Electronic Supplementary Information

Facile synthesis of porous bimetallic alloyed PdAg nanoflowers supported on reduced graphene oxide for simultaneous detection of ascorbic acid, dopamine, and uric acid

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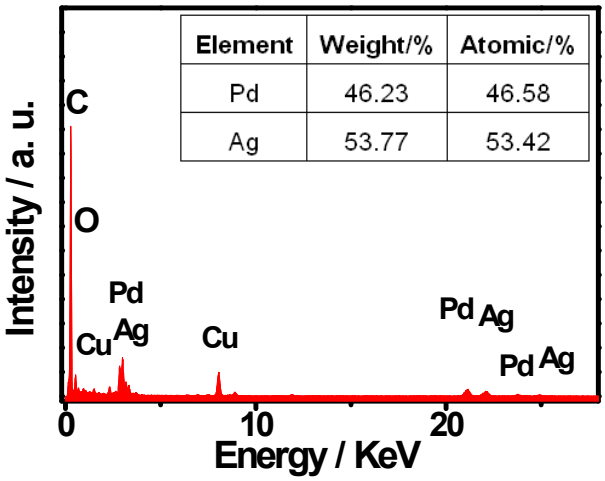

Fig. S1. EDS pattern of PdAg NFs/rGO. Inset shows the mass and molar ratios of Pd to Ag.

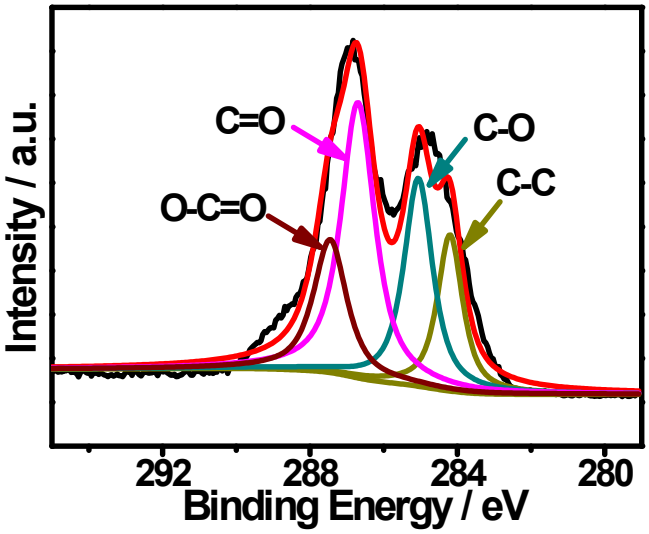

Fig. S2. High-resolution C 1s XPS spectra of GO.

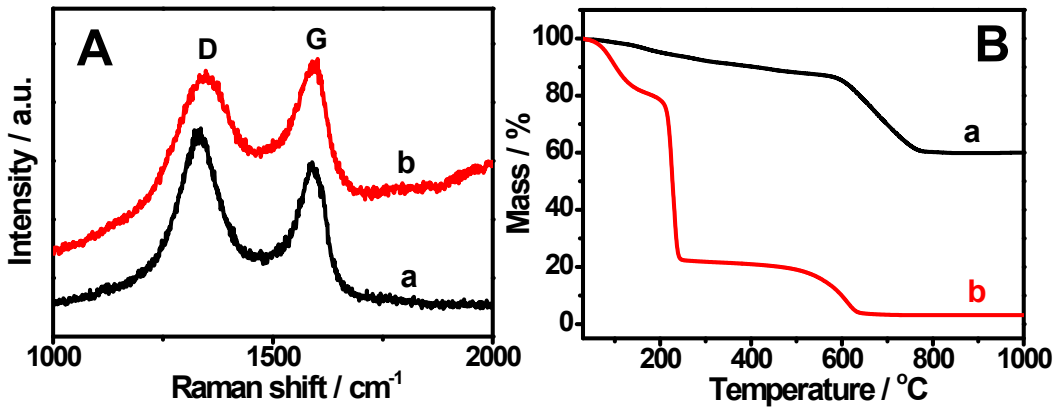

Fig. S3. Raman spectra (A) and TGA curves (B) of PdAg NFs/rGO (curve a) and GO (curve b).

