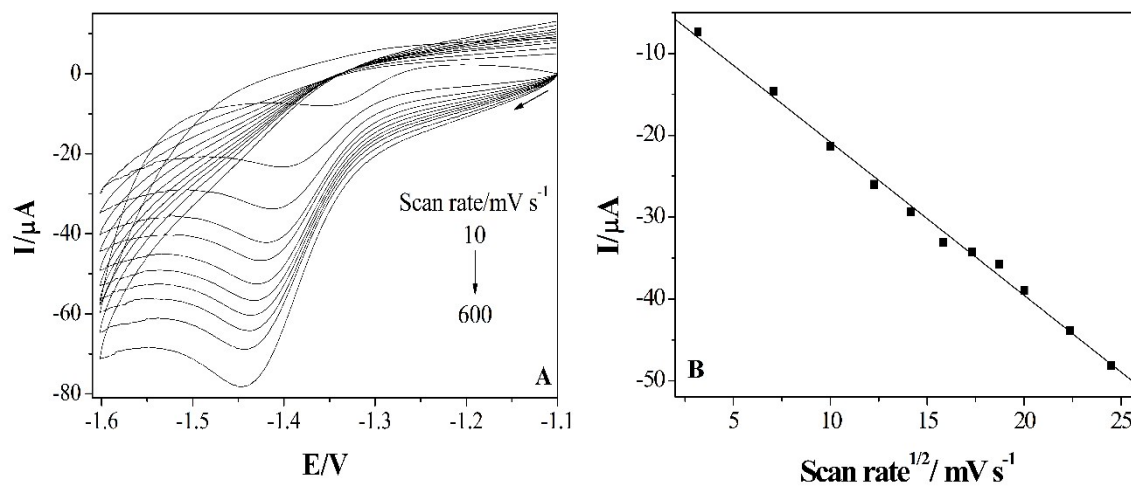


### SUPPLEMENTARY INFORMATIONS

**Table S1.** Scan rate effect in the electrochemical parameters of  $1.0 \times 10^{-3}$  mol L<sup>-1</sup> furfural in LiOH 0,1 mol L<sup>-1</sup> on the surface of NiNPs/GCE by cyclic voltammetry.

