Electronic Supplementary Information

Electrochemical sensor for neurotransmitters at physiological pH using heterocyclic conducting polymer modified electrode

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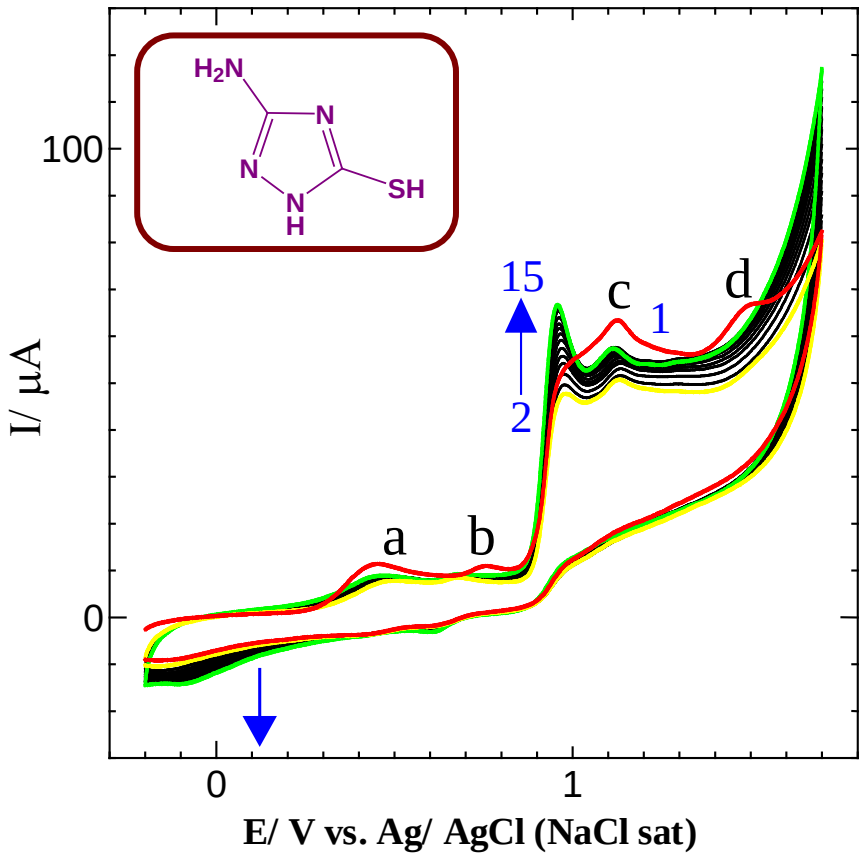


Fig. ES1. CV for electropolymerization of AMTa (15 cycles) on GC electrode in 1 mM AMTa containing 0.1 M H_2SO_4 after 1st, 2nd and 15th cycles at a scan rate of 50 mV s^{-1}.

