

An enzyme free simultaneous detection of γ -amino-butyric acid and testosterone based on copper oxide nanoparticles

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Electronic supplementary materials (ESM)

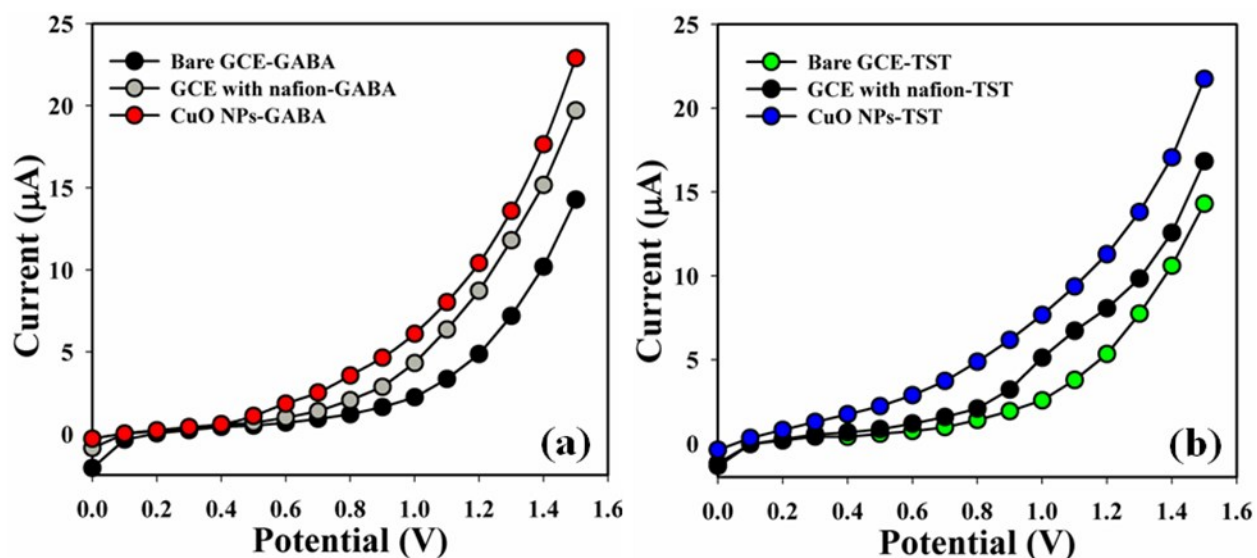


Fig. S1 Control experiment of (a) GABA and (b) Testosterone

Table S1 Evaluation of CuO NPs sensor performance (GABA and Testosterone)

BM	Replicates	Current (μA)	Reproducibility (%)		Current (μA)	Repeatability (%)	
			Individual	Average		Individual	Average
GABA	1	1.49	100		0.68	100	
	2	1.11	75		0.63	93	
	3	0.80	54	55	0.59	87	89
	4	0.56	38		0.60	88	
	5	0.32	22		0.59	87	
	6	0.64	43		0.54	79	
Testosterone	1	1.18	100		2.09	100	
	2	0.50	42		1.98	95	
	3	0.39	33	61	1.97	94	98
	4	0.55	47		2.09	100	
	5	1.15	98		2.09	100	
	6	0.52	44		2.07	99	

Reproducibility and repeatability of GABA and Testosterone of replicate 1 has been considered to be 100 %

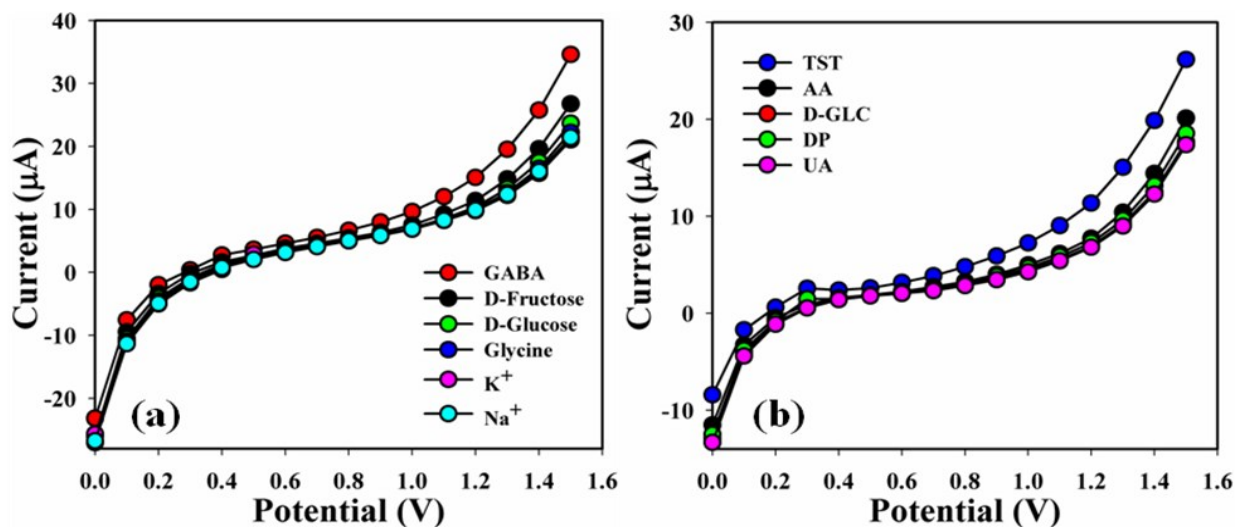


Fig. S2 Interference effect examination (a) GABA and (b) TST

Table S2 Interference effect examination towards GCE/CuO NPs sensor

BM	IA	Observed current (μA)				IE (%)	SD (n = 3)	RSD (%) (n = 3)
		R1	R2	R3	Average			
GABA	GABA	5.42	4.41	4.08	4.64	100	0.70	15.06
	D-FRCT	4.10	3.71	3.63	3.81	82	0.25	6.59
	D-GLC	3.64	3.41	3.47	3.51	76	0.12	3.40
	Glycine	3.54	3.15	3.06	3.25	70	0.26	7.85
	K ⁺	3.37	2.90	3.43	3.23	70	0.29	8.98
	Na ⁺	3.49	2.97	2.98	3.15	68	0.30	9.45
Testosterone	TST	4.22	2.81	2.45	3.16	100	0.94	29.60
	AA	2.53	2.12	2.07	2.24	71	0.25	11.27
	D-GLC	2.15	1.85	2.10	2.03	64	0.16	7.90
	DP	2.37	2.04	2.08	2.16	68	0.18	8.32
	UA	2.10	2.02	2.01	2.04	65	0.05	2.41