

Supporting Information

Photoelectrochemical NADH regeneration on a polymer semiconductor-based photocathode

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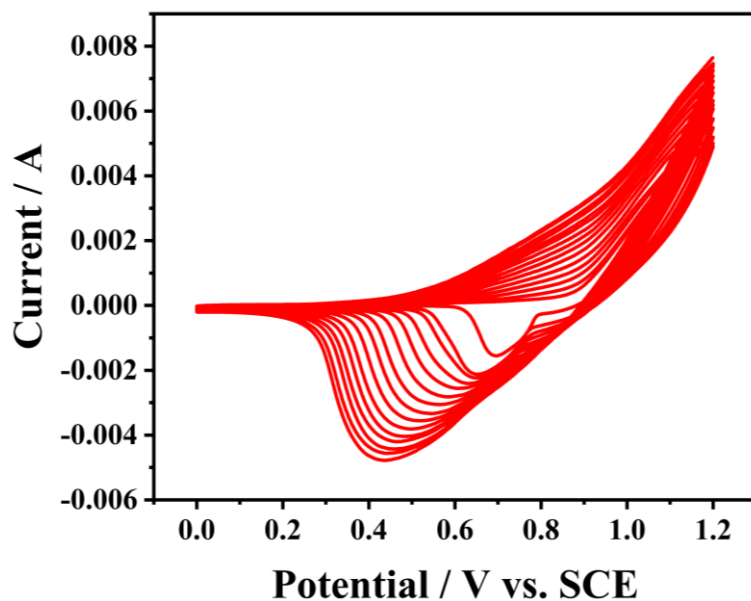


Fig. S1 Cyclic voltammetry deposition of pTTh on carbon paper (CP) electrode in acetonitrile solution containing 10 mM TTh and 0.1 M LiClO₄, the scan rate is 25 mV s⁻¹.

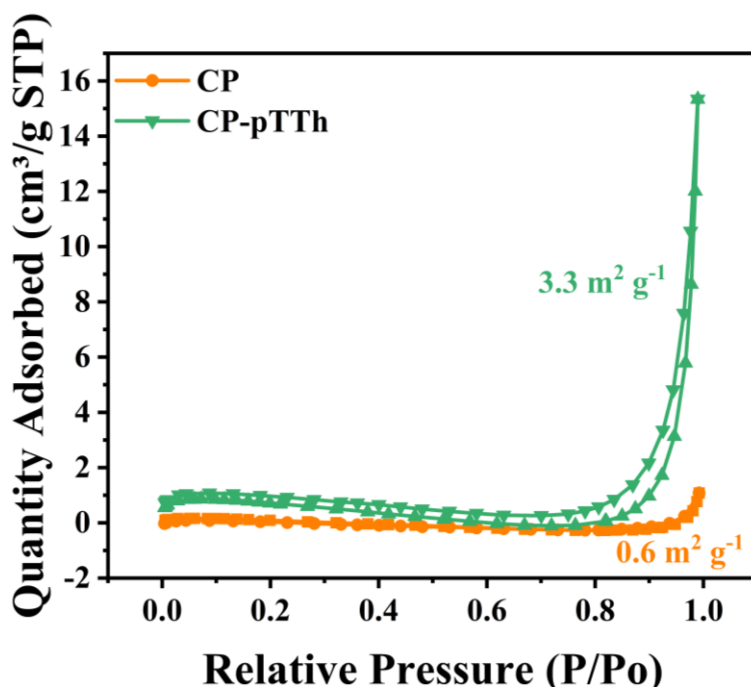


Fig. S2 N₂ adsorption–desorption isothermal analysis of CP-pTTh and CP.