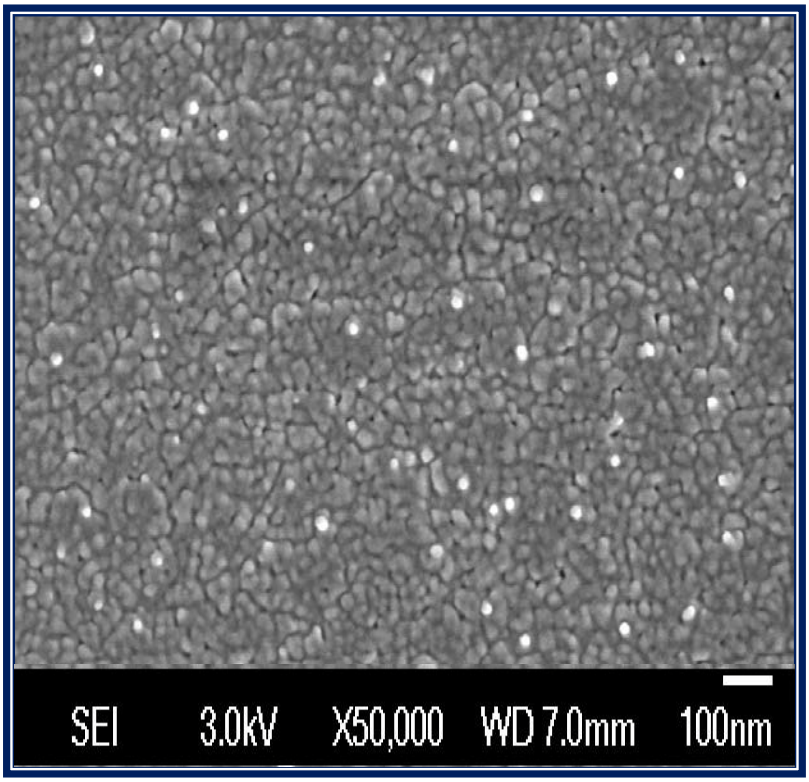


Fig. ES2. FE-SEM image of the p-AMTa film deposited on ITO electrode.

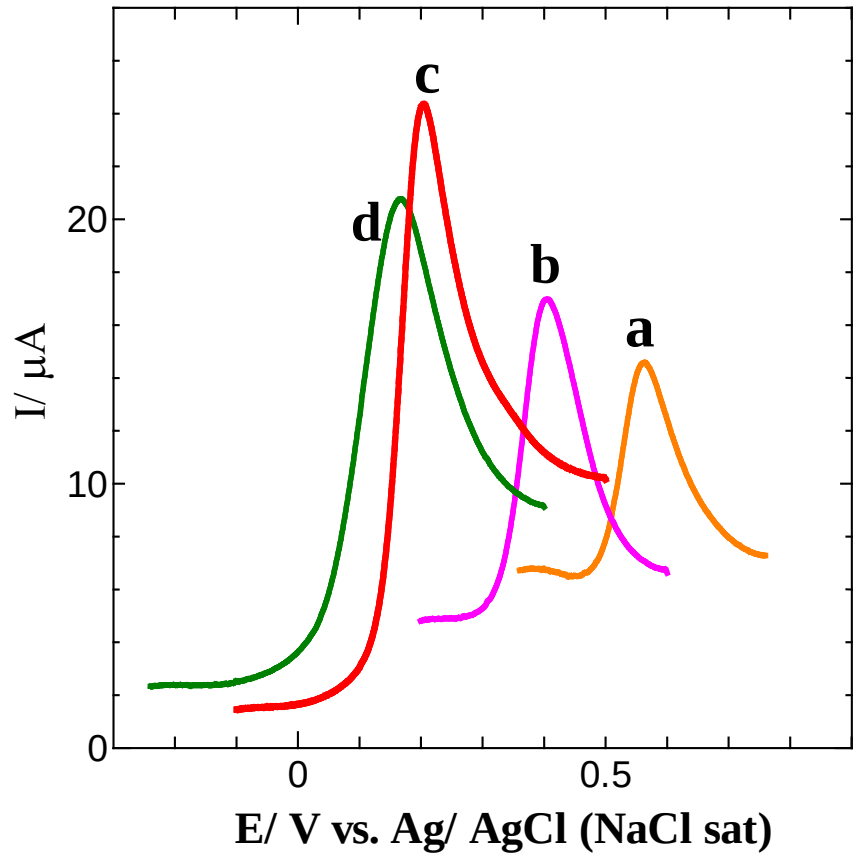


Fig. ES3. Linear sweep voltammograms obtained for the oxidation of NEP at different pH: (a) 1 (b) 4 (c) 7.2 (d) 9 at p-AMTa electrode in PB solution at a scan rate of 50 mV s^{-1}.

