
67%PCNS/BWO	0.4675	0	0.9701	0.3299
BWO	0	0	0.9701	0.3299
30%CNS/BWO	0	0.2093	0.9701	0.3299

Table S2. Atomic percentage of different elements present in 30%PCNS/BWO samples

	C	N	O	P	W	Bi
At%	26.33	6.45	47.84	0.90	6.75	11.73

Table S3. Comparison with other BWO-based photocatalysts for the degradation of TC-HCl

Photocatalysts	TC-HCl Concentration (mg/L)	Dosage (g/L)	Time (min)	Light source	Removal (%)	Kinetic Constant (min^{-1})	References
$Co_3O_4/Ag/Bi_2WO_6$	10	1.0	60	300 W xenon lamp (λ > 420 nm)	57.2	0.0157	[1]
7-MIL-88B(Fe)/Bi_2WO_6	10	0.5	90	500 W xenon lamp (λ > 420 nm)	96.4	0.0268	[2]
5%MIL-125(Ti)/ Bi_2WO_6	20	0.4	80	300 W xenon lamp (λ > 400 nm)	73.0	0.0184	[3]
BiOCl/Bi_2WO_6-2	20	0.7	150	300 W xenon lamp (λ > 420 nm)	63.9	0.0067	[4]
Bi_2WO_6/BiOBr	10	0.2	90	300 W xenon lamp (λ > 420 nm)	62.2	/	[5]
Bi_2WO_6/Nb_2CT_x	15	0.5	120	500 W xenon lamp (λ > 420 nm)	83.1	0.0171	[6]
15%$CuInS_2/Bi_2WO_6$	10	0.3	120	300 W xenon lamp (λ > 420 nm)	92.4	0.0176	[7]
Bi_2WO_6/Ta_3N_5	20	0.4	120	300 W xenon lamp (λ > 400 nm)	86.7	0.0169	[8]
g-C_3N_4/Bi_2WO_6	10	0.4	60	300 W xenon lamp (λ > 420 nm)	≈65.0	0.0177	[9]
g-C_3N_4/Bi_2WO_6	10	1.0	120	300 W xenon lamp (λ > 420 nm)	≈64.0	/	[10]
g-C_3N_4/Bi_2WO_6	20	0.6	60	300 W xenon lamp (λ > 420 nm)	76.25	0.02	[11]
30%CNS/BWO	20	0.2	60	300 W xenon lamp (λ > 420 nm)	62.1	0.0164	This work
30%PCNS/BWO	20	0.2	60	300 W xenon lamp (λ > 420 nm)	76.7	0.0266	This work

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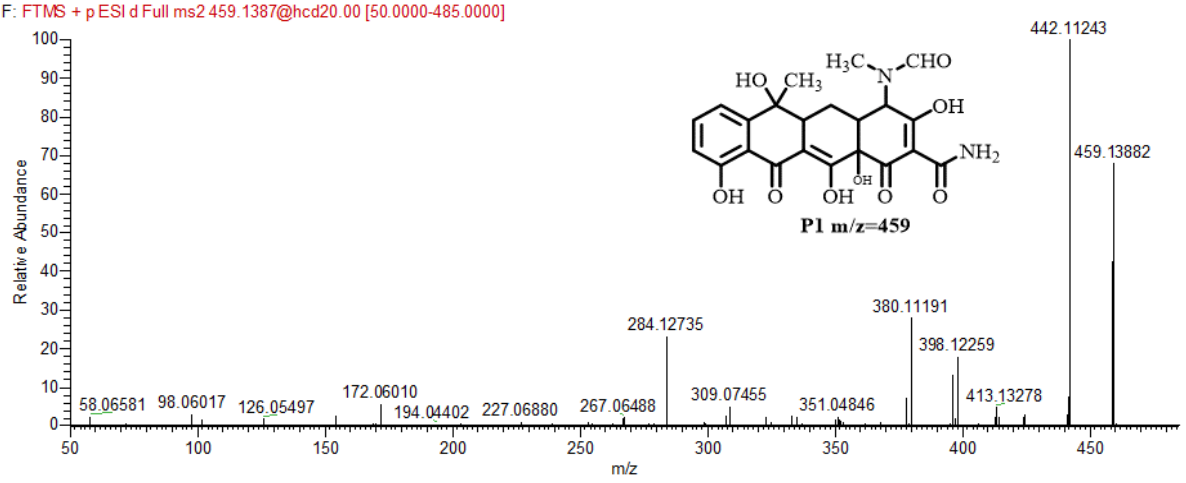