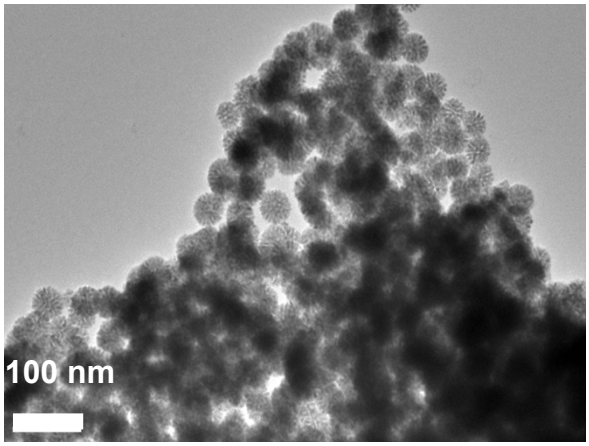

Fig. S4. TEM image of PdAg nanocomposites obtained in the absence of rGO.

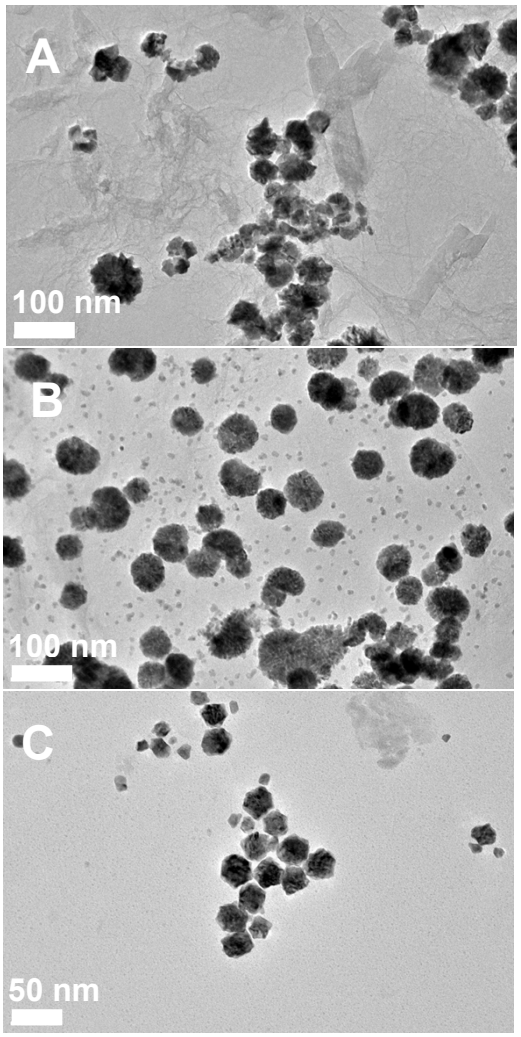

Fig. S5. TEM images of PdAg/rGO synthesized with different CTAB concentrations: (A) 0 mM, (B) 0.80 mM, and (D) 10 mM.