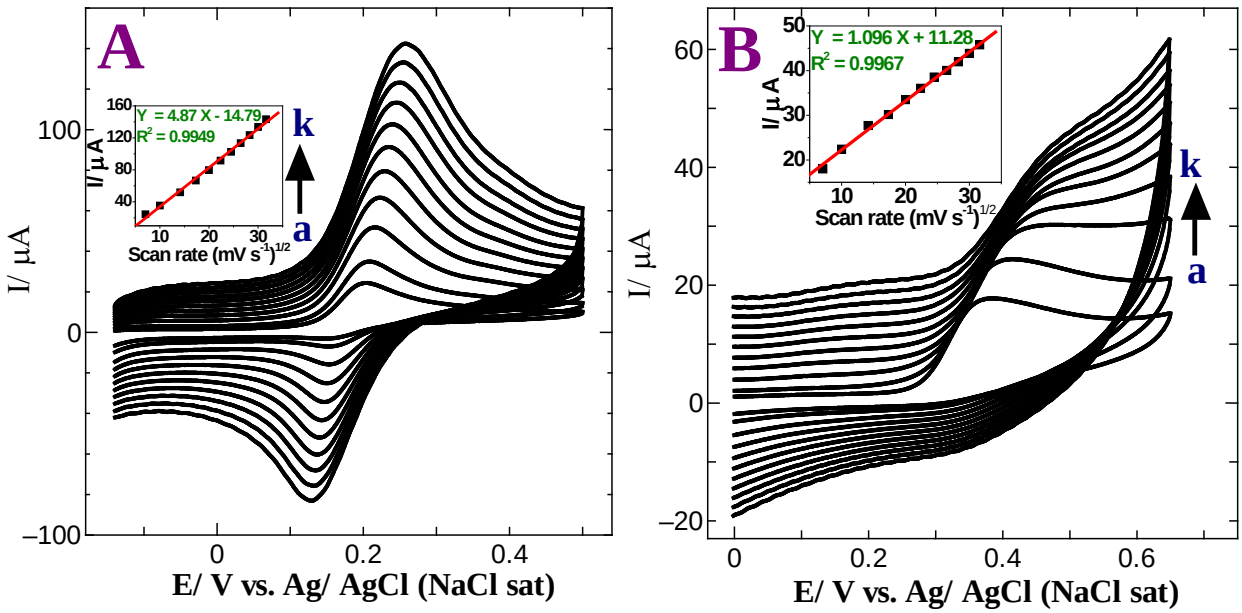


Fig. ES4 (A) CVs for 0.5 mM NEP at p-AMTa electrode in 0.2 M PB solution (pH 7.2) at different scan rates (a) 50 (b) 100 (c) 200 (d) 300 (e) 400 (f) 500 (g) 600 (h) 700 (i) 800 (j) 900 and (k) 1000 mV s^{-1}. **Inset:** Plot of the anodic peak current vs. square root of scan rate. **(B)** CVs for 0.5 mM 5-HT at p-AMTa electrode in 0.2 M PB solution (pH 7.2) at different scan rates (a) 50 (b) 100 (c) 200 (d) 300 (e) 400 (f) 500 (g) 600 (h) 700 (i) 800 (j) 900 and (k) 1000 mV s^{-1}. **Inset:** Plot of the anodic peak current vs. square root of scan rate.

