Supporting information related to paper published in Analytical Chemistry: DIFFERENTIAL SQUARE-WAVE VOLTAMMETRY

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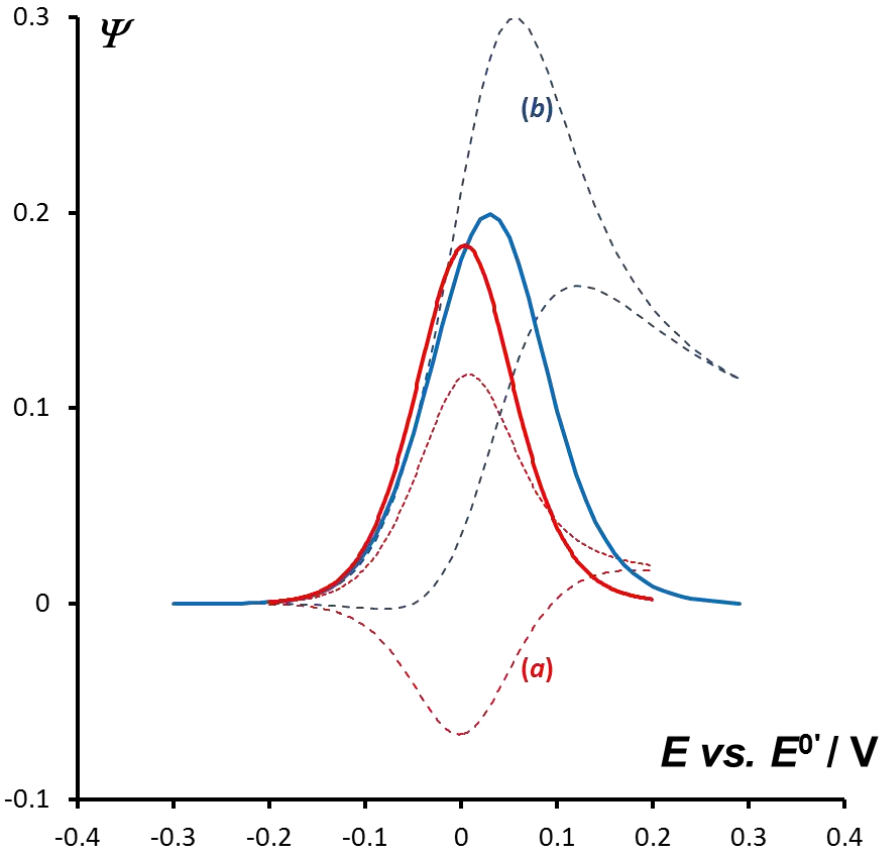

Figure S1. Voltammetric response of a sluggish electrode reaction (log(Λ) = −0.6) under conditions of **(a)** conventional SWV with the step potential ΔE = 10 mV

(blue lines) and **(*b*)** new technique with the step-to-pulse ratio r = 8 and the step potential ΔE = 1 mV (red lines). Other conditions are the same as for Figure 2.

