Supporting information

Nonenzymatic Oxalic Acid Sensor Using Platinum Nanoparticles Modified on Graphene Nanosheets

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Supplementary Results

Table S1 Summary of oxidation potential peak (E_p), current peak (I_p), electrochemical active surface areas (ECSAs) and current density (j) of OA on different electrodes.

Table S2 Comparison of different OA sensors in terms of LOD and linear range.

Table S3 Recovery data for spinach samples added with different OA concentrations.

Table S1 Summary of oxidation potential peak (E_p), current peak (I_p), electrochemical active surface areas (ECSAs) and current density (j) of OA on different electrodes.

Electrodes	E_p (V vs SCE)	I_p (mA)	ECSAs (cm^2)	j (mA cm^{-2})
GNs	1.45	0.73	--	--
PtNFs	0.85	0.82	0.21	3.91
PtNPGNs	1.05	1.17	0.18	6.50
PtC	1.03	0.48	0.17	2.82

Table S2 Comparison of different OA sensors in terms of LOD and linear range.

OA sensor	LOD[a] (µM)	Linear range (mM)	References
Rh(Pc)/C[b]	1.0	~0.3	[1]
SiO$_2$/C/CoPc[c]	0.58	0.0398~ 0.046	[2]
MWNTs	12	0.05~ 150	[3]
PdNPs/PAMAM/MWNTs[d]	20	0.03~5.0	[4]
PdNPs/CNF[e]	200	0.2~13; 13~45	[5]
EG-PS[f]	50	0.5~3	[6]
PtNPGNs	10	0.1-15; 15-50	This work

[a]LOD: the limit of detection;

[b]Rh(Pc)/C: Rhodium phthalocyanin/C;

[c]SiO$_2$/C/CoPc: SiO$_2$/C/cobalt phthalocyanine;

[d]PdNPs/PAMAM/MWNTs: Palladium nanoparticles/polyamidoamine/MWNTs;

[e]PdNPs/CNF: Palladium nanoparticle/carbon nanofiber;

[f]EG-PS: Exfoliated graphite-polystyrene.

Reference

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Table S3 Recovery data for spinach samples added with different OA concentrations.

Sample	No.	Amount (mM)	Added (mM)	Found (mM)	Recovery (%)	R.S.D.[d] (%)
1[a]	1	2.32	1.00	3.35	103.0	5.31
	2	2.27	2.00	4.25	99.0	4.57
	3	2.41	4.00	6.48	101.8	3.14
2[b]	1	2.05	1.00	3.10	105.0	4.89
	2	1.89	2.00	3.94	102.5	3.90
	3	1.93	4.00	6.02	102.3	3.57
3[c]	1	2.48	1.00	3.44	96.0	5.04
	2	2.61	2.00	4.68	103.5	4.69
	3	2.57	4.00	6.50	98.2	2.04

[a, b, c] the spinach samples from the stem-leaf mixture, leaf and stem, respectively.
[d] R.S.D. were calculated from five separate experiments.