Electronic Supplementary Material (ESI) for Analyst.

Supporting information for

Design synthesis of controllable flower-like Pt-graphene oxide architecture through electrostatic self-assembly for DNA damage biomarker-8-Hydroxy-2′-deoxyguanosine biosensing research

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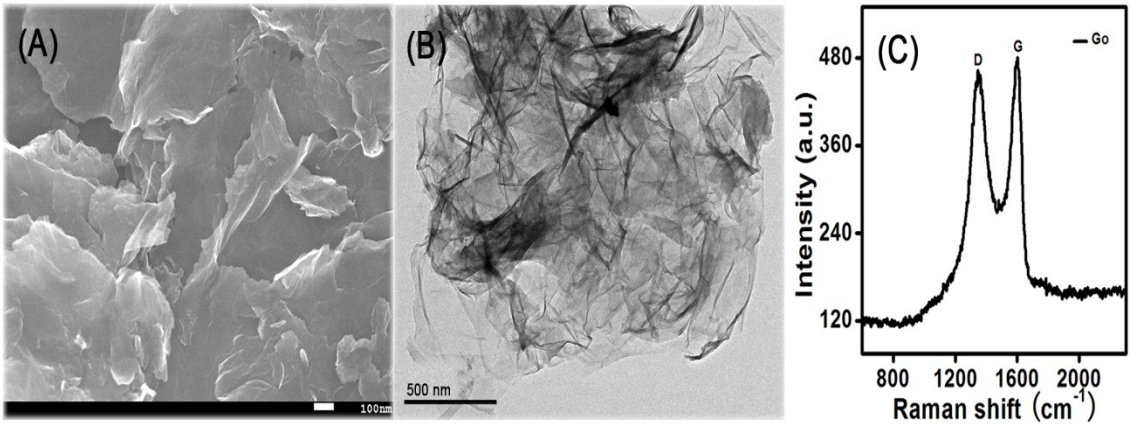


Fig.S1 (A) SEM image of GO. (B) TEM image of GO. (C) Raman spectra of GO.

