Supporting Information

Building Internal Electric Fields in porous ionic polymers for fast photocatalytic degradation of tetracycline hydrochloride

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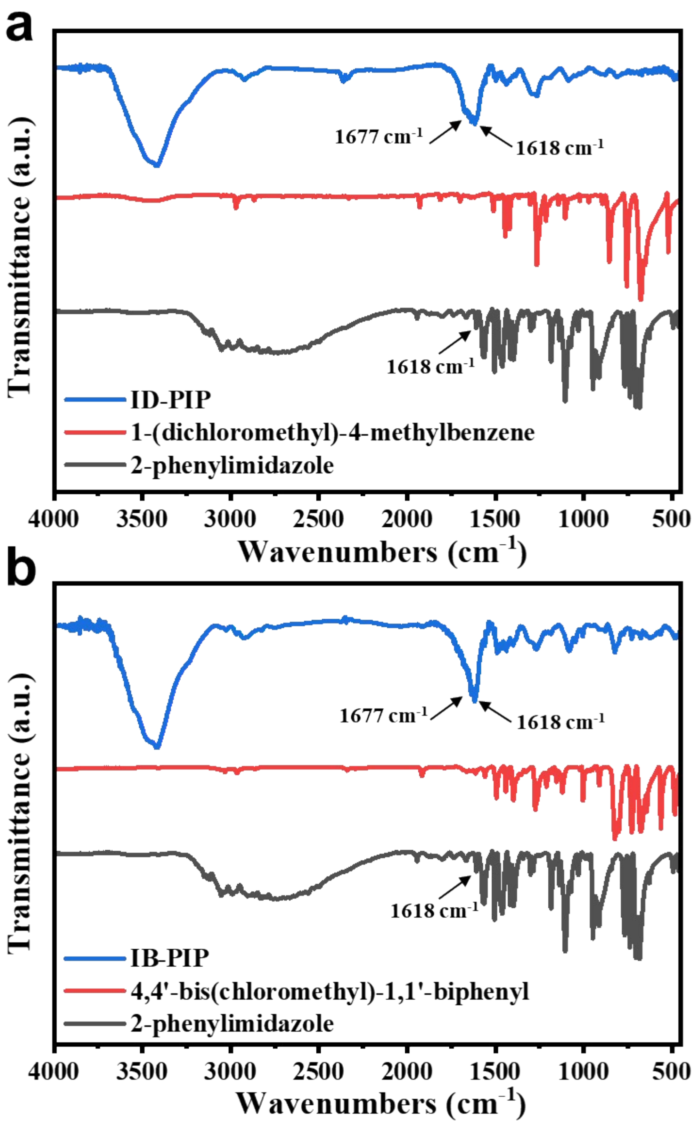

Figure. S1 FTIR spectra (a) ID-PIP and (b) IB-PIP

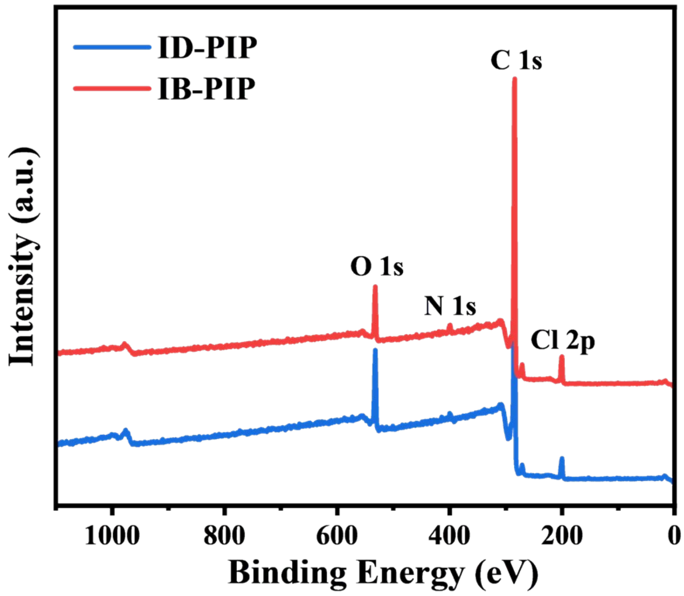

Figure. S2 XPS full survey spectrum of ID-PIP and IB-PIP.

