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Supplementary Materials

Metal-Free Conjugated Polyphenothiazine Nanostructures as Visible Light Active Photocatalyst for Selective Aerobic Oxidation of Sulfides

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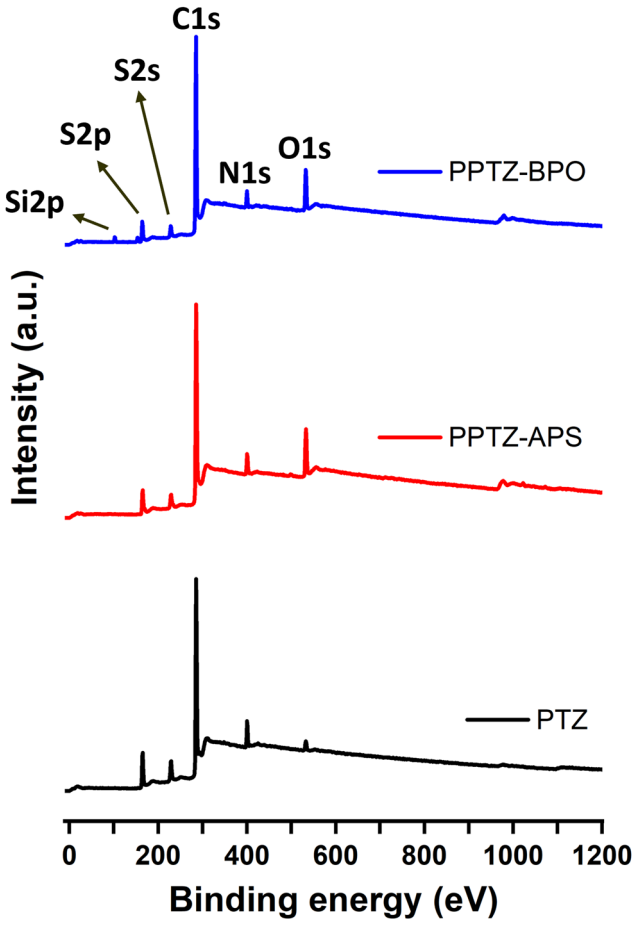

Figure S1. XPS survey spectra of PTZ, PPTZ-APS, and PPTZ-BPO.