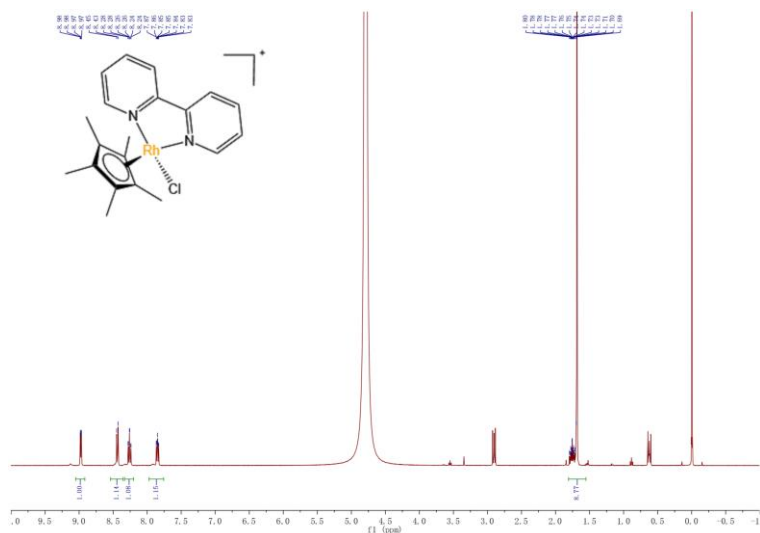


Fig. S3 $^1\text{H NMR}$ (D_2O) spectrum of $[\text{Cp}^*\text{Rh}(\text{bpy})\text{Cl}]^+$.

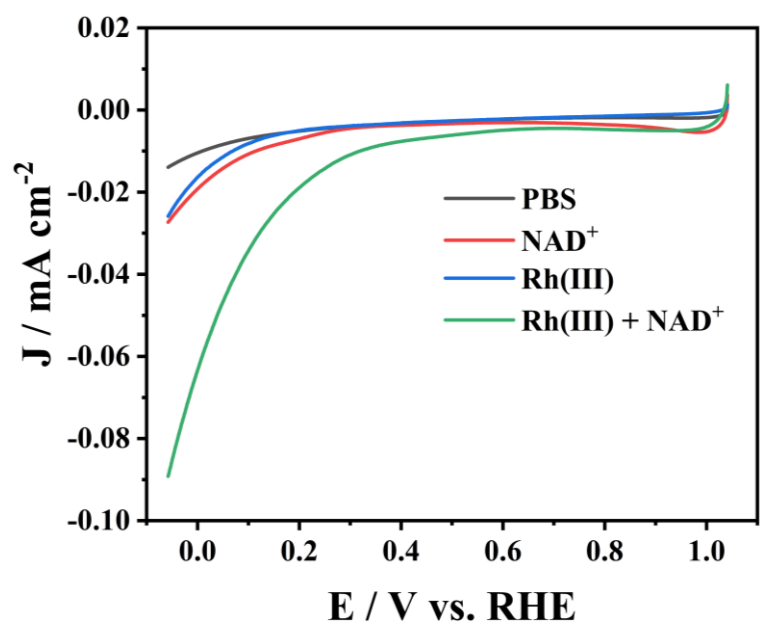


Fig. S4 LSV curves of the NAD^+ reduction on pTTh electrode in the dark.

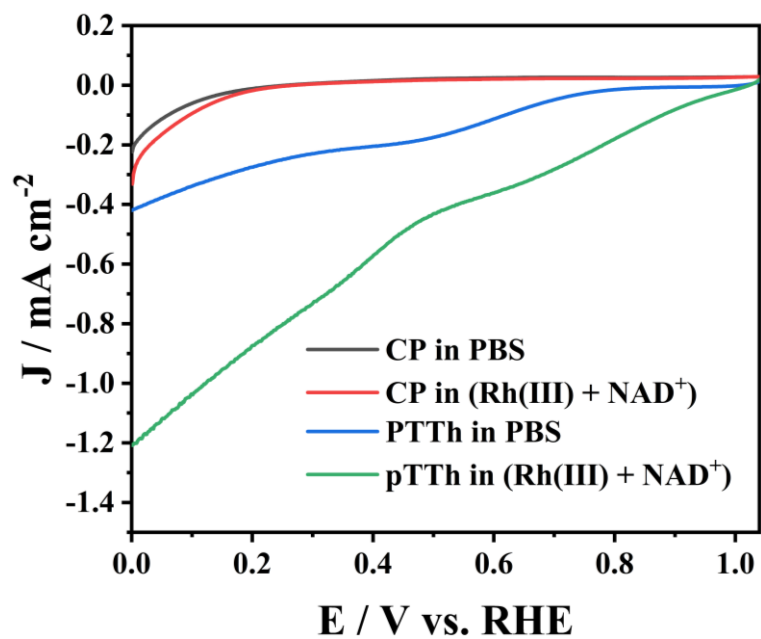


Fig. S5 LSV curves recorded in N_2 -saturated NAD^+ and Rh(III) contained PBS solution on carbon paper and pTTh.