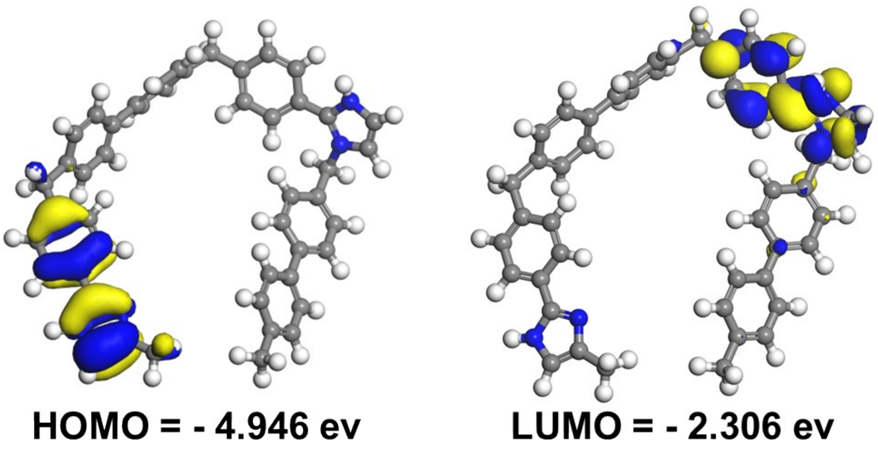

Figure. S3 HOMO−LUMO maps of IB-PIP backbone. (C, gray; N, blue; H, white)

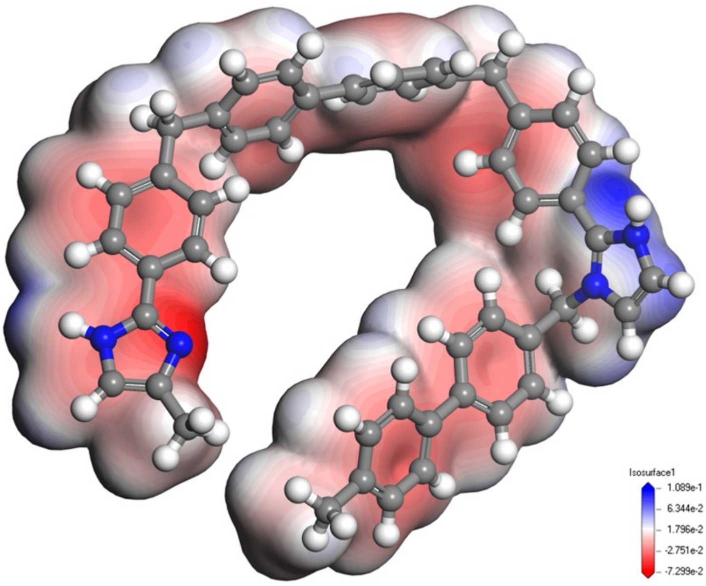

Figure. S4 Electrostatic potential of IB-PIP backbone. (C, gray; N, blue; H, white)

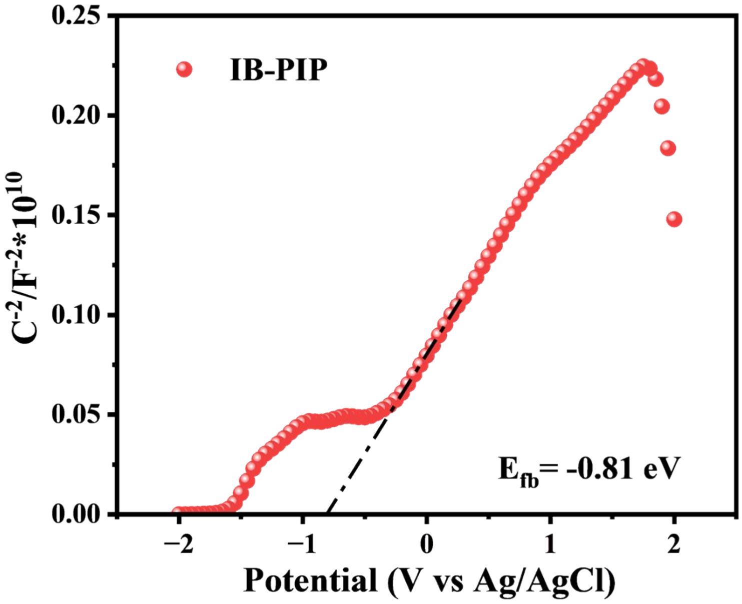

Figure. S5 the Mott Schottky curve of IB-PIP.

