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Ultrafine Pt-Ni bimetallic nanoparticles anchored on reduced graphene oxide nanocomposites for boosting electrochemical detection of dopamine in biological samples"

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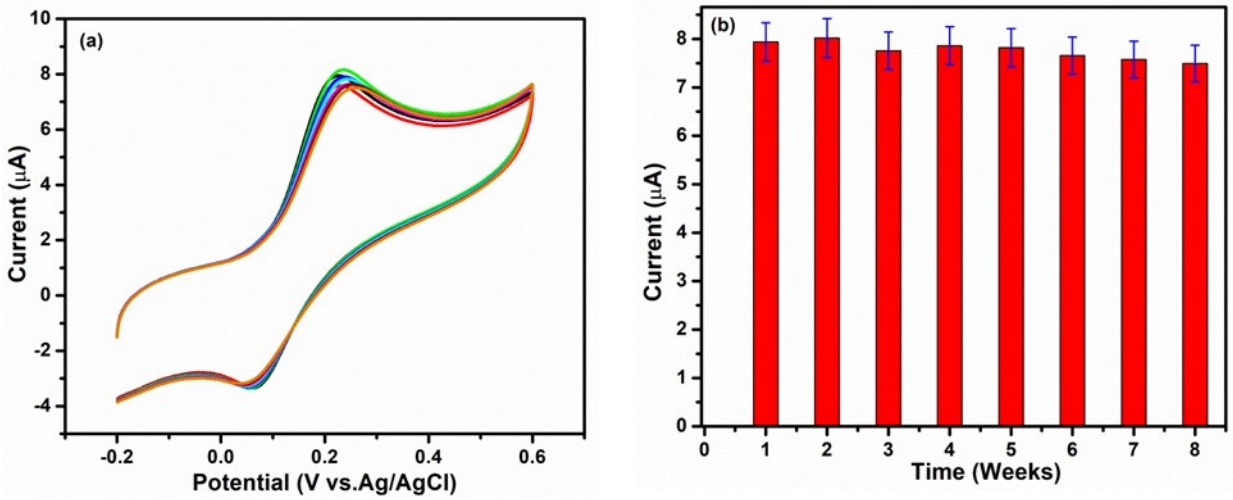

Figure S1. (a) CV response of four Pt-Ni/rGO/GCE electrodes for detection of 100 μM of DA in PBS solution (pH 7.0) for eight weeks, (b) calibrated histograms stability test.

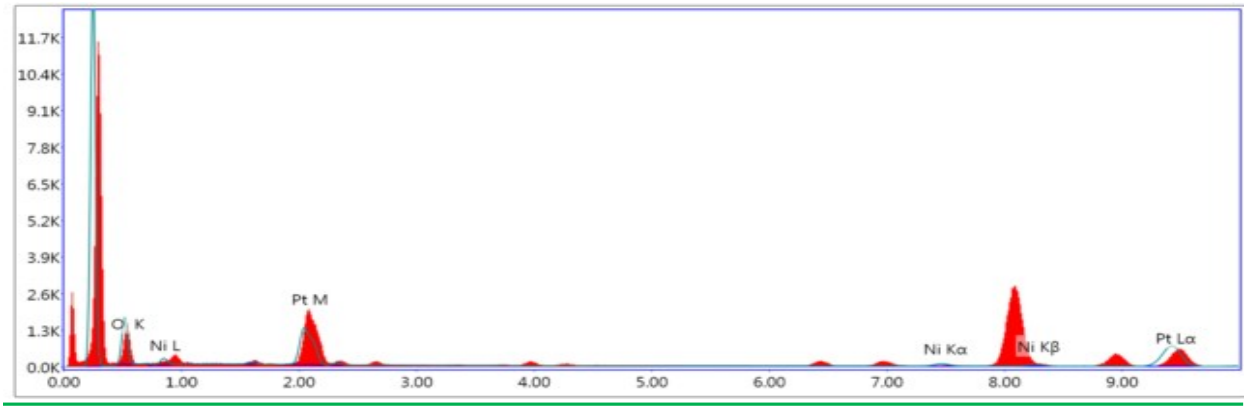

Figure S2. EDS spectra of Pt-Ni/rGO nanocomposite.

Table S1. Comparison of analytical performance of the Pt-Ni/rGO/GCE modified electrode with other nanomaterials prepared for dopamine detection reported previously in literature.

Electrode	Linear range (µM)	LOD (µM)	Ref
ERGO–FA/GCE	0.6–1000	0.19	[1]
L-arginine/CPE	50–100	0.5	[2]
AuNP/PAN electrodes	1–100	0.91	[3]
rGO	5–200	2	[4]
Graphene	4–100	2.64	[5]
CPE(SDS) micelles	8–134	3.70	[6]
Graphene nanosheet	4–52	0.6	[7]
pyrolytic carbon films	18–270	2.3	[8]
P-4-ABA	5–100	1.0	[9]
EPPGE-SWCNT-Fe_2O_3	3.2–31.8	0.36	[10]

GCE–PEDOT–PANS	2–10	0.5	[11]
CPE–cobalt salophen	1–100	0.5	[12]
GCE Poly caffeic acid	1–40	0.4	[13]
ZnO–RGO/GCE	0.1–100 200–1800	0.063	[14]
CS/GCE	20–150	0.7	[15]
IL–graphene/GCE	1–100	0.5	[16]
Pt- Ni/rGO/GCE	0.01–0.1 5–100	0.0026 0.04	This work

Table S2. Interferences of some foreign species on the simultaneous determination of 100 μM of DA, 150 μM of APAP and 250 μM of ET at the Pt-Ni/rGO/GCE modified electrode.

Interferents	Concentration (μM)	Current ratio (%)		
		DA	APAP	ET
Zn^{2+}, Mg^{2+}, Ca^{2+}, NO_3^-	5000	97.4 ~ 102.3	98.0 ~ 99.6	96.0 ~ 100.8
glucose	5000	101.2	100.4	99.3
cysteamine	5000	98.1	102.8	100.5
glutathione	250	100.4	97.5	102.7
folic acid	250	99.2	101.3	100.4
L-cysteine	250	98.3	102.4	103.5

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