Electronic Supplementary Material (ESI) for Journal of Materials Chemistry A.

Photo-enhanced Zn-air batteries with simultaneously highly efficient in-situ H_2O_2 generation for wastewater treatment

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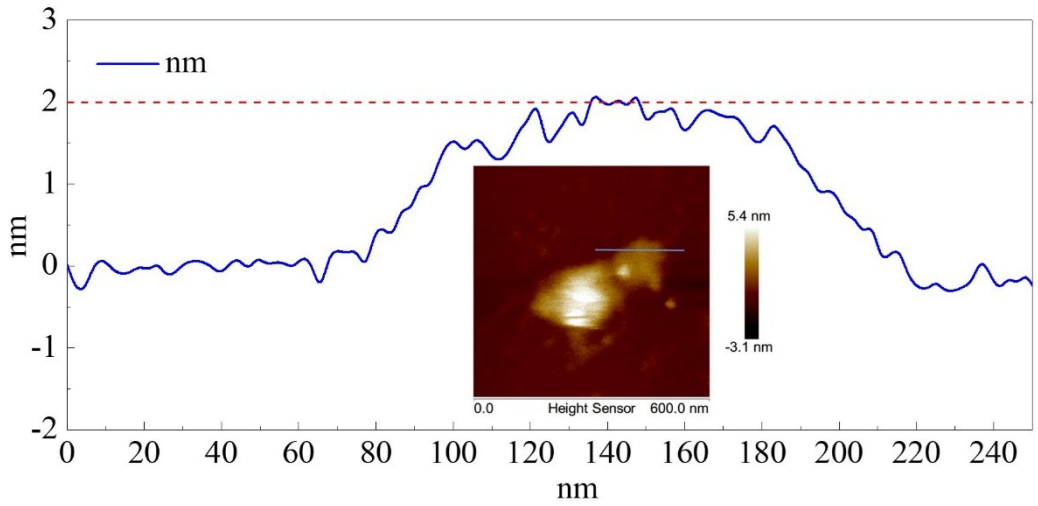

Figure S1 line profiles corresponding to the inset AFM topography image of the pTTh.

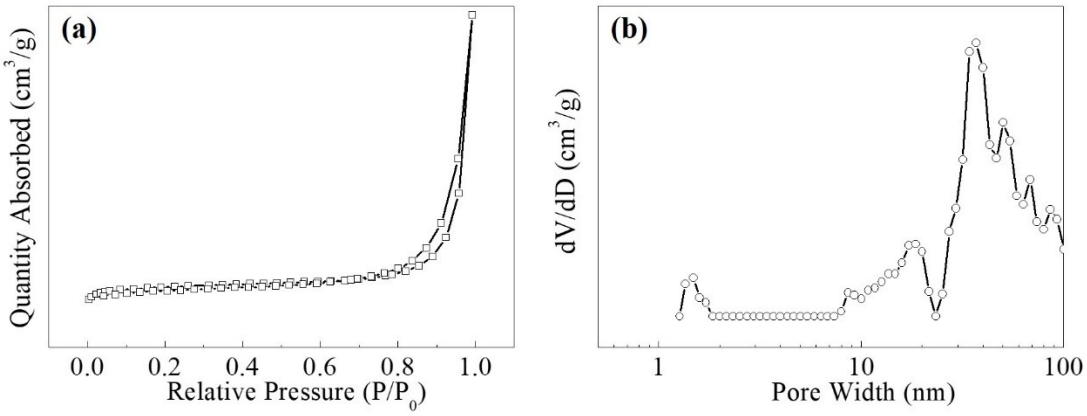

Figure S2 N_2 adsorption-desorption isotherms (a) and the corresponding pore size distribution (b) of the as-prepared pTTh.

