Access to Kinetics of Regenerative Reaction from Catalytic Wave in Square-Wave Voltammetry of an EC' mechanism

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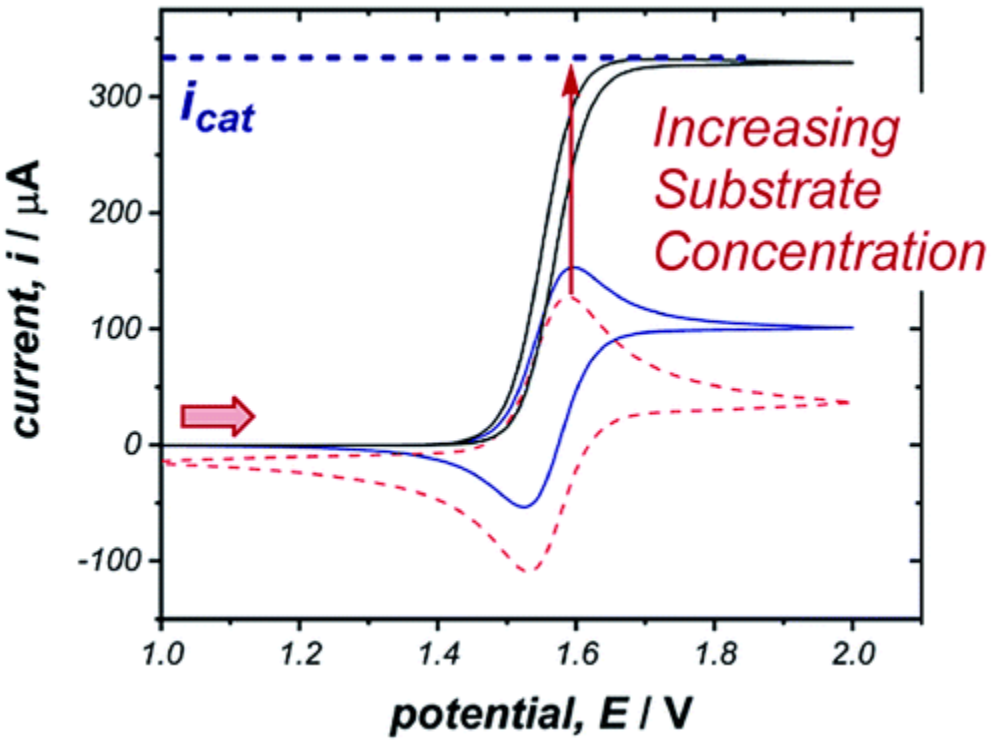
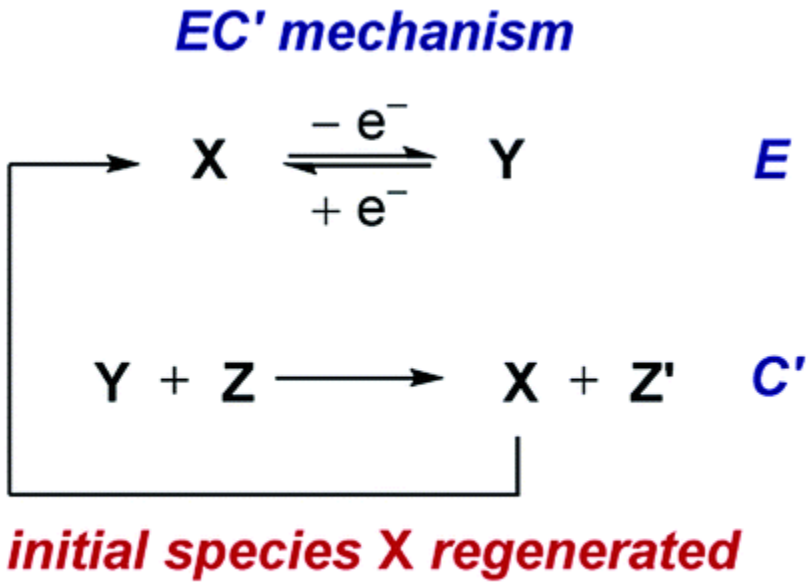
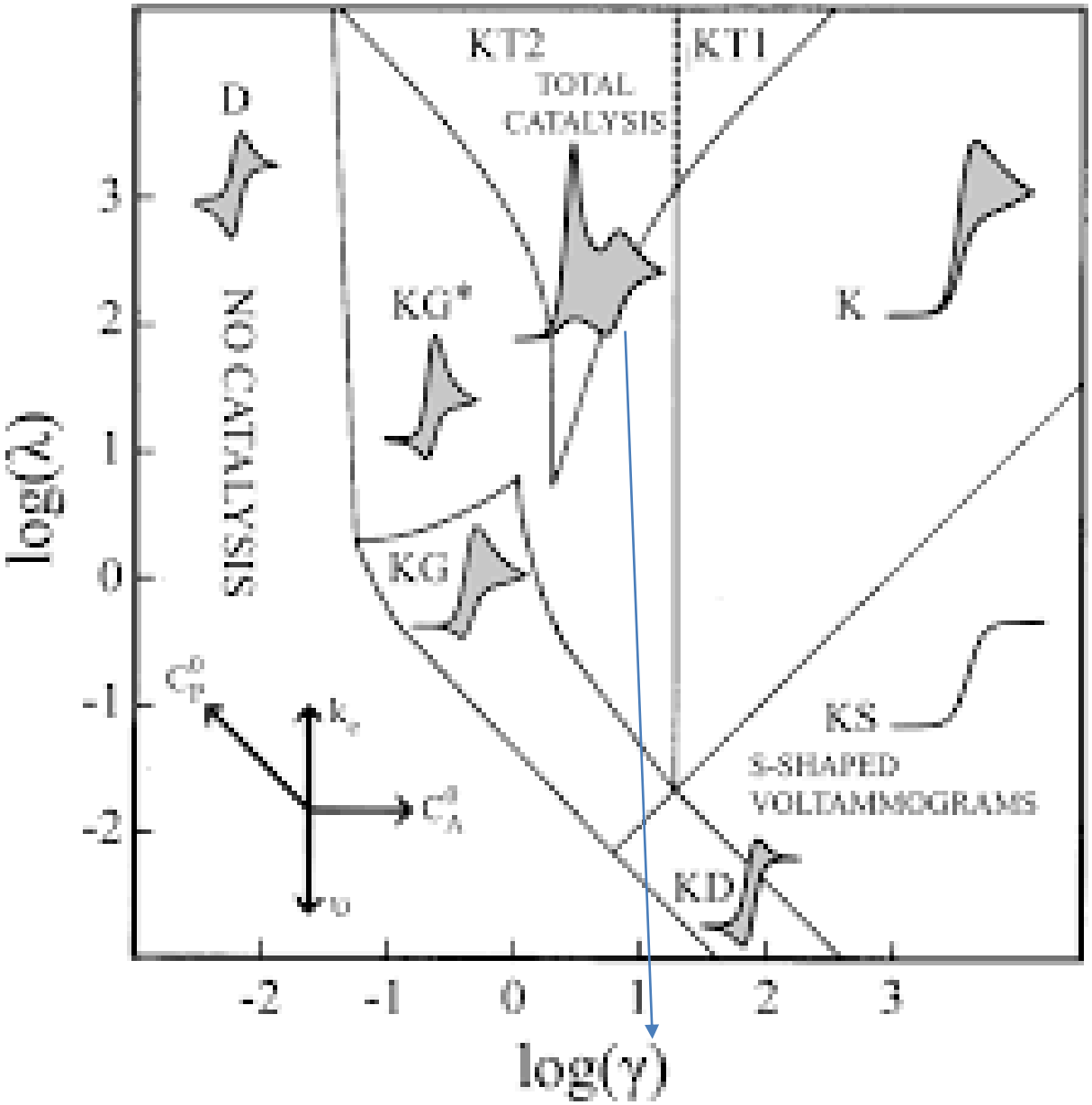
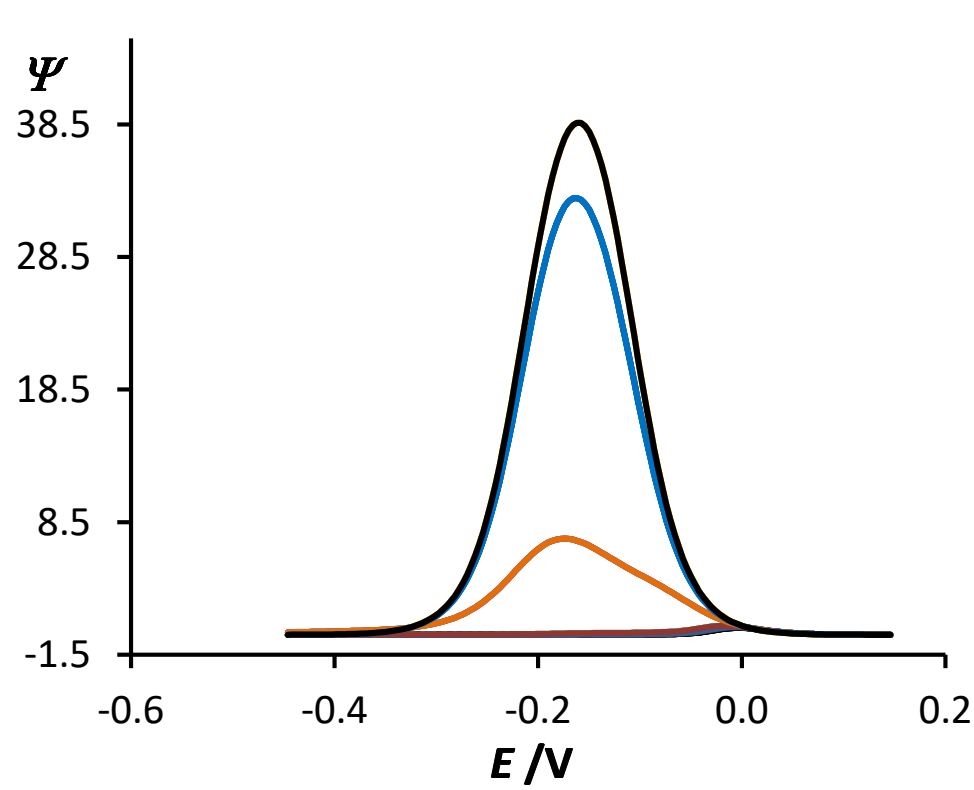