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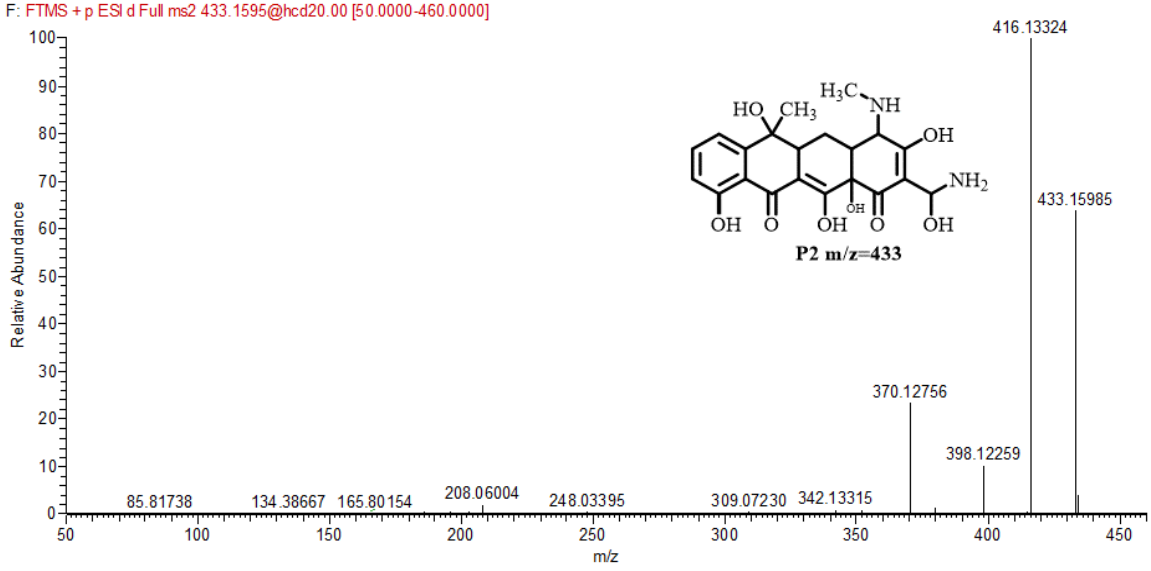

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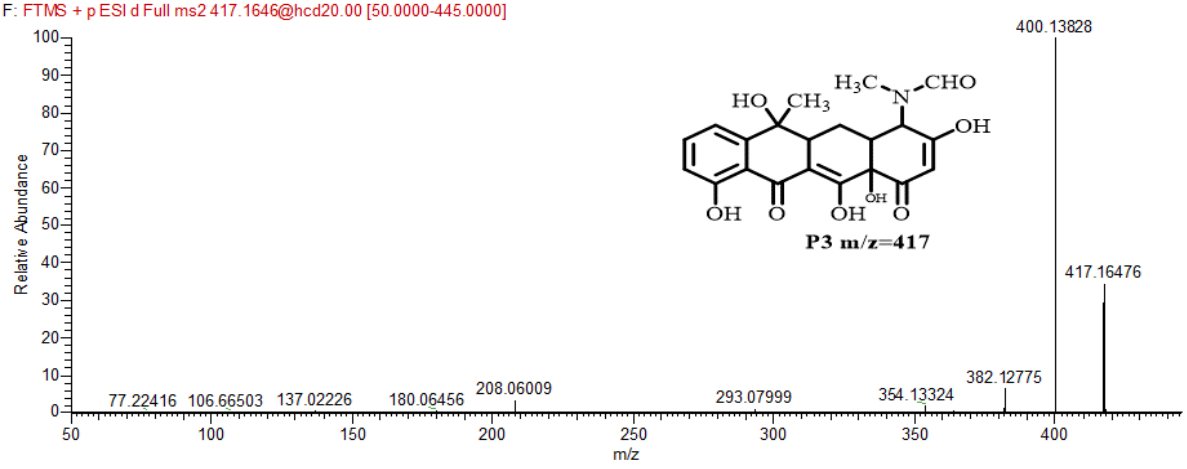