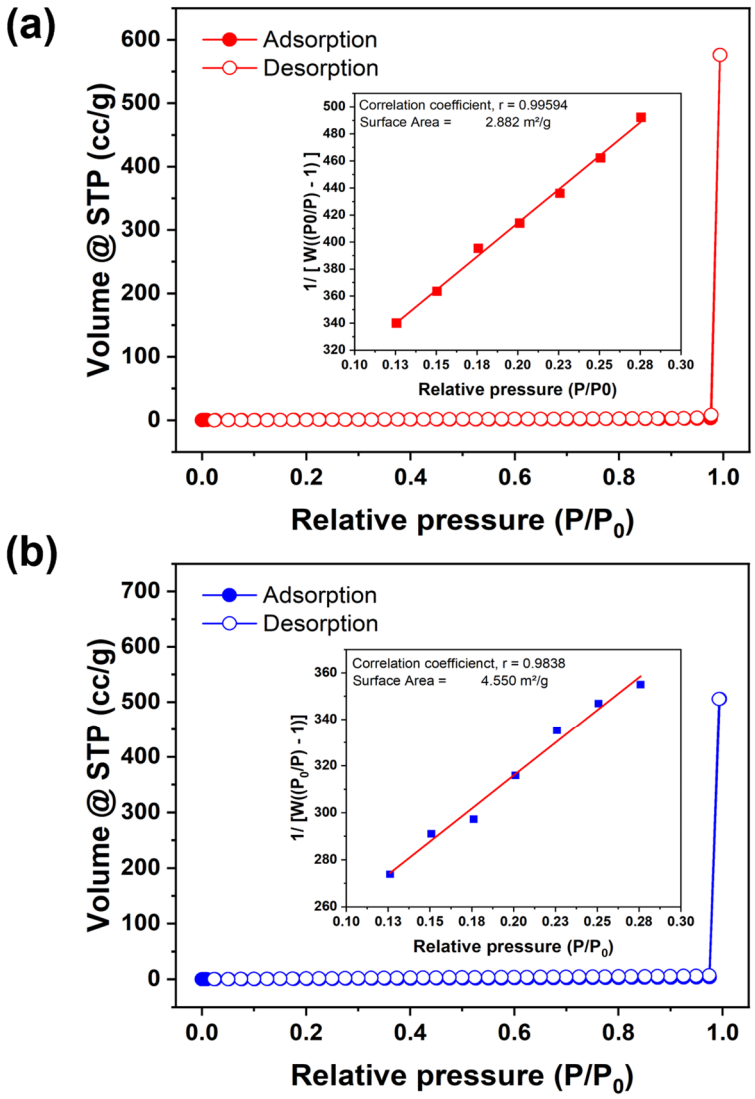

Figure S2. Surface area analysis of (**a**) PPTZ-APS and (**b**) PPTZ-APS.

Table S1. Comparison of the photocatalytic performance of PPTZ-BPO with recently reported photocatalysts for SAOS reactions using thioanisole as substrate.

Sl. No.	Photocatalyst	[Catalyst] (mg)	Light Source	[Substrate] (mmol)	Solvent	Time (h)	Conversion (%)	Moles Converted h^{-1} mg^{-1} Catalyst (10^3)	Selectivity (%)	Ref.
1	NUT-18-Me	15	20 W, λ = 420 nm	0.5	CH_3OH	8	99	4.1	99	[33]
2	SFC-CMP	5	12 W, λ = 460 ± 10 nm	0.3	CH_3OH	0.8	93	74.3	99	[34]
3	TBPA-COF	5	λ = 460 ± 10	0.5	CH_3OH	1.2	91	81.7	98	[35]
4	PS-HCP-4	20	210 W Xe Lamp	1	CH_3CN	8	99	5.6	92	[36]
5	ETBA-por COF	10	150 W Xe Lamp	0.5	CH_3CN	12	94	4.1	99	[37]
6	4F-COF	10	14 W LED lamp	0.2	CH_3OH: CH_3CN	8	57	2.4	96	[38]
7	Por-Phen-COF-N^+	2.5	0.5 W/cm^2 Xe lamp	0.3	CD_3OD	0.75	99	156.8	98	[39]
8	Por-BABN COF	5	0.2 W/cm^2 Blue LED	0.15	CH_3OH	4	99	7.4	99	[40]
9	AQ-COF	10	300 W Xe lamp, λ=400 −780 nm	0.1	CH_3CN	3	99	3.2	97	[27]
10	CMP-BDD	20	14 W Blue LED	1	C_2H_5OH	24	99.6	2.1	99	[41]
11	Py-π-AQ-CMP	5	λ = 460 nm	0.3	CH_3OH	1.1	93	54	99	[42]
12	PPTz-BPO	4	160 W, White LED, λ = 400–780nm	0.1	CH_3OH	6	85	4.1	99	This Work