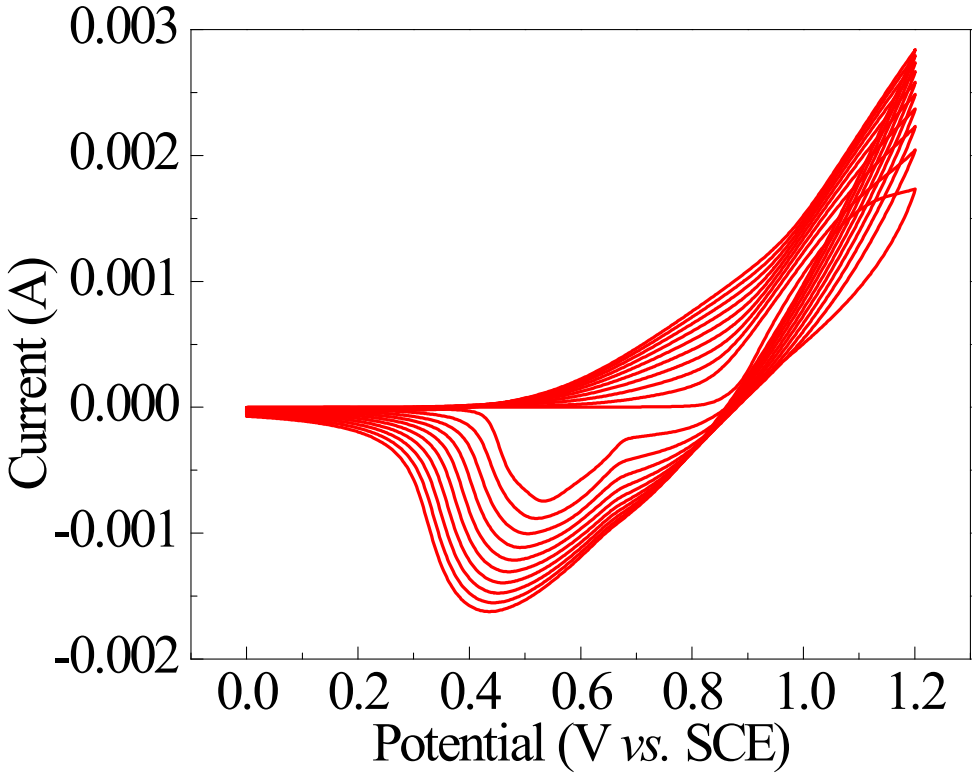

Figure S3 Multicycle cyclic voltammetry electropolymerization of TTh monomer in acetonitrile containing 20 mM monomer and 0.1 M $LiClO_4$.

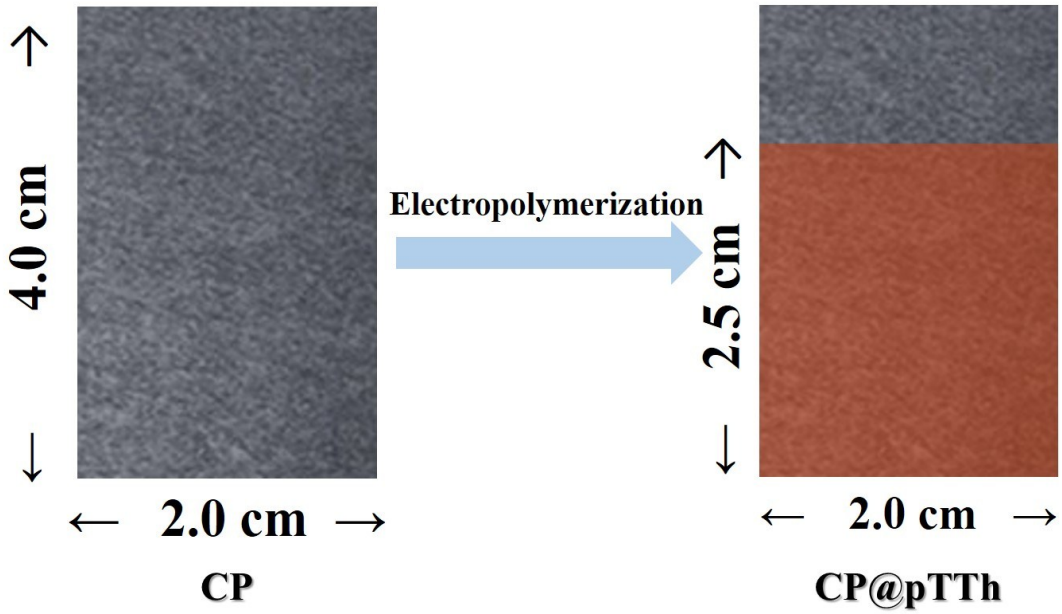

Figure S4 the digital photo of the as-prepared CP@pTTh electrode.