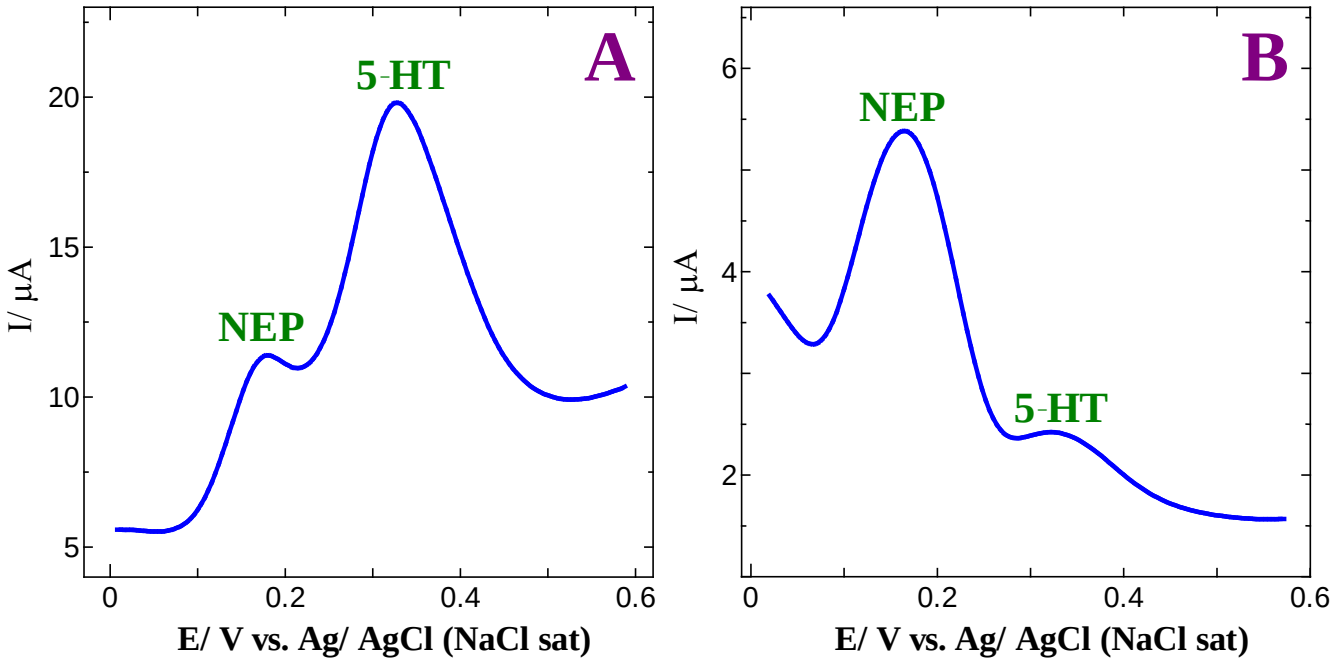


Fig. ES5 (A) DPV obtained for 15 µM NEP in the presence of 0.6 mM 5-HT at p-AMTa electrode in 0.2 M PB solution (pH 7.2). **(B)** DPV obtained for 5 µM 5-HT in the presence of 0.2 mM NEP at p-AMTa electrode in 0.2 M PB solution (pH 7.2). Pulse width = 0.06 s, amplitude = 0.05 V, sample period = 0.02 s and pulse period = 0.2 s.