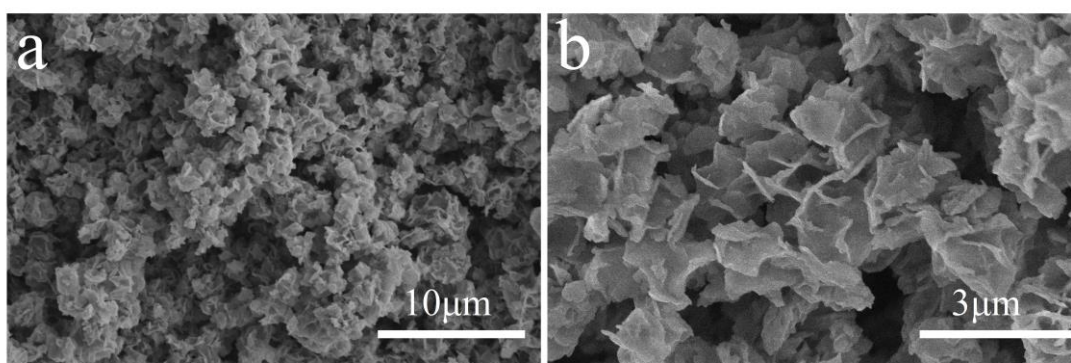


Fig. S6 (a, b) SEM images of pTTh after 3 h regeneration.

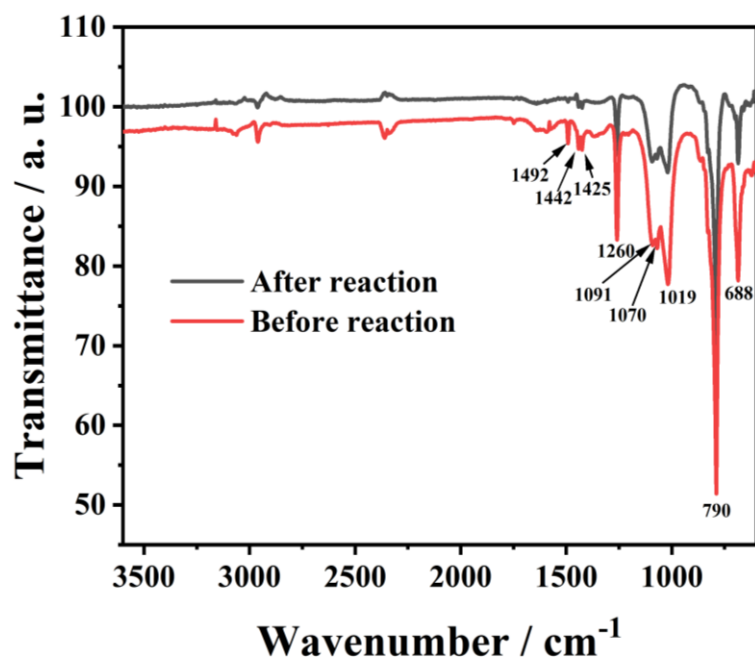


Fig. S7 FT-IR spectra of pTTh before and after 3 h regeneration.

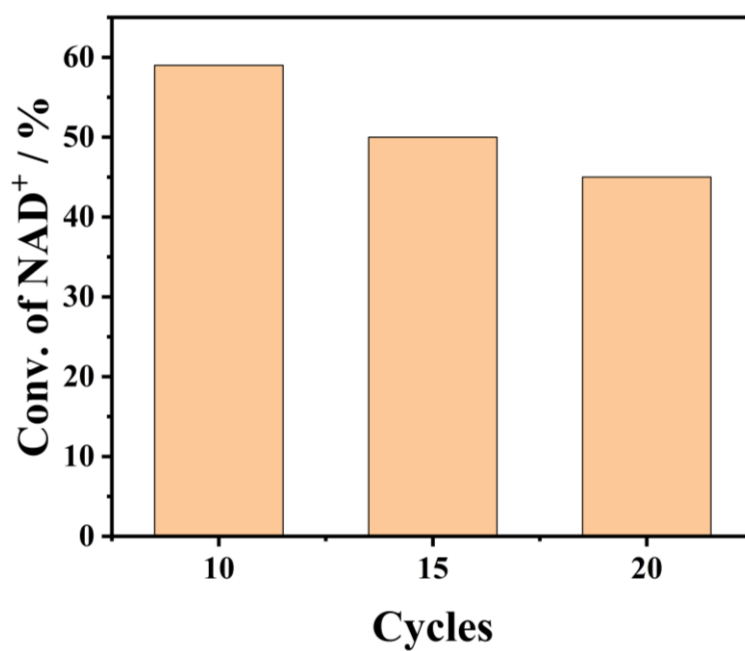


Fig. S8 The yield of 1,4-NADH on pTTh electrodes synthesized with different number of CV electrodeposition cycles.