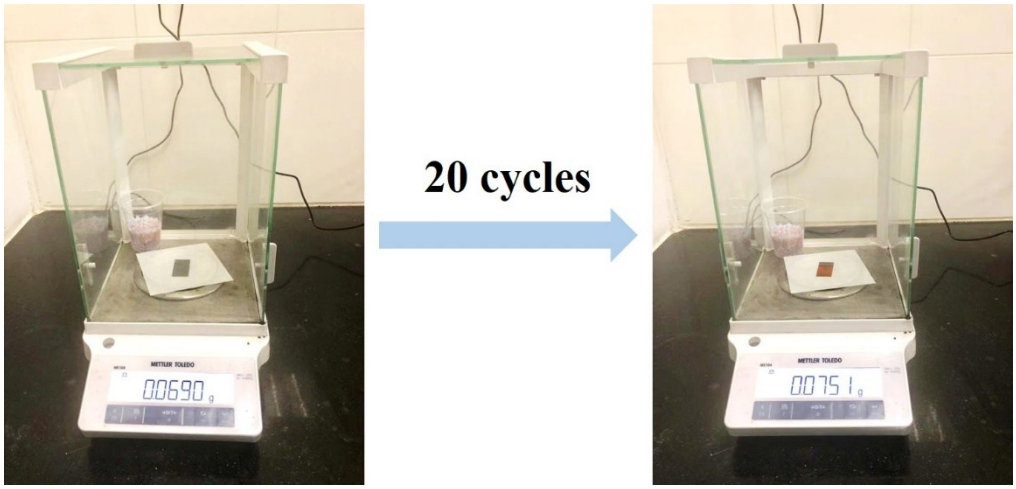

Figure S5 the mass of the CP and CP@pTTh, respectively.

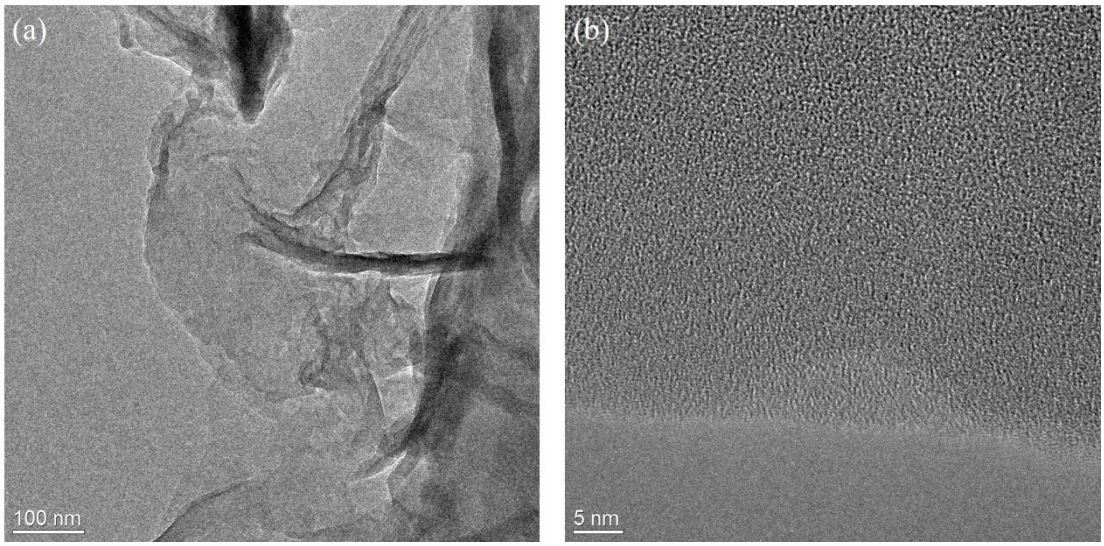

Figure S6 TEM (a) and HR-TEM (b) images of the as-prepared pTTh.

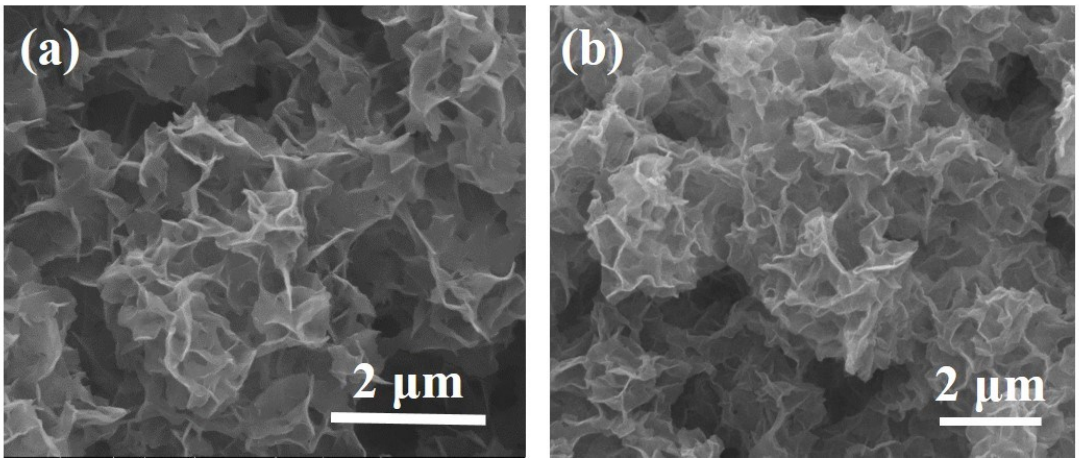

Figure S7 SEM images of the pTTh before (a) and after (b) the aging test.