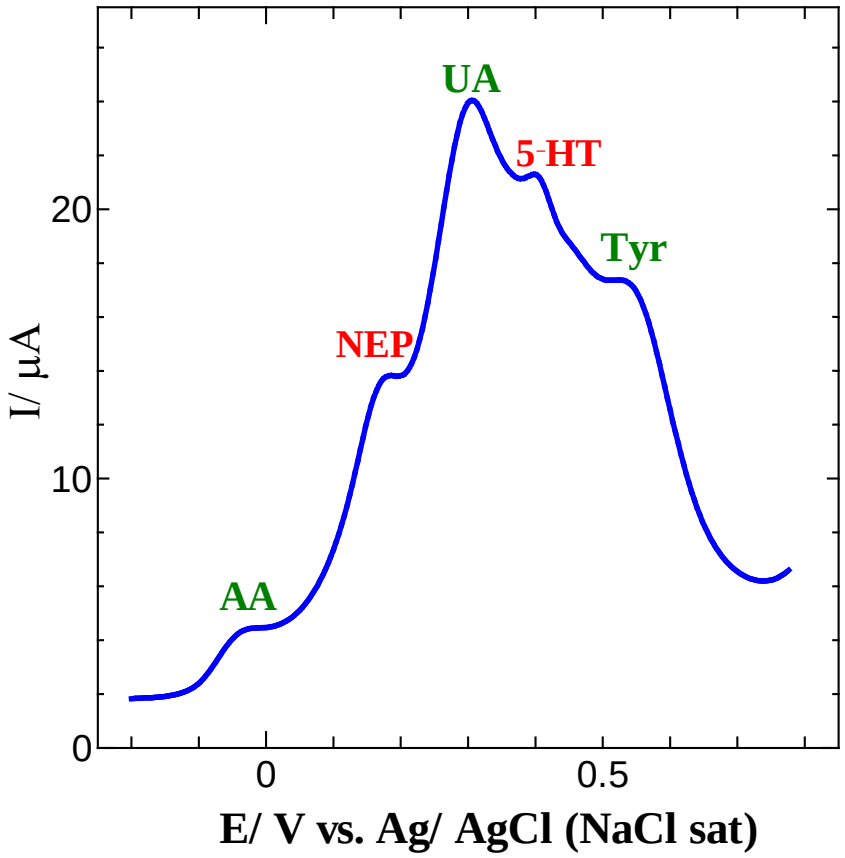
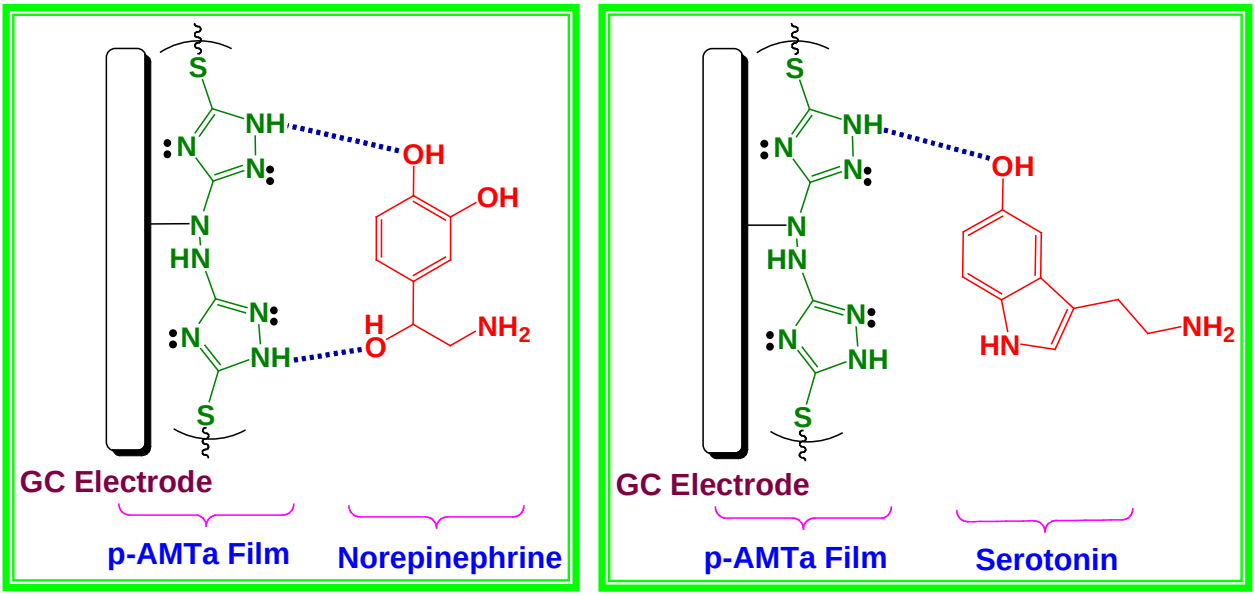


Fig. ES6. DPV obtained for 5 µM each NEP and 5-HT in the presence of 0.5 mM each AA, UA and Tyr at p-AMTa electrode in 0.2 M PB solution (pH 7.2). Pulse width = 0.06 s, amplitude = 0.05 V, sample period = 0.02 s and pulse period = 0.2 s.



Scheme ES1. Schematic representation for the hydrogen bonding interactions between p-AMTa film and norepinephrine and serotonin.