***Supplementary File***

# Critical Aspects in Exploring Time Analysis for the Voltammetric Estimation of Kinetic Parameters of Surface Electrode Mechanisms Coupled with Chemical Reactions


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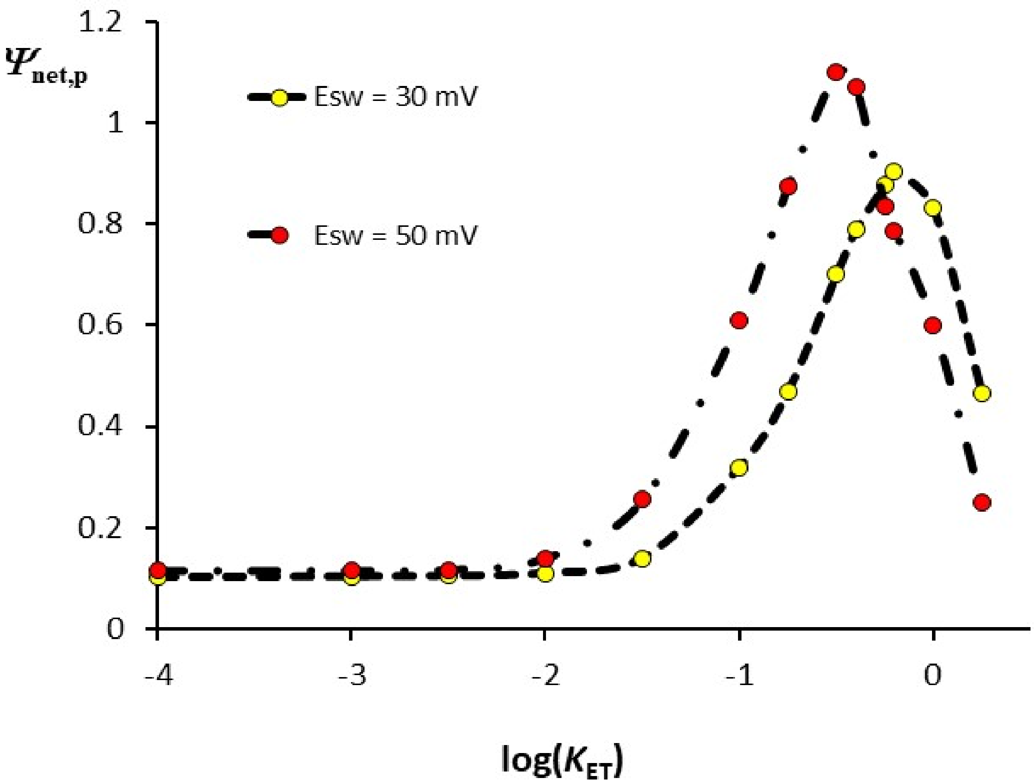


**Fig. S1**. *Simple surface electrode reaction*: Dependence of the net-peak current $\Psi_{net,p}$ on the logarithm of the dimensionless electrode kinetic parameter $K_{ET}$ (quasireversible maximum) simulated for two vales of the SW amplitude (the values are given in the plot). The simulation conditions are: electron transfer coefficient $\alpha$ = 0.5, the stoichiometric number of electrons $n$ = 2, temperature $T$ = 298 K, and step potential d$E$ = 4 mV.

