Supplementary Material

Table S1 TOC removal rate and degradation performance of PNP with different initial concentrations.

Table S2 Kinetics parameters of PNP biodegradation by *Bordetella S113* strain.

Figure S1 Schematic diagram of experimental bioreactor.

Figure S2 Photograph of electron microscopy of *Bordetella S113*.

Figure S3 GC/MS spectrometry of intermediate products in degradation of PNP.

Table S1 TOC removal rate and degradation performance of PNP with different initial concentrations.

Concentration (mg/L)	Degradation rate of PNP (%)	Mineralization (%)
120	100	91.6±2
240	97.8±2.2	88.2±3
360	81.3±3	73.7±3
480	50.7±2	39.5±2

Table S2 Kinetics parameters of PNP biodegradation by *Bordetella S113* strain.

Concentration (mg/L)	First-order kinetic model	K_1	$T_{1/2}$ (hr)	R^2
120	y=1.6983x-3.7303	1.6983	0.41	0.9392
240	Y=1.5485x-7.4485	1.5485	0.45	0.9791
360	Y=1.2558x-8.2889	1.2558	0.55	0.9776
480	Y=0.668x-5.9629	0.668	1.04	0.9587

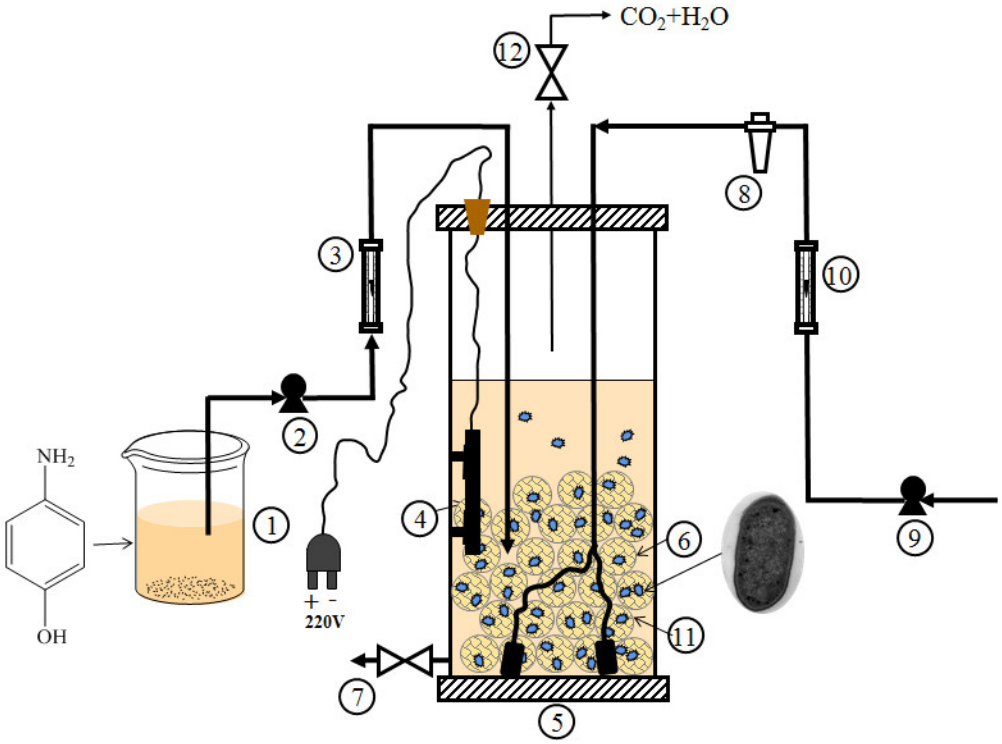

Figure S1 Schematic diagram of experimental bioreactor.

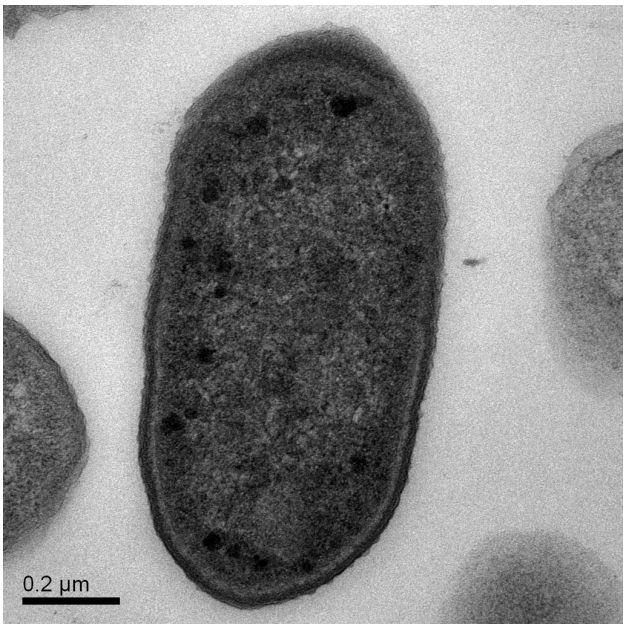

Figure S2 Photograph of electron microscopy of *Bordetella S113*.

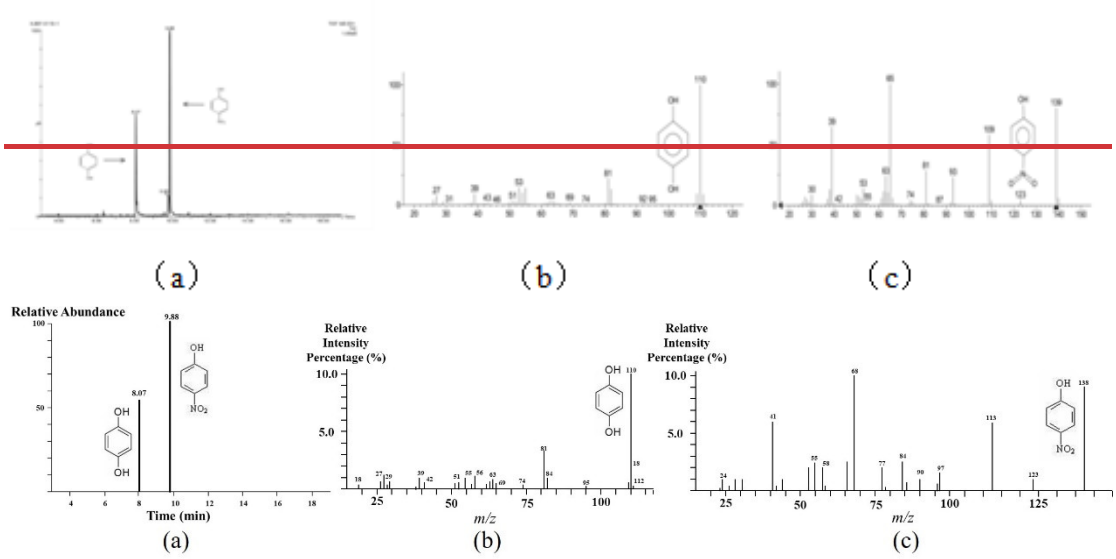

Figure S3 GC/MS spectrometry of intermediate products in degradation of PNP.