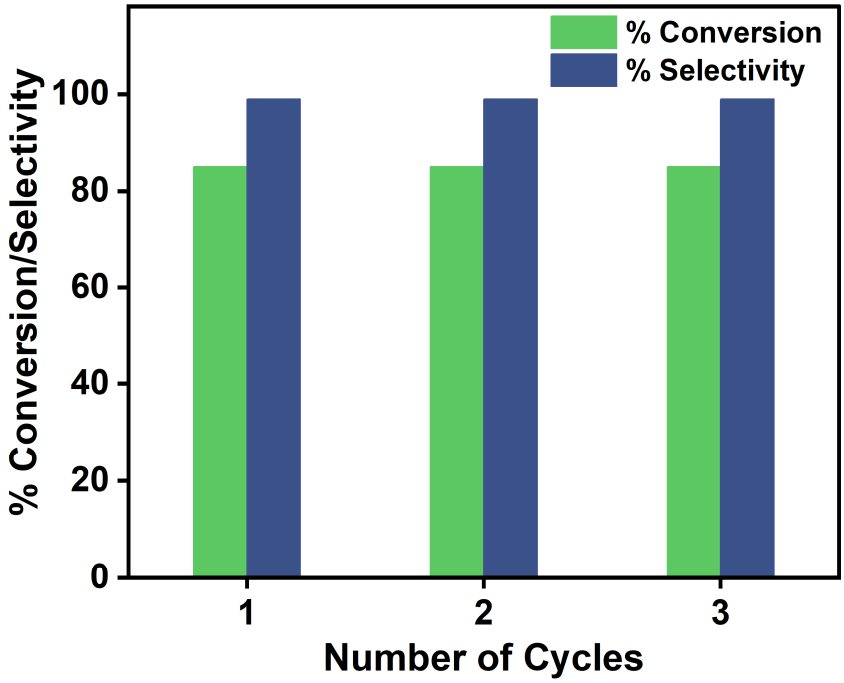

Figure S3. Recyclability test up to 3 cycles. Reaction conditions: thioanisole (0.1 mmol), photocatalyst (4 mg), CH_3OH (10 mL), O_2 (1 atm), 160 W White LED (λ = 400–780 nm), room temperature, 6 h; Conversion was determined by GC.

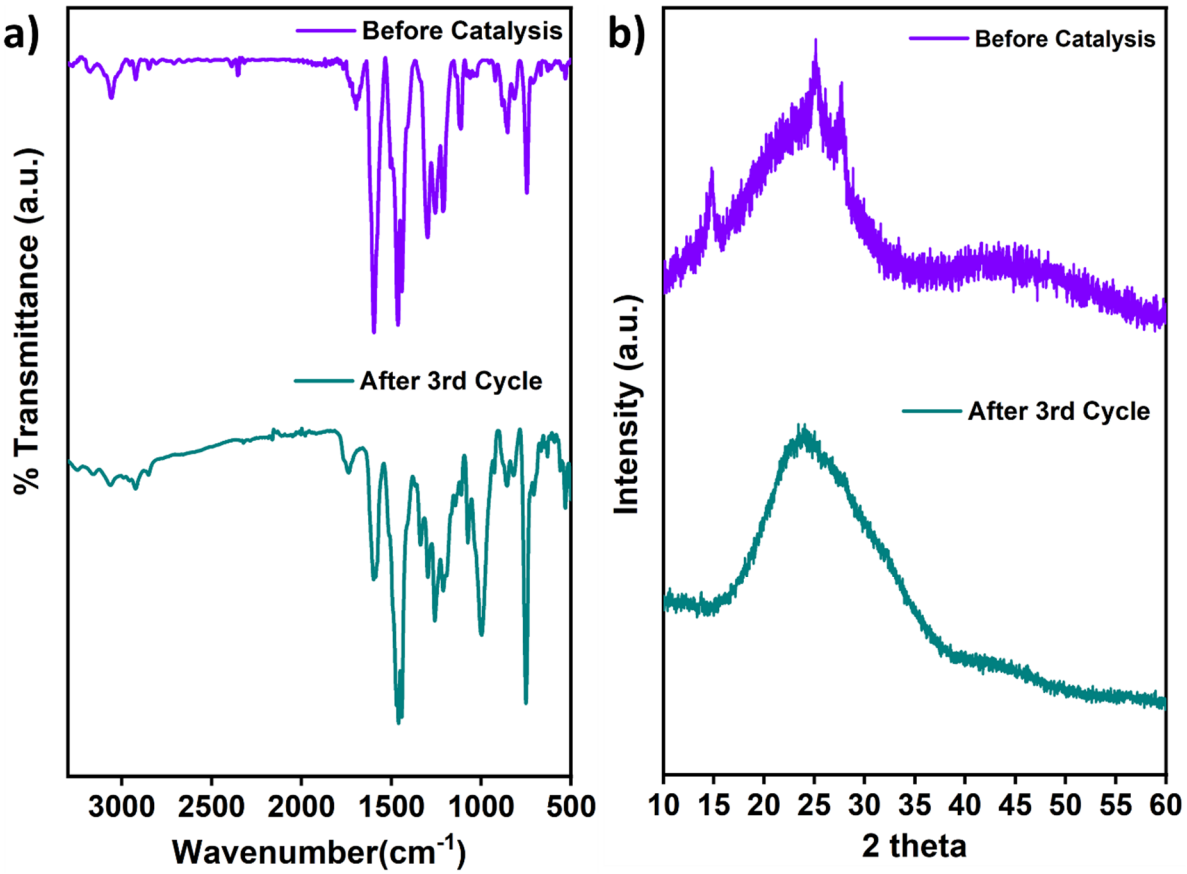

Figure S4. Characterization of PPTZ-BPO after the third recyclability test: (**a**) FTIR and (**b**) XRD.