Supplementary data for article:

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SUPPLEMENTARY INFORMATION

Mercury-free and modification-free electroanalytical approach towards bromazepam and alprazolam sensing: A facile and efficient assay for their quantification in pharmaceuticals using boron-doped diamond electrodes

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Table S1

The pH effect of BR buffer on the peak current density (J_{BZ} and J_{ALZ}) for the studied BDZs (1×10^{-4} mol/L) using DPV on BDDEs with various B/C ratio. The DPV parameters: modulation amplitude of 50 mV, modulation time of 80 ms, and scan rate of 25 mV/s.

BDDE type with B/C ratio	**BZ**		**ALZ**	
	Optimal pH of BR buffer	**J_{BZ} (μA/mm^2)**	**Optimal pH of BR buffer**	**J_{ALZ} (μA/mm^2)**
Commercial 1000 ppm	8	–0.064	**5**	**–0.686**
L-M 1000 ppm	**11**	**–0.329**	3	–0.271
L-M 2000 ppm	4	–0.152	-	-
L-M 4000 ppm	5	–0.253	7	–0.128
L-M 8000 ppm	11	–0.255	5	–0.165

Table S2

The optimized DPV operating parameters for the individual determination of 1×10^{-4} mol/L BZ and ALZ.

BDZ	Modulation amplitude value (mV)		Modulation time value (ms)	
	Studied range	Optimized	Studied range	Optimized
BZ	10 – 150	50	10 – 150	25
ALZ		100		50

Fig. S1

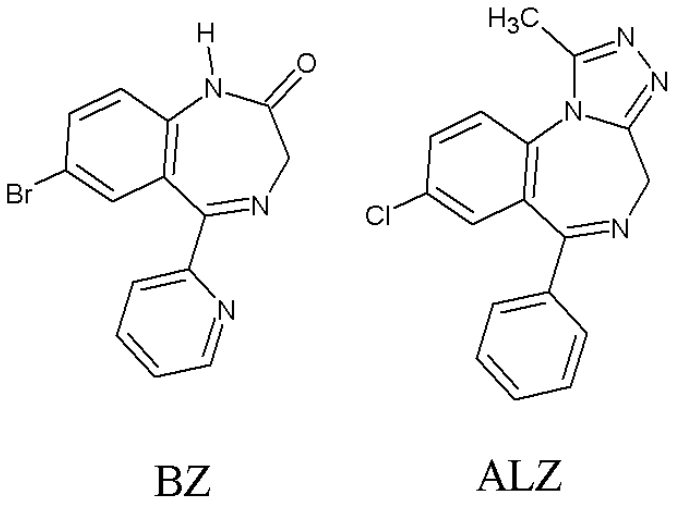

Fig. S1

Chemical structures of Bromazepam (BZ) and Alprazolam (ALZ).

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Fig. S2

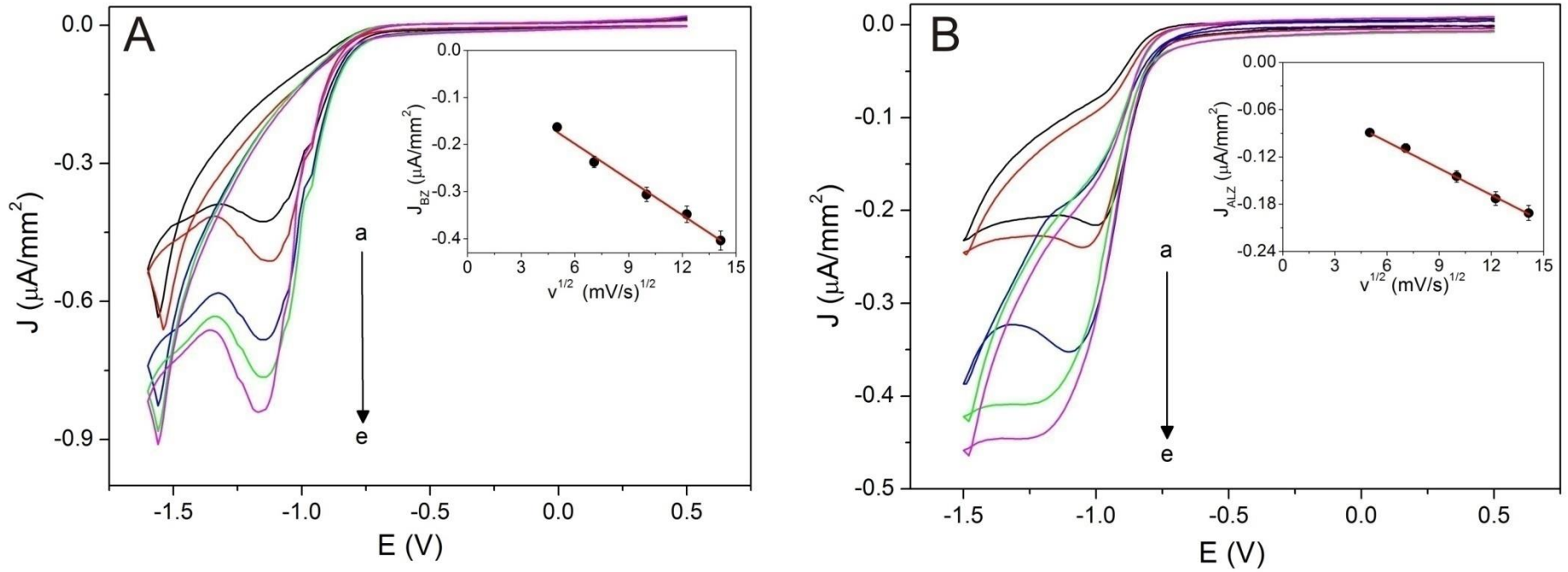

Fig. S2

(A) CV records of 1×10^{-4} mol/L BZ in BR buffer of pH 11 on L-M BDDE of 1000 ppm B/C for various scan rates: (a) 25, (b) 50, (c) 100, (d) 150 and (e) 200 mV/s. The dependence between the BZ current density (J_{BZ}) and the square root of the scan rate ($v^{1/2}$) with corresponding error bars appears in the inset.

(B) CV records of 1×10^{-4} mol/L ALZ in BR buffer of pH 5 on commercial BDDE of 1000 ppm B/C for various scan rates: (a) 25, (b) 50, (c) 100, (d) 150 and (e) 200 mV/s. The dependence between the ALZ current density (J_{ALZ}) and the square root of the scan rate ($v^{1/2}$) with corresponding error bars appears in the inset.

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