Investigation of one-step electrochemical deposition of graphene oxide doped poly (3, 4-ethylenedioxythiophene)-polyphenol oxidase for dopamine sensor

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Equations used in this work

Laviron's equation

$$I_p = nFQ\upsilon/4RT \text{ ------------------------------------- } (1)$$

$$I_p = 2.69 * 10^5 \, n^{3/2} \, A \, D^{1/2} \, C \, \upsilon^{1/2} \text{ ---------------------------- } (2)$$

$$\log k_s = \alpha \log (1-\alpha) + (1-\alpha) \log \alpha - \log (RT/nFv) - \{(1-\alpha) \, \alpha nF\Delta E/2.3RT\}^{15} \text{ --}(3)$$

Micheallis-Menten equation

$$V_0 = \frac{V_{max}[S]}{(K_M + [S])} \text{ ------------}(4)$$

Arrhenius equation

$$\ln k = \ln A - \frac{Ea}{RT} \text{ ------------}(5)$$

Table ST1. Determination of dopamine present in human urine.

S.No.	Sample	Dopamine Spiked [M]	Dopamine found [M]	Recovery (%)	Dopamine found by HPLC [M]	Recovery (%)
1.	Human urine	1×10^{-6} 1×10^{-7}	0.99×10^{-6} 1.03×10^{-7}	99 103	0.98×10^{-6} 1.02×10^{-7}	98 102
2.	Human urine	1×10^{-6} 1×10^{-7}	0.99×10^{-6} 1.01×10^{-7}	99 101	1.01×10^{-6} 1.03×10^{-7}	101 103
3.	Human urine	1×10^{-6} 1×10^{-7}	1.01×10^{-6} 1.04×10^{-7}	101 104	1.02×10^{-6} 1.05×10^{-7}	102 105