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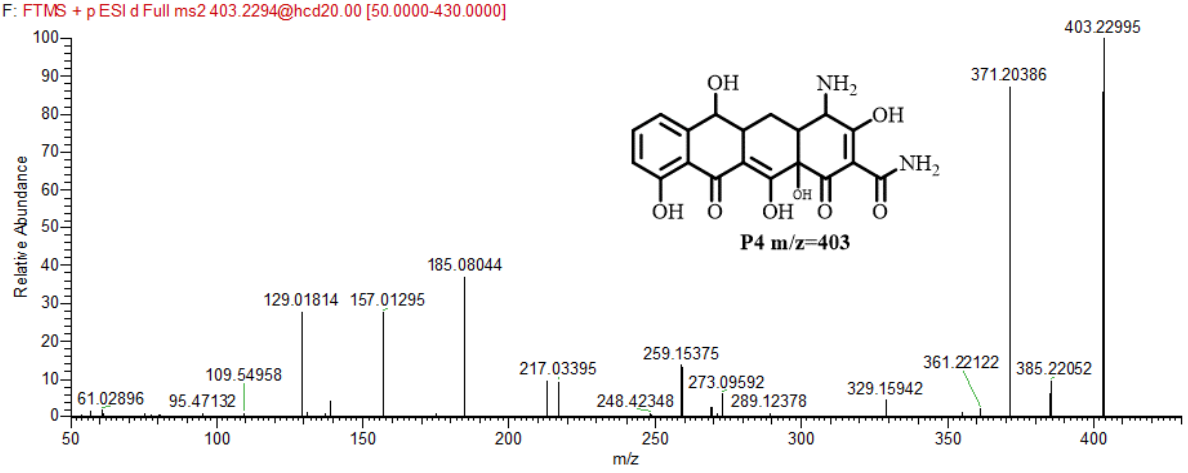

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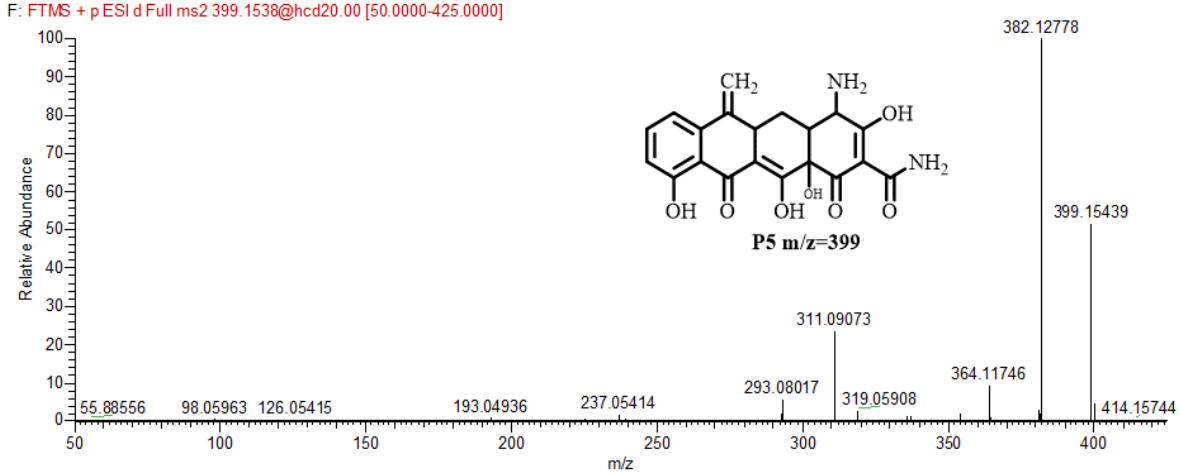