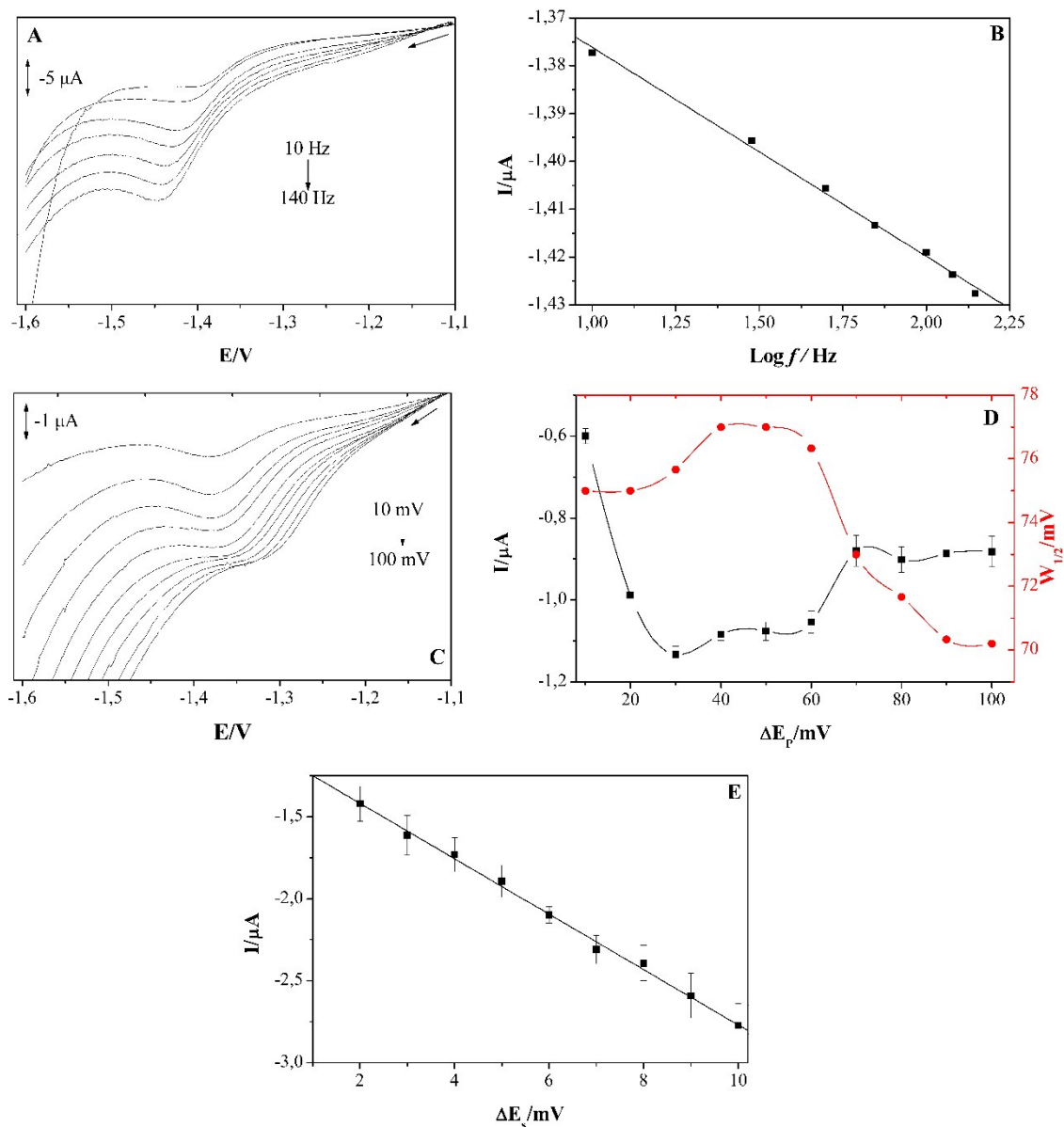
Scan rate / mV s <sup>-1</sup>	Furfural		
	E <sub>pc</sub> / V	I <sub>pc</sub> / μA	E <sub>p</sub> -E <sub>p/2</sub> (V)
10	-1,35	-7,41	-0,047
50	-1,40	-14,6	-0,058
100	-1,41	-21,3	-0,058
150	-1,41	-26,0	-0,058
200	-1,42	-29,3	-0,062
250	-1,42	-33,1	-0,058
300	-1,43	-34,3	-0,061
350	-1,43	-35,7	-0,062
400	-1,43	-38,9	-0,060
500	-1,44	-43,9	-0,063
600	-1,44	-48,2	-0,063



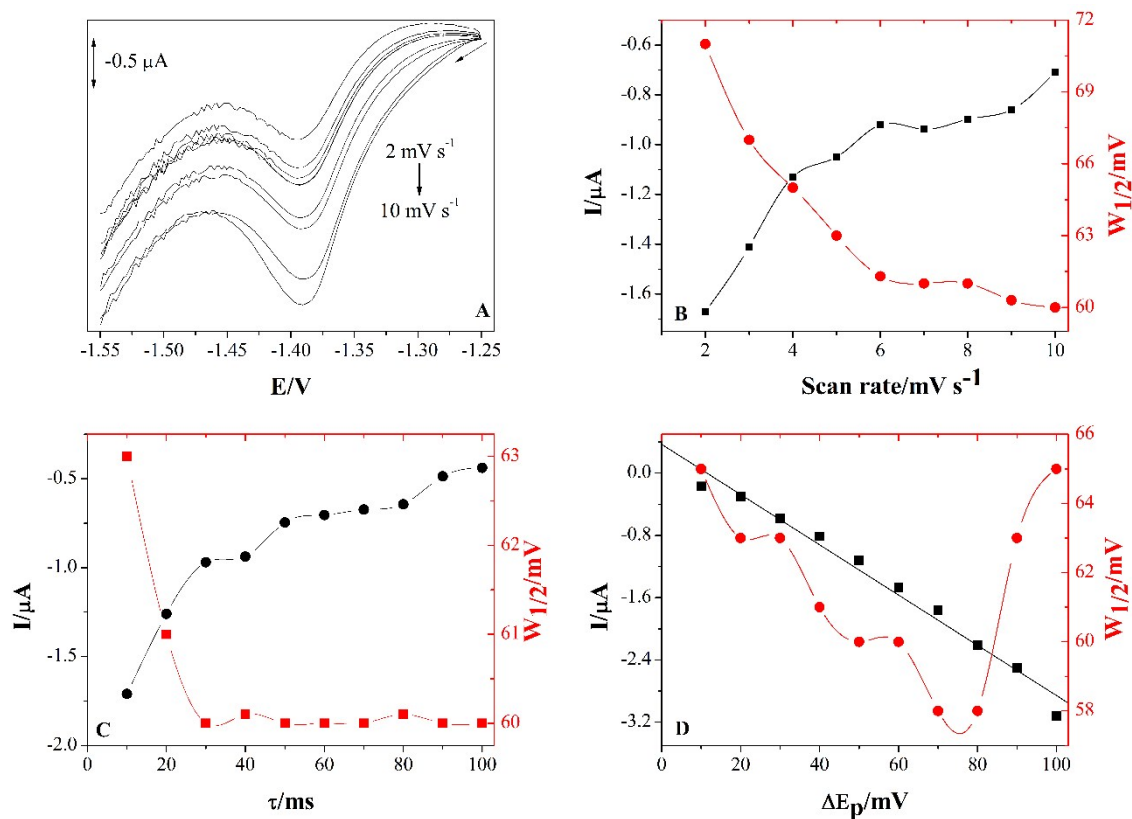
**Fig. S1.** Linear sweep voltammograms of  $1.0 \times 10^{-3} \text{ mol L}^{-1}$  furfural in  $0.1 \text{ mol L}^{-1}$  LiOH solution (A). Dependency of cathodic peak currents on the square root of the scan rate (B).