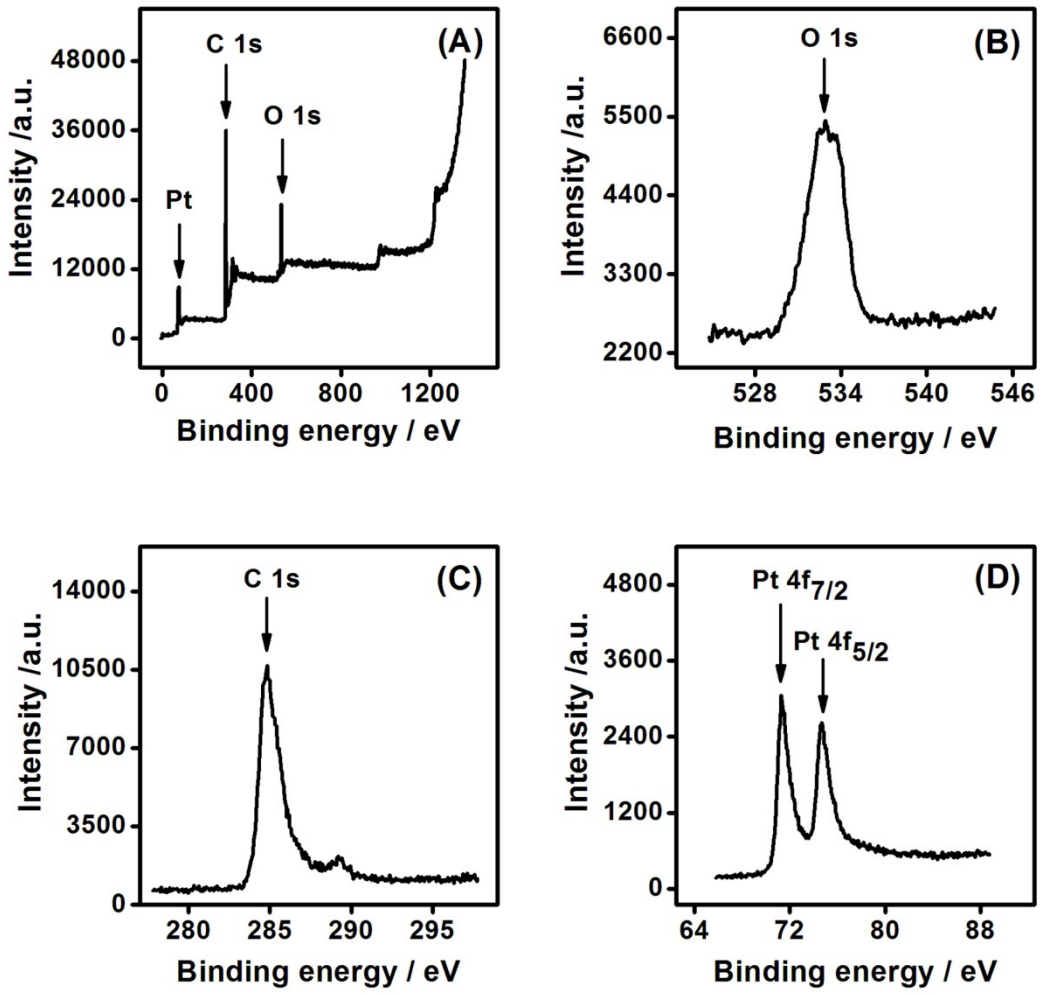


Fig.S2 (A) XPS spectra of PtNFs-GO-1. (B), (C), (D) High resolution O 1s, N 1s and Pt 4f XPS spectra of PtNFs-GO-1.

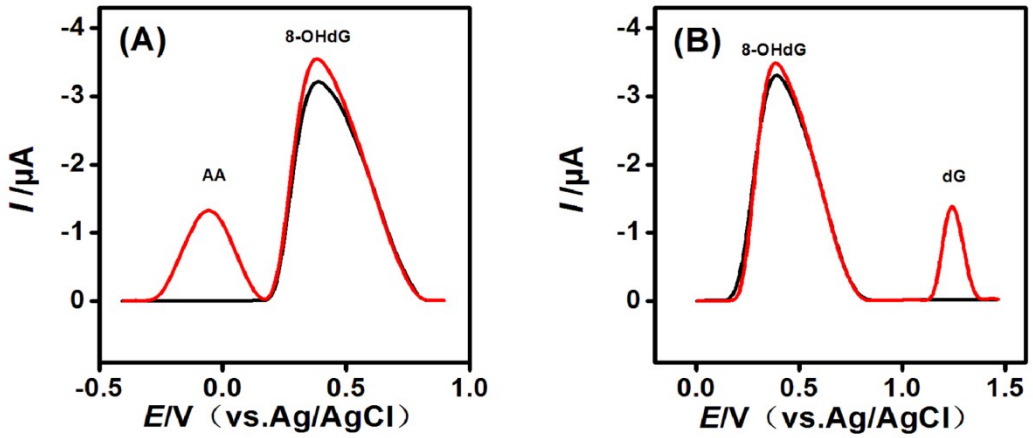
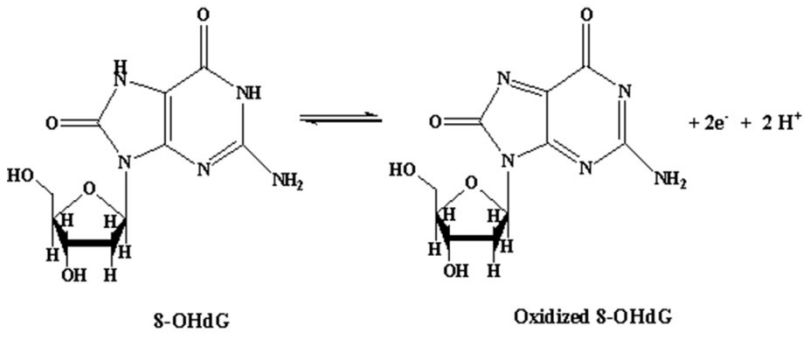


Fig.S3 (A) DPVs for 10 μM 8-OHdG at PtNFs-GO-1/GCE (black line) in 0.1 M PBS (PH 7.4), DPVs for 60 μM AA and 10 μM 8-OHdG at PtNFs-GO-1/GCE (red line) in 0.1 M PBS (PH 7.4). (B) DPVs for 10 μM 8-OHdG at PtNFs-GO-1/GCE (black line) in 0.1 M PBS (PH 7.4), DPVs for 15 μM dG and 10 μM 8-OHdG at PtNFs-GO-1/GCE (red line) in 0.1 M PBS (PH 7.4). Scan rate: 100 mVs^{-1}. Pulse amplitude: 0.025 V. Pulse width: 0.05 V. Pulse period: 0.05 s.



Scheme S1 The electrochemical oxidation of 8-OHdG belongs to a two-electron two-proton process.

Table S1 Comparison of the electrocatalytic performance of different electrodes for 8-OHdG biosensing.

Electrodes	Linear range (μM)	sensitivity (μA/μM)	Detection limit (nM)	Reference
P3MT/GCE	0.7–35.0	0.361	100.0	[39]
SWCNT-Lysine /GCE	0.3–10.0	15.90	97.0	[22]
MWCNT/ErGO/GCE	3.0–75.0	0.197	35.0	[41]
EPPG	1.0–100	1.069	28.0	[43]
MWCNTs/GCE	0.056–6.08	3.309	11.8	[44]
MIP/EPPG	0.02–3.00	10.59	3.00	[45]
PtNFs-GO-1/GCE	0.0007–2.00	1.1630	0.025	This
	2.0-22	0.0681	600.0	Work