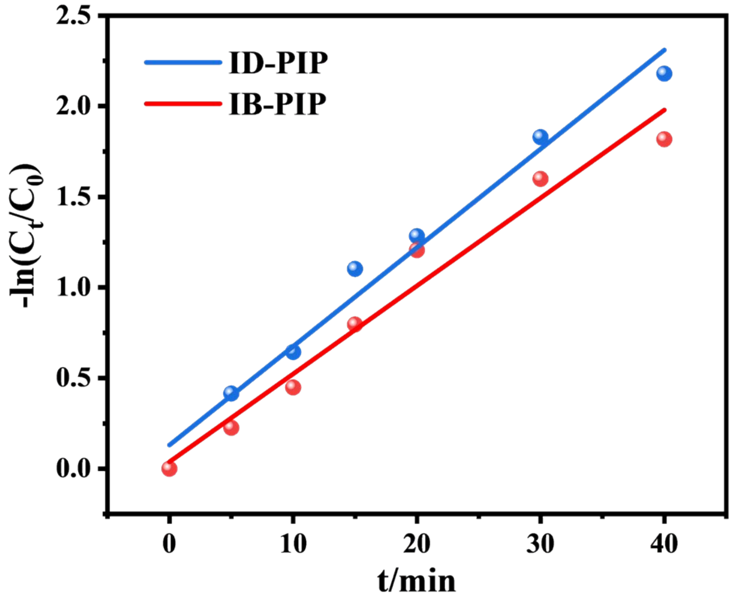

Figure. S6 Fitting curves of the quasi-first order kinetics of the photocatalytic degradation of TCH

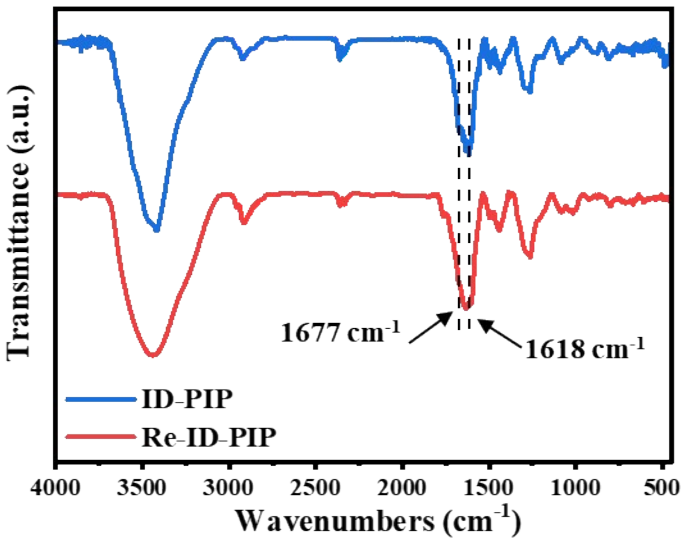

Figure. S7 FTIR spectra of ID-PIP and Re-ID-PIP.