**Table S2.** Scan rate effect in the electrochemical parameters of  $1.0 \times 10^{-3}$  mol L<sup>-1</sup> furfural in LiOH 0,1 mol L<sup>-1</sup> on the surface of NiNPs/GCE by linear sweep voltammetry.

Scan rate / mV s <sup>-1</sup>	Furfural			
	E <sub>pc</sub> / V	I <sub>pc</sub> / μA	W <sub>1/2</sub>	E <sub>p</sub> -E <sub>p/2</sub> (V)
10	-1,41	-6,72	0,103	-0,043
50	-1,44	-13,5	0,109	-0,046
100	-1,45	-22,2	0,115	-0,048
150	-1,45	-26,2	0,117	-0,048
200	-1,46	-30,7	0,119	-0,047
250	-1,46	-34,7	0,121	-0,050
300	-1,47	-37,9	0,121	-0,051
350	-1,47	-40,0	0,121	-0,052
400	-1,47	-44,8	0,123	-0,050
450	-1,47	-47,6	0,125	-0,051
500	-1,48	-49,5	0,123	-0,050



**Fig. S2.** (A) Square wave voltammograms of frequency ( $f$ ) study. (B) Effect of the logarithm of  $f$  ( $\log f$ ) on the current cathodic peak. (C) Voltammograms of the effect of pulse potential amplitude in the (D) current cathodic peak and width at half height. (E) Effect of potential scan increments in the current cathodic peak. Conditions: Furfural =  $2.0 \times 10^{-5} \text{ mol L}^{-1}$  in LiOH  $0.1 \text{ mol L}^{-1}$ ; A and B)  $\Delta E_p = 20 \text{ mV}$  and  $\Delta E_s = 2 \text{ mV}$ ; C and D)  $\Delta E_s = 2 \text{ mV}$  and  $f = 60 \text{ Hz}$ ; and E)  $f = 60 \text{ Hz}$  and  $\Delta E_p = 20 \text{ mV}$ .



**Fig. S3.** Differential pulse voltammograms of scan rate study (A). Scan rate (B), pulse time (C) and pulse potential amplitude (D) effects on the current cathodic peak and width at half height. Conditions: Furfural =  $2.0 \times 10^{-5} \text{ mol L}^{-1}$  in LiOH  $0.1 \text{ mol L}^{-1}$ ; A and B)  $\tau = 50 \text{ ms}$  and  $\Delta E_p = 50 \text{ mV}$ ; C)  $v = 2 \text{ mV s}^{-1}$  and  $\Delta E_p = 50 \text{ mV}$ ; and D)  $v = 2 \text{ mV s}^{-1}$  and  $\tau = 40 \text{ ms}$ .