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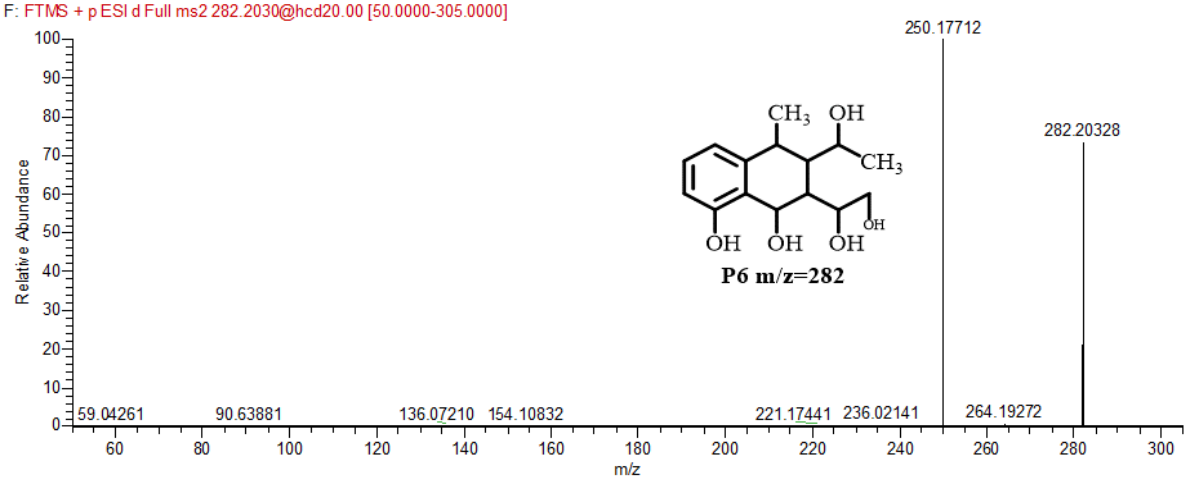

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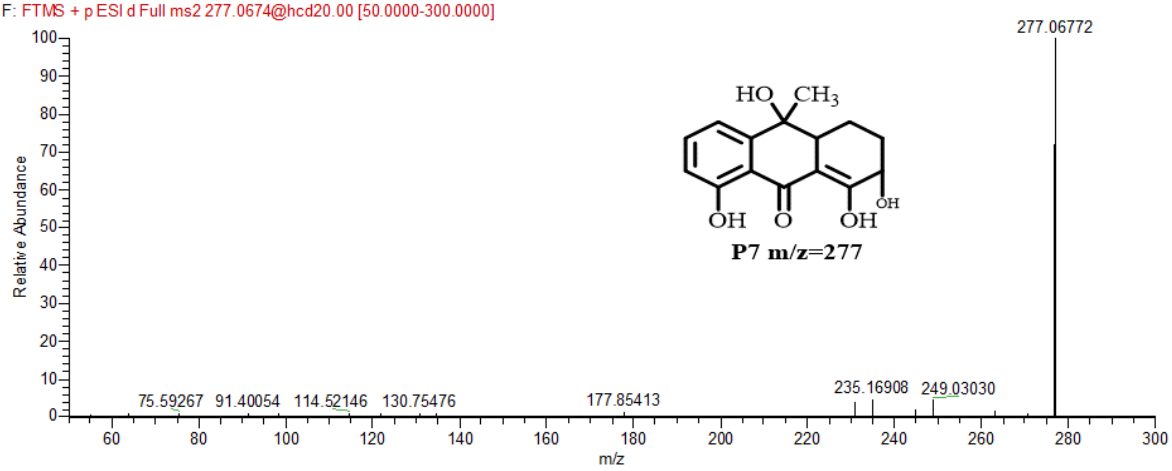

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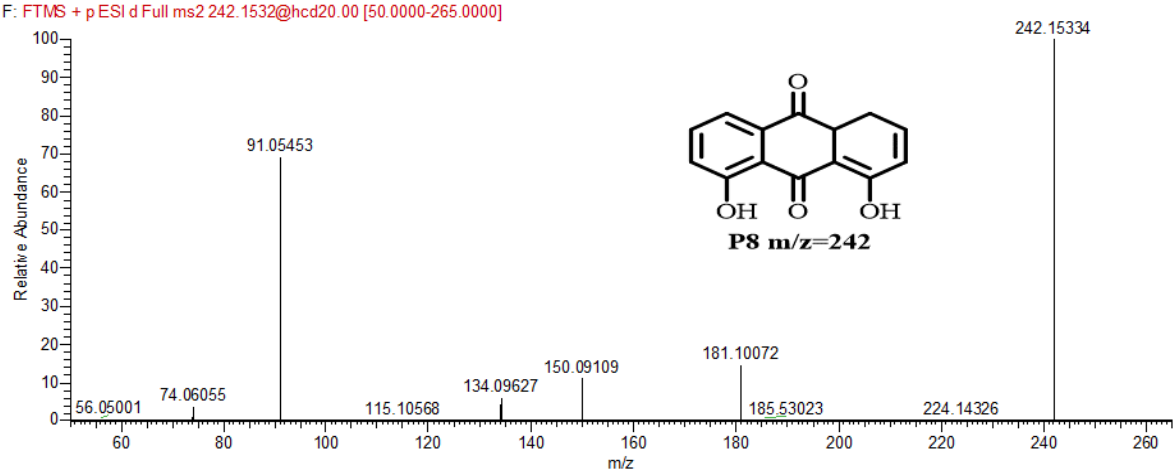