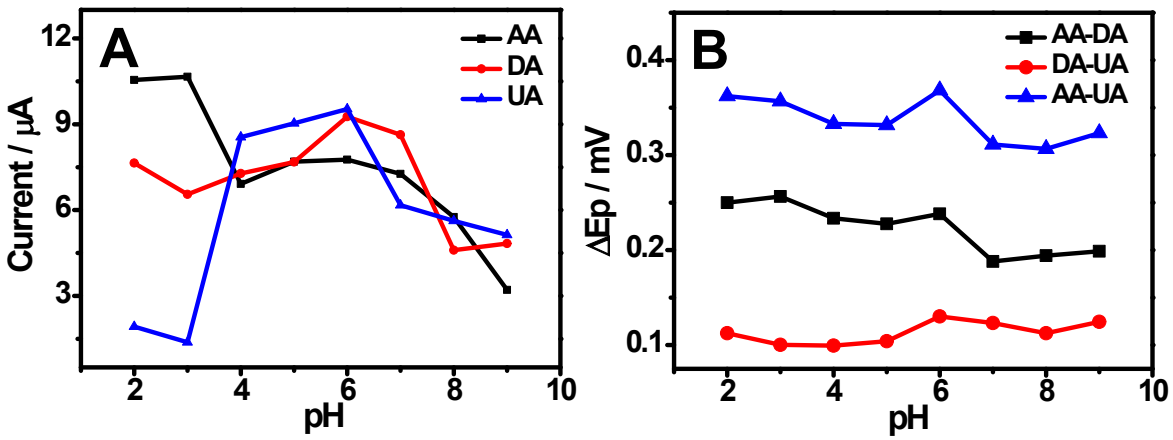

Fig. S6. Effects of pH on the (A) peak currents and (B) separations of the peak potentials (ΔE_P) of AA-DA, DA-UA, and AA-UA for the oxidation of 3.0 mM AA, 6.0 μM DA, and 60.0 μM UA in 0.1 M phosphate solution (pH 6.0).

Table S1. Linear ranges and detection limits of different materials modified electrodes for the selective detection of AA, DA, and UA.

Modifiers	Linear range (μM)			Detection limit (μM)			ΔE_p (mV)		Ref.
	AA	DA	UA	AA	DA	UA	AA–DA	DA–UA	
PdAg/rGO	1.0~2141.0	0.4~96.0	1.0~150.0	0.057	0.048	0.081	204	128	This work
PdNPs/GR/GS	100~4000	0.5~15 20~200	0.5~200	20	0.1	0.17	252	144	[1]
Pt/PMT/Pd	10~160	0.05~1	–	7	0.008	–	240	–	[2]
Pt/MWCNT	24.5~765	0.061~7.03	0.455~50	20	0.0483	0.35	166	120	[3]
ERGO	500~2000	0.5~60	0.5~60	0.5	0.5	250	240	130	[4]
MWCNT@PDOP@PtNP	–	0.25~20	0.3~13	–	0.08	0.12	–	140	[5]
NG	5~1300	0.5~170	0.1~20	2.2	0.25	0.045	220	150	[6]
SWCNH	30~400	0.2~3.8	0.06~10	5	0.06	0.02	152	211	[7]
RGO–AuNPs–CSHMs	–	0.5~200	0.1~50	–	0.05~0.08	0.05~0.08	–	120	[8]
HNCMS	100~1000	3~70	5~30	0.91	0.02	0.04	212	136	[9]
MWCNT	15.0~800.0	0.5~100.0	0.55~90.0	7.71	0.31	0.42	205	160	[10]
SZP/MB	–	40~160	70~280	–	4.0 ± 0.2	3.6 ± 0.1	260	170	[11]

Table S2. Linear ranges and detection limits of different materials modified electrodes for the simultaneous detection of AA, DA, and UA.

Modifiers	Linear range (μM)			Detection limit (μM)			Peak potential separation (mV)		Ref.
	AA	DA	UA	AA	DA	UA	AA–DA	DA–UA	
PdAg/rGO	1.0~4110.0	0.05~112.0	3.0~186.0	0.185	0.017	0.654	186	136	This work
Pt/PMT/PdNG	20~120	0.05~1	–	6	0.009	–	–	–	[2]
RGO–AuNPs–CSHMs	10~600	1~140	2~160	3.5	0.28	0.57	–	–	[6]
SZP/MB	–	1~200	1~300	–	0.3~0.7	0.3~0.7	–	–	[8]
Pd_3Pt_1/PDDA–RGO	10~1600	6~100	22~350	8.3 ± 0.1	1.7 ±0.1	3.7 ± 0.2	–	–	[11]
MWCNT–PEDOT	40~1200	4~200	4~400	0.61	0.04	0.10	160	140	[12]
	100~2000	10~330	10~250	100	10	10	200	100	[13]

References

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