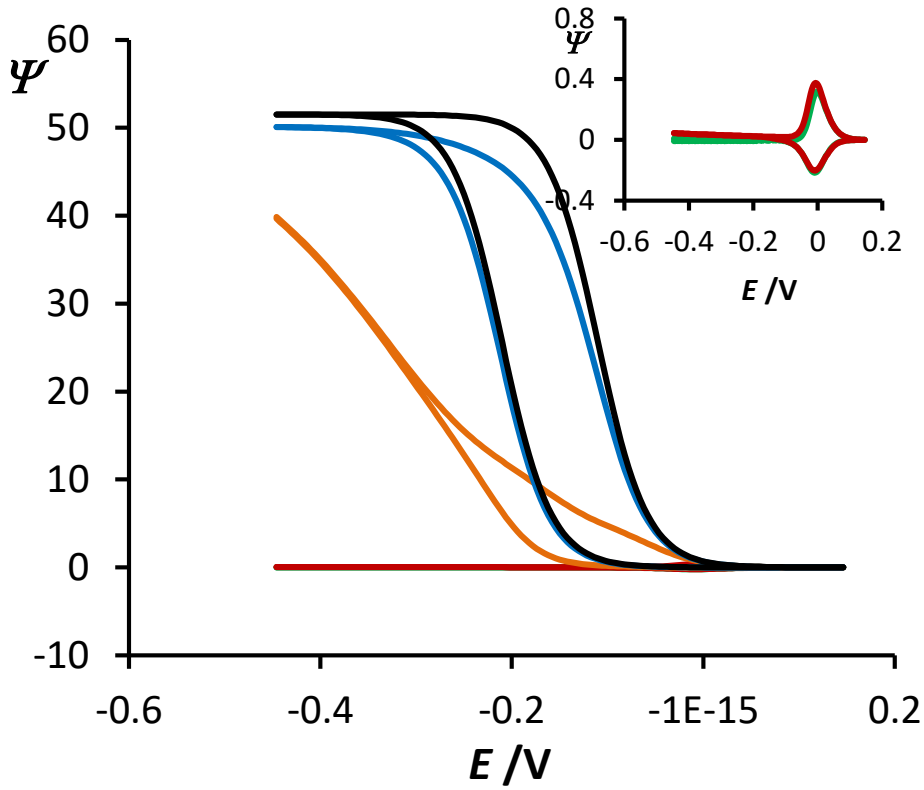




Cyclo Voltammetric Patterns of an EC' mechanism as a function of kinetics of Electron Transfer (ET) and kinetics of regenerative reaction