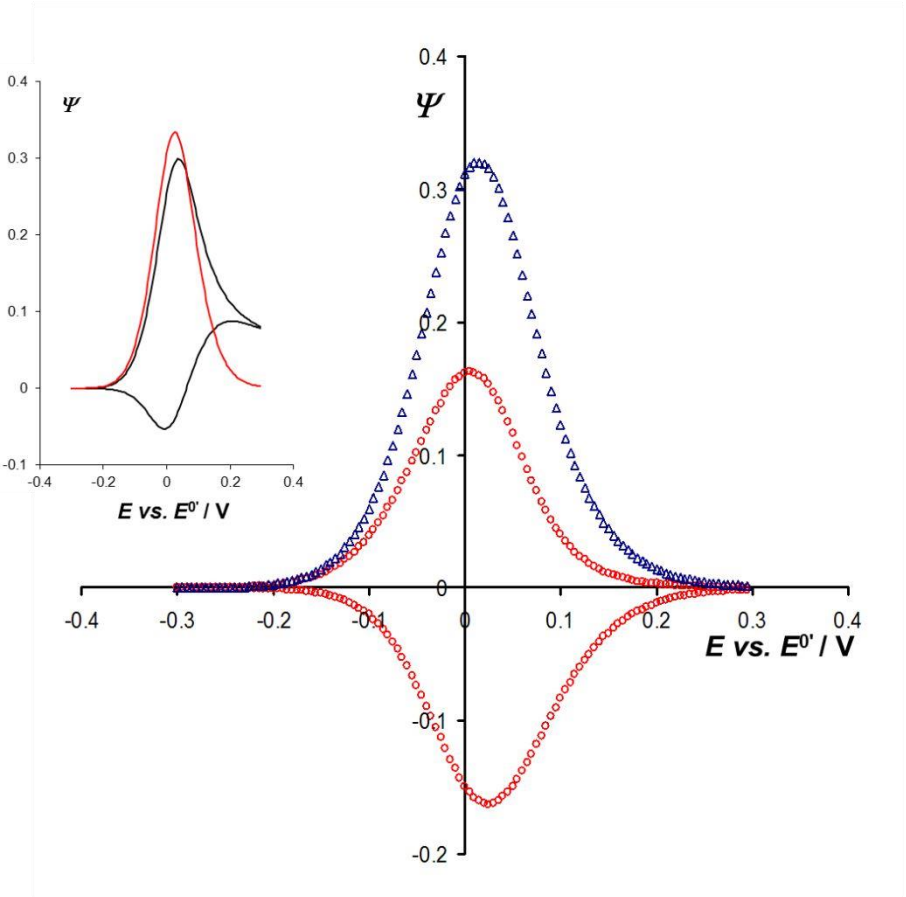

Figure S2. Typical response showing differential forward and backward components together with the net SW peak for the critical value of the electrode kinetic parameter Λ_c = 0.189. The peak current ratio between the differential forward and backward component is 1. The SW amplitude is E_{sw} = 50 mV, and the step-topulse ratio is r = 4. Other conditions are the same as for Figure 2. The inset shows the response of the conventional SWV under identical conditions.