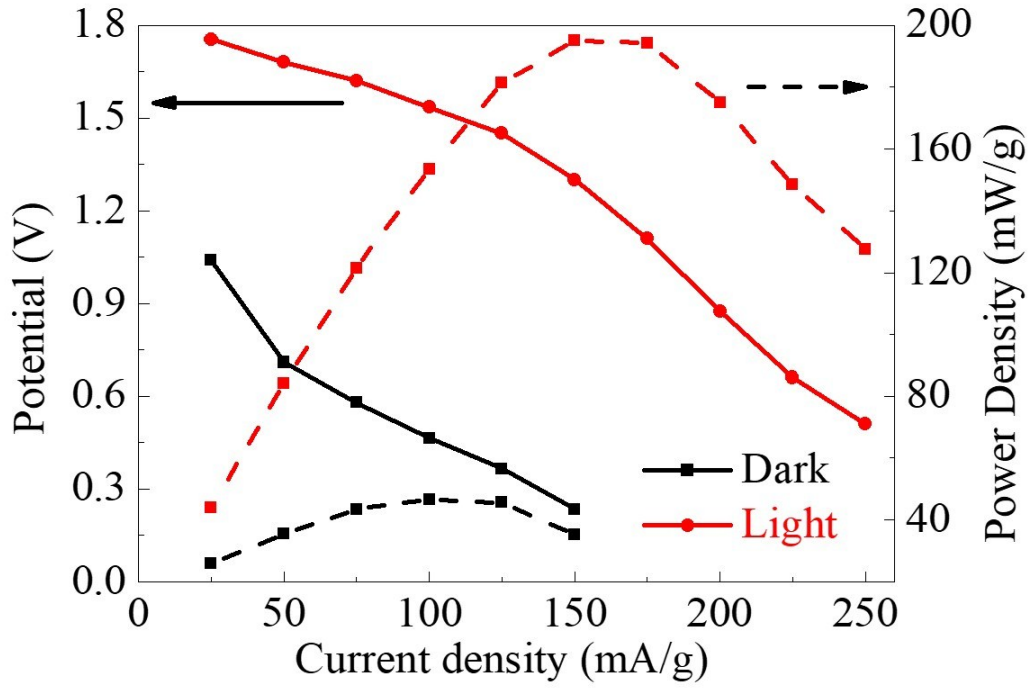

Figure S8 polarization and power density curves of a photo-enhanced Zn-air battery using the CP@pTTh as air electrode (size: 2.0 cm×2.5 cm; mass loading: ~1.3 mg pTTh/cm^2).

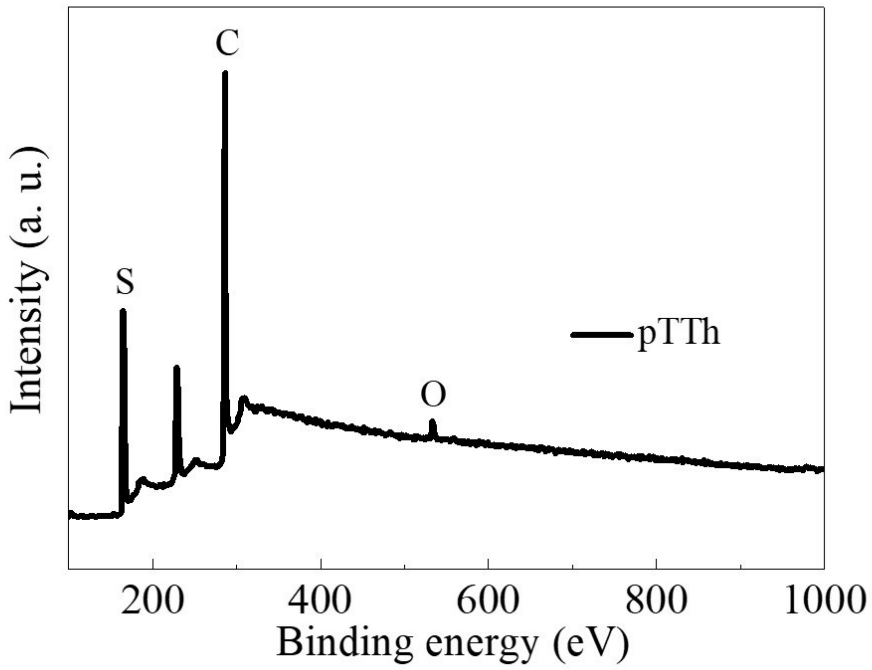

Figure S9 XPS survey spectrum of the pTTh.