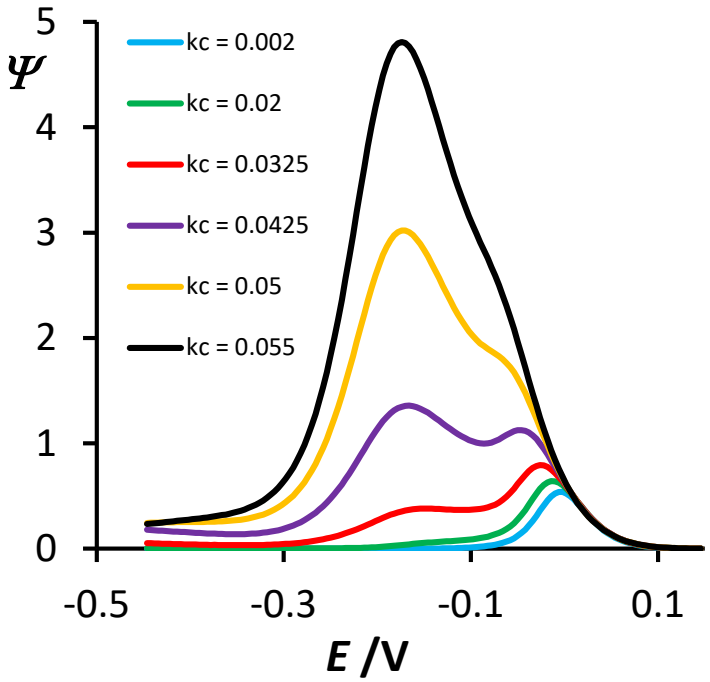
Square-wave voltammograms of an EC' Mechanism-Features as a function of Chemical Kinetic Parameter