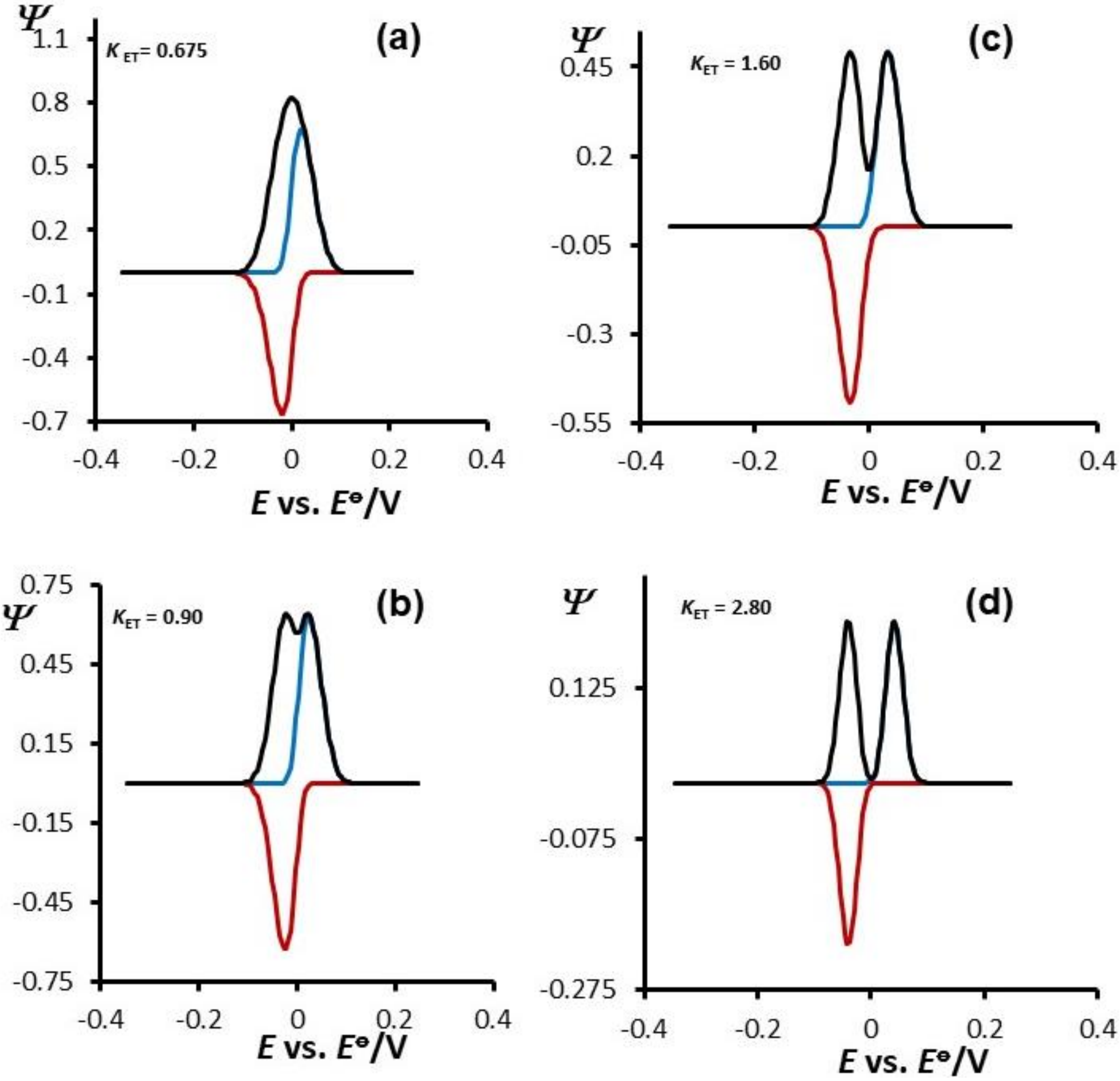


**Fig. S2.** *Simple surface electrode reaction*: The phenomenon of the net-peak splitting as a function of dimensionless electrode kinetic parameter $K_{ET}$ (the values are given in the plot), for the SW amplitude of $E_{sw}$ = 50 mV. Other conditions of the simulations are identical as for Fig. S1.

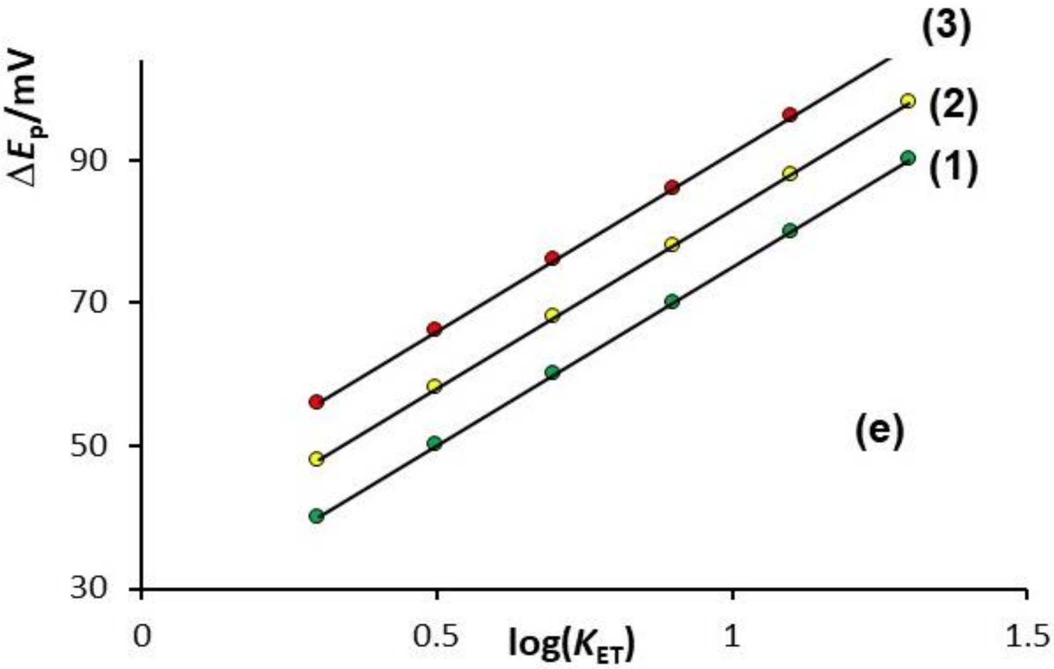


**Fig. S3.** *Simple surface electrode reaction*: The potential separation $\Delta E_p$ of the split net-peaks as a function of the logarithm of the dimensionless electrode kinetic parameter $K_{ET}$ for the SW amplitudes of $E_{sw}$ = 30 mV (***1***), 40 mV (***2***) and 50 mV (***3***). Other conditions of the simulations are identical as for Fig. S1

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