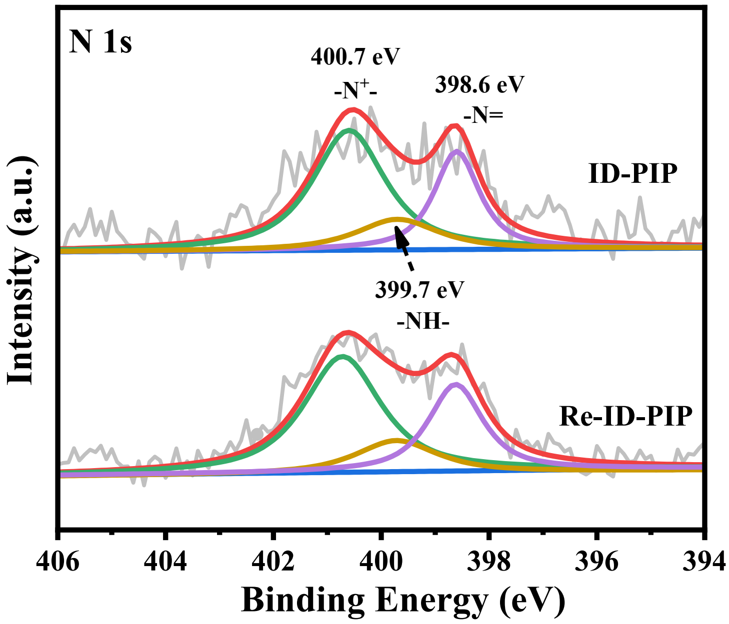

Figure. S8 The N1s spectra of ID-PIP and Re-ID-PIP.

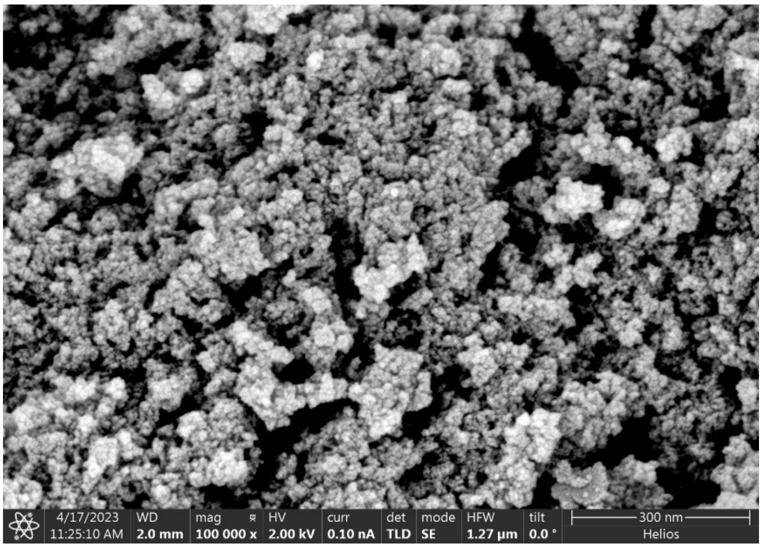

Figure S9. SEM images of ID-PIP after recycle.