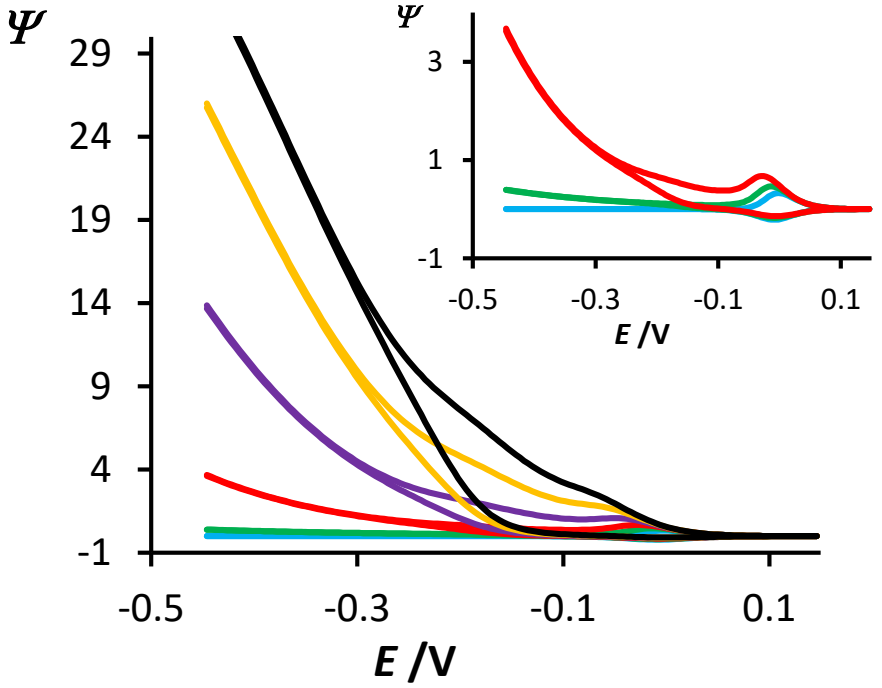




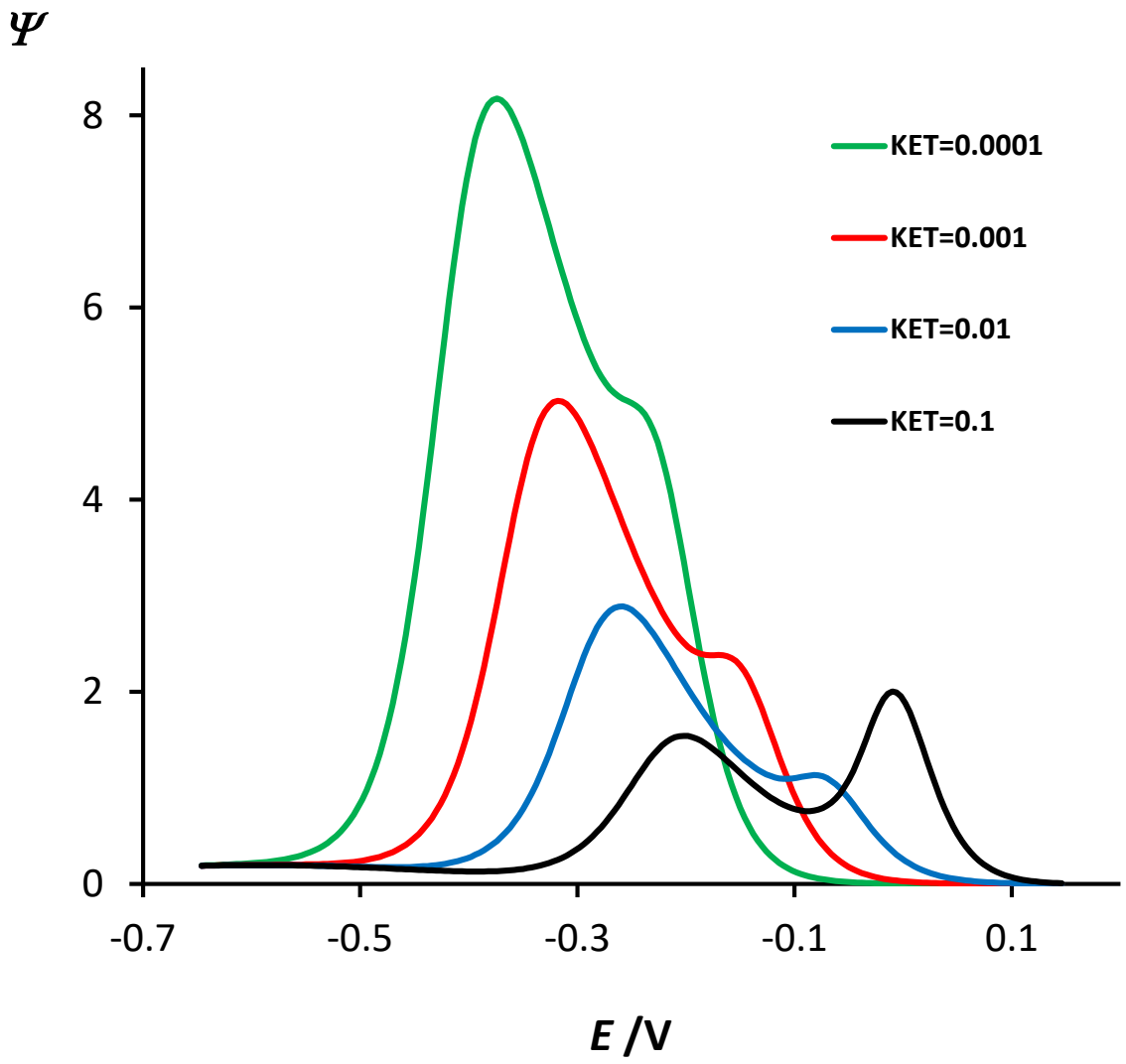
KET is 0.1, Esw is 50 mV, f = 10 Hz, dE = 4mV
Kcatalytic = 0.00001; 0.01; 0.1; 1 and 5