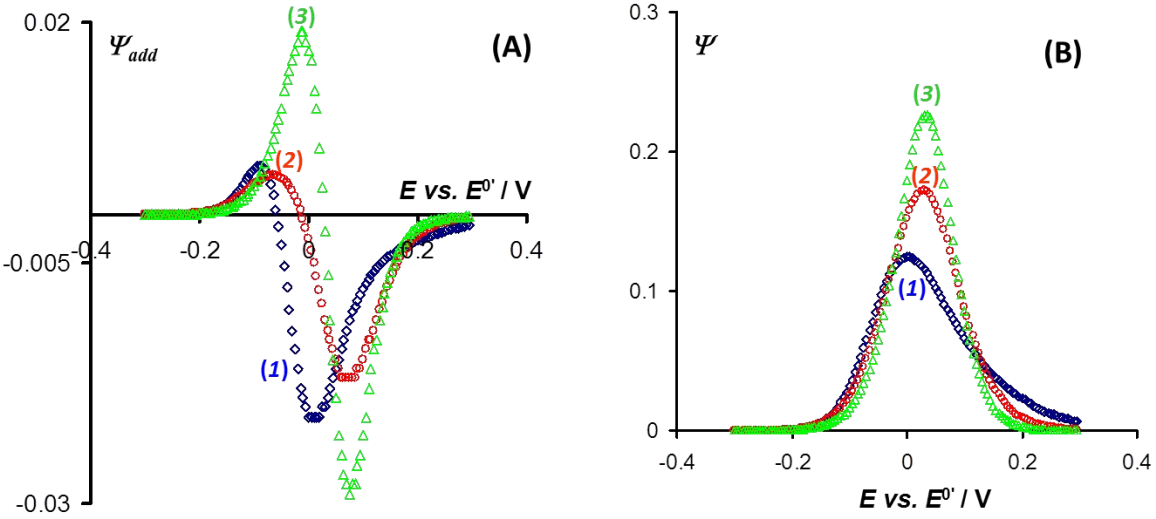

Figure S3. Comparison of **(A)** additive differential net components of the new technique with the **(B)** net component of conventional SWV for different values of the electron transfer coefficient α = 0.3 (***1***); 0.5 (***2***) and 0.7 (***3***). In panel **(A)**, the step-topulse ratio is r = 6. Electrode kinetic parameter is $\log(\Lambda) = -0.7$. Other conditions are the same as for Figure 2.

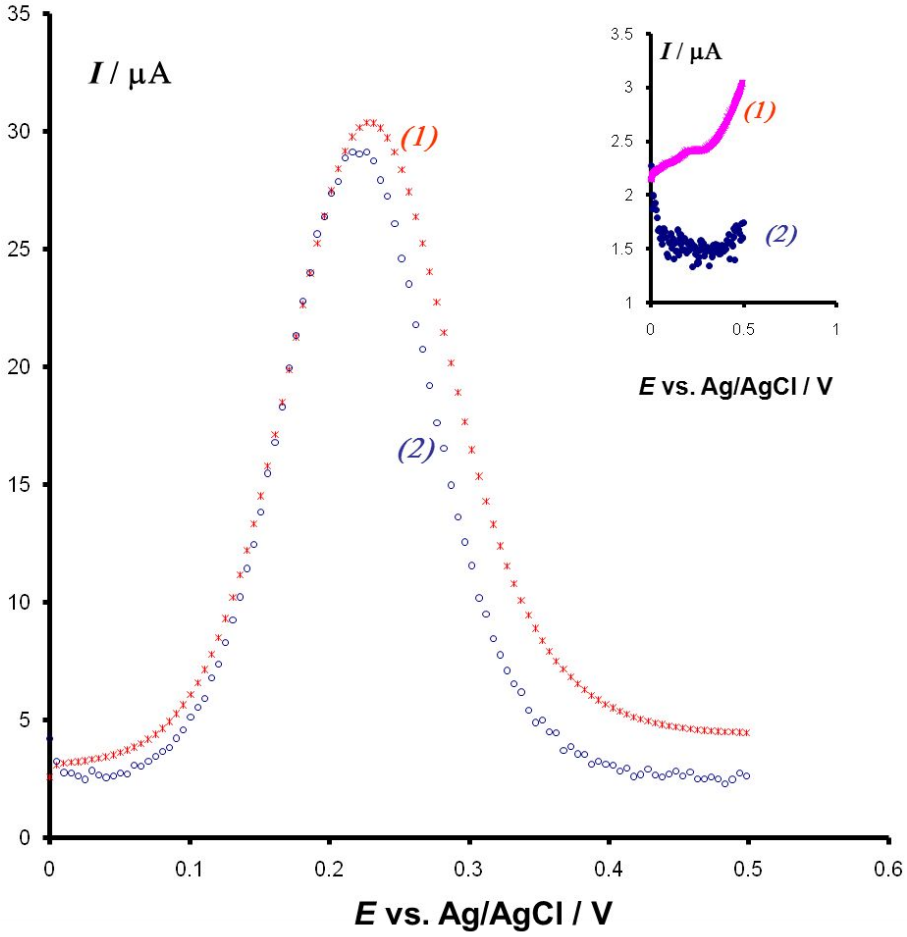

Figure S4. Net SW voltammograms of 0.5 mmol L^{-1} hexacyanoferrate(II) oxidation at glassy carbon electrode in a PBS buffer at pH 7.4 recorded with (***1***) conventional SWV and (***2***) the new technique characterized with the step-to-pulse ratio r = 1. Other conditions are SW frequency f = 25 Hz, SW amplitude E_{sw} = 25 mV and step potential ΔE = 5 mV. The inset shows the blank net voltammograms for (***1***) conventional SWV and (***2***) the new technique.

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