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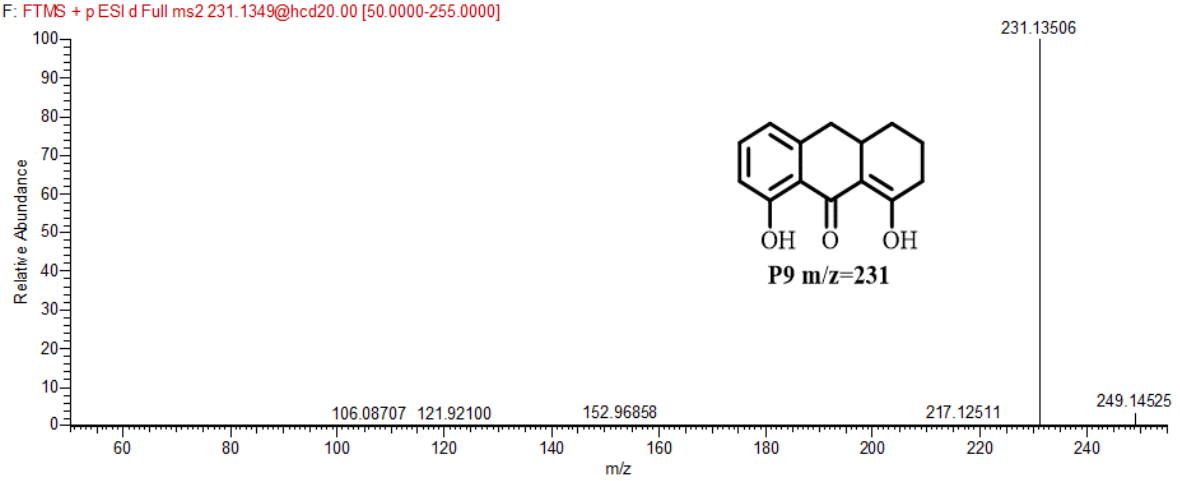

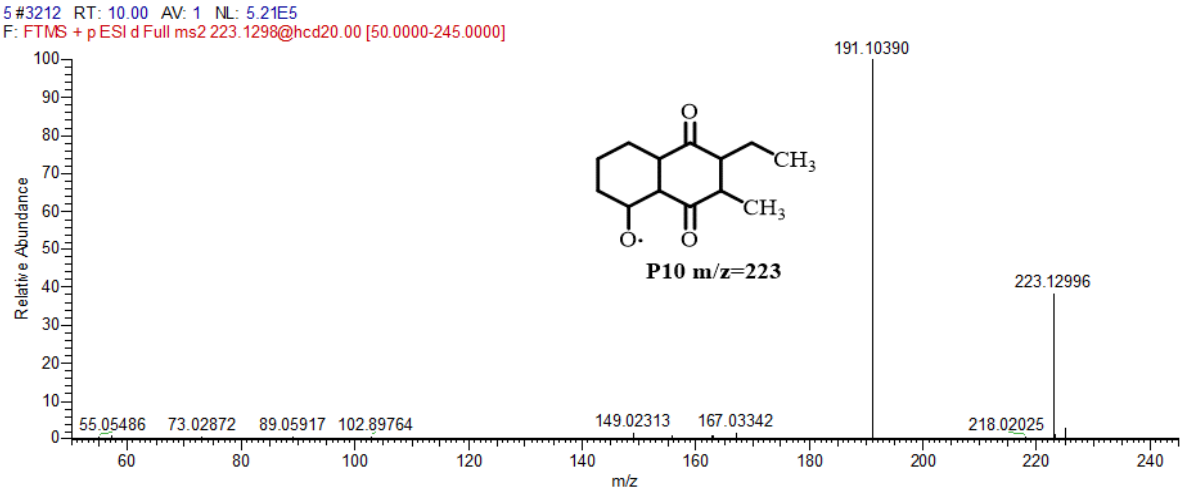

Figure S1. HRAMLC-MS/MS secondary ion mass spectra of TC-HCl photocatalytic degradation products

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