Effect of the chemical (regenerative) rate parameter “kc” to the
Feature of square-wave voltammograms---so-called catalytic post-wave appears
Only in a tiny region of kc i.e. 0.02 < kc < 0.05

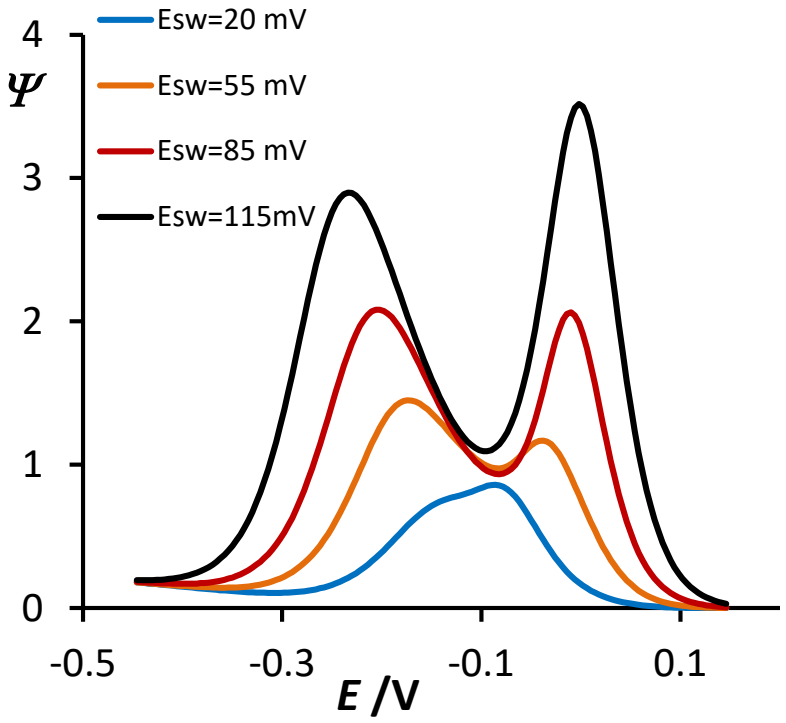


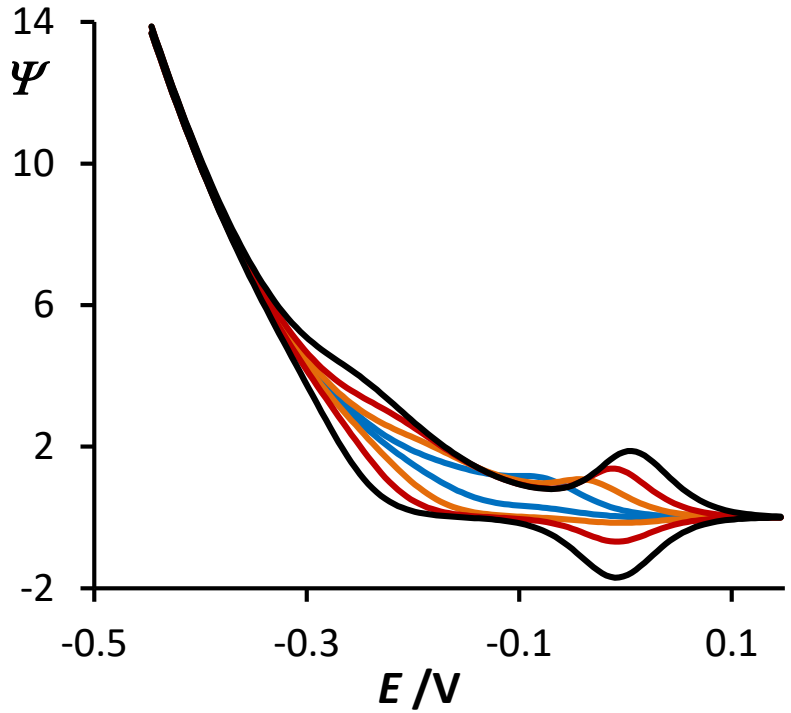


Ket = 0.1, Esw = 50 mV