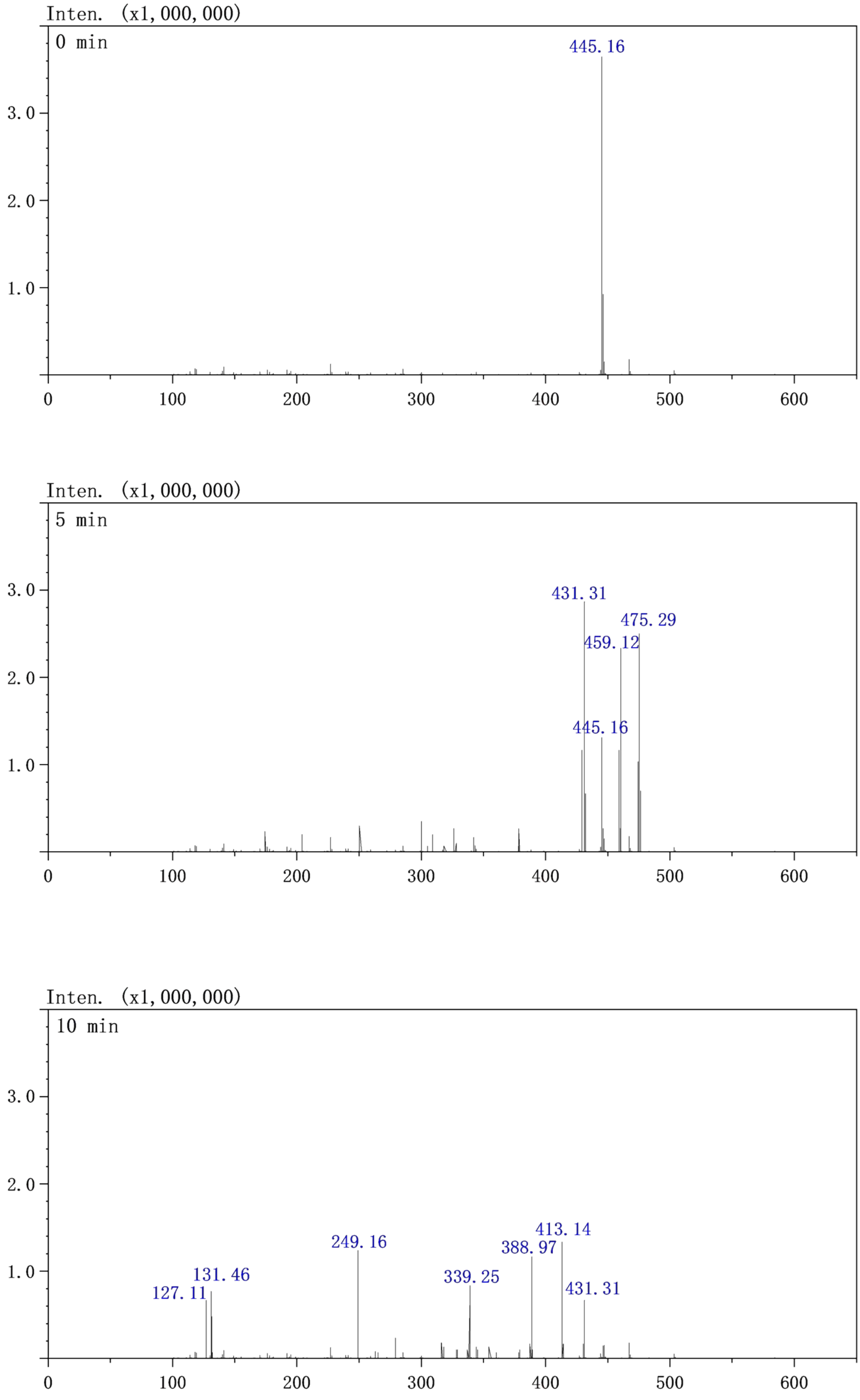

Figure. S10 HPLC-MS spectrum of TCH degradation at different times.

Table S1. Comparison of photocatalytic performance with the-state-of-art materials.

Samples	Dosage（mg）	Solutions Volume (mL)/ concentration (mg L^{-1})	Time（min）	Degradation efficiency	Ref.
ID-PIP	15	100/20	40	96%	this work
$CuAl_2O_4$/g-C_3N_4	10	50/100	60	nearly 90%	1
$SnS_2/ZnIn_2S_4$	20	100/40	60	88.23%	2
MgO-S/FeS	20	100/40	120	97.1%	3
Bi/$BiVO_4$-CdS	20	50/20	30	85.5%	4
TiO_2/Ti_3C_2Tx/AgI	50	50/20	180	97%	5
1D/2D Bi_2S_3/Ti_3C_2	10	100/10	50	98%	6
$Ti_{0.7}Sn_{0.3}O_2$/g-C_3N_4	25	50/20	40	88.3%	7
Ag/AgI/$WO_3\cdot H_2O$	40	100/10	180	80.3%	8
CDots/Ag/ZnO	15	50/30	60	96%	9
In_2S_3/WO_3	50	100/30	150	84.7%	10
ZIF-8/CHs	50	50/30	180	78.61%	11
$BaTiO_3$/g-C_3N_4	20	50/10	60	91.0%	12
N-ZnO/BiOI	20	100/10	160	88.59%	13
La/TiO_2/g-C_3N_4	50	100/30	60	95.52%	14
0D/3D AgI/MOF-808	10	100/50	120	83.02%	15

Table S2. Element contents of ID-PIP before and after recycle.

		Elemental Analysis (Wt. %)		
		C	H	N
ID-PIP	Before	69.07	4.98	1.05
	After	68.98	5.01	1.03

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