

Figure S1. CV characterization in  $\text{CH}_3\text{CN}/0.1 \text{ mol dm}^{-3} \text{ TEAPF}_6$  solvent system of a pRuTt film grown by scanning the potential in the range 0–1.3 V on a gold disk electrode. The two anodic peaks at 0.98 V and 1.2 V are ascribable to the polaron and bipolaron form, respectively, according to ref. [14].

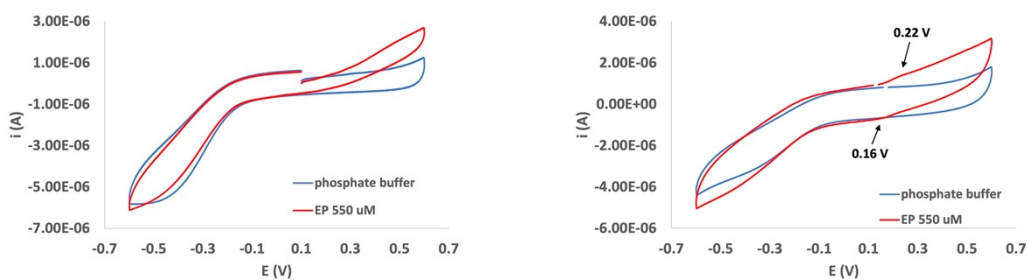


Figure S2. CV responses in absence (blue line) and presence (red line) of EP (500  $\mu\text{M}$ ) at Au/pRuTt electrode (on the left), and at Au/pRuTt/Tyr sensor (on the right).

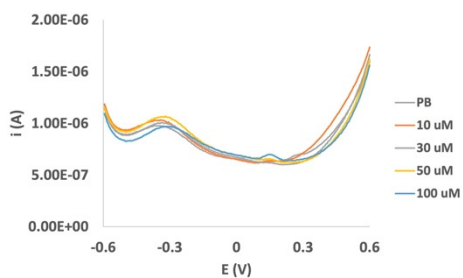


Figure S3. DPV responses of EP between 1 and 100  $\mu\text{mol dm}^{-3}$  in 0.1 M phosphate buffer (pH 7.0) at Au/pRuTt sensor.

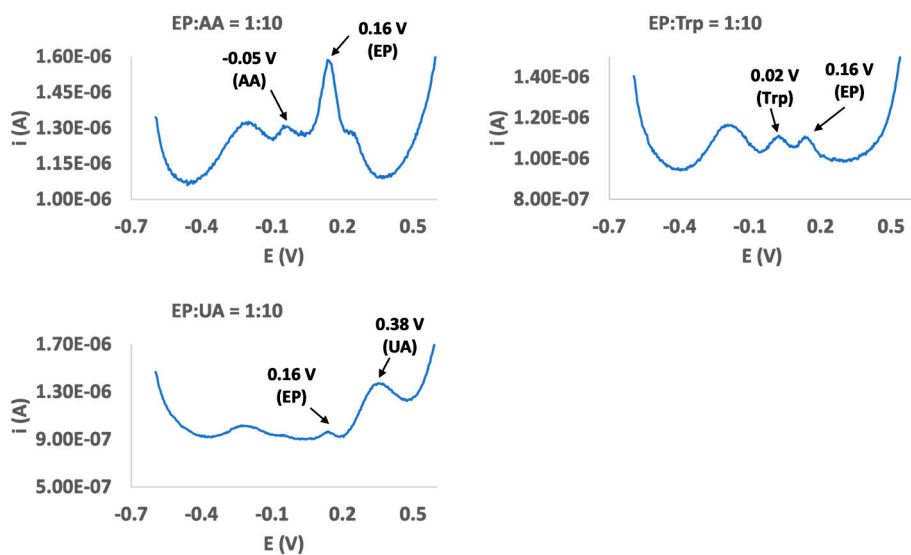


Figure S4. DPV curves of solutions containing EP:AA 1:10 (top left), EP:UA 1:10 (top right), EP:Trp 1:10 (bottom left) in  $0.1 \text{ mol dm}^{-3}$  phosphate buffer at Au/pRuTt/Tyr biosensor. Concentration of interfering analytes as in Figure 5.