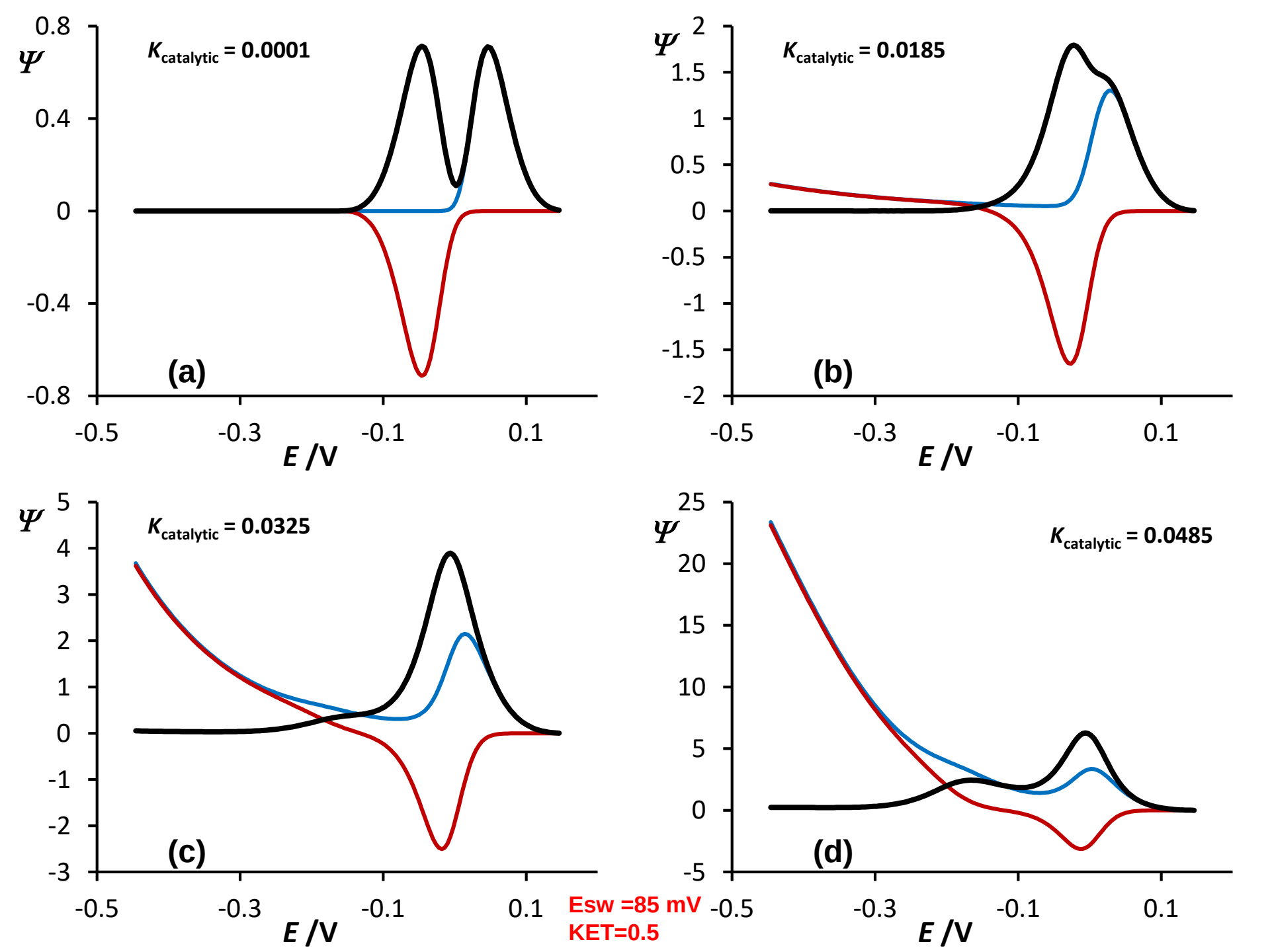


Kcatalytic is 0.485, Esw is 85 mV





Kc = 0.0425---tolku e bezdimenzionalniot parametar, KET = 0.1


Ψ
$K_{catalytic}$ = 0.0001
(a)
E /V
$K_{catalytic}$ = 0.0185
(b)
$K_{catalytic}$ = 0.0325
(c)
$K_{catalytic}$ = 0.0485
(d)
Esw =85 mV
KET=0.5

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