

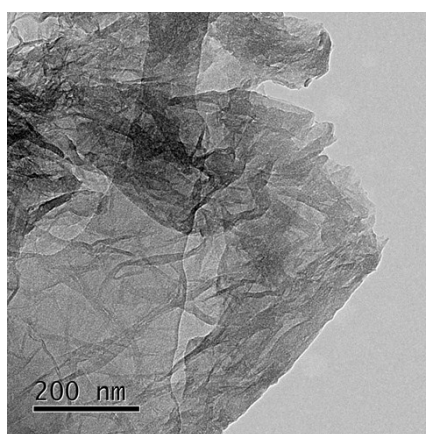
## Supporting information

Title: Ultrasensitive electrochemical detection of ochratoxin A based on signal amplification by one-pot synthesized flower-like PEDOT-AuNFs supported on graphene oxide sponge

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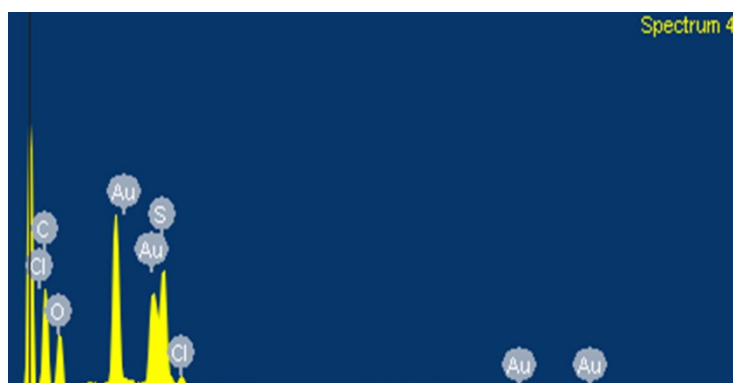
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**Fig.S1**



**Fig. S1 HRTEM image of GOS**

**Fig.S2**



**Fig. S2 EDX of PEDOT-AuNFs**

**Fig.S3**

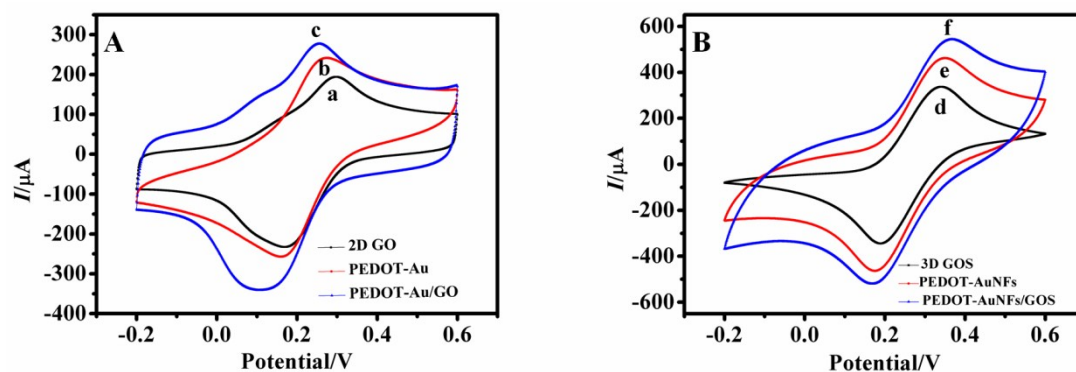


Fig. S3 (A) CVs of electrodes modified by (a) 2D GO, (b) PEDOT-Au, (c) PEDOT-Au/GO; (B) CVs of (d) 3D GOS, (e) PEDOT-AuNFs, (f) PEDOT-AuNFs/GOS, respectively. All of CV curves were recorded from -0.2 V to 0.6 V in the solution of 5 mM  $\text{Fe}(\text{CN})_6^{3-/4-}$  as a redox probe and 0.2 M KCl at a scan rate of 100mV/s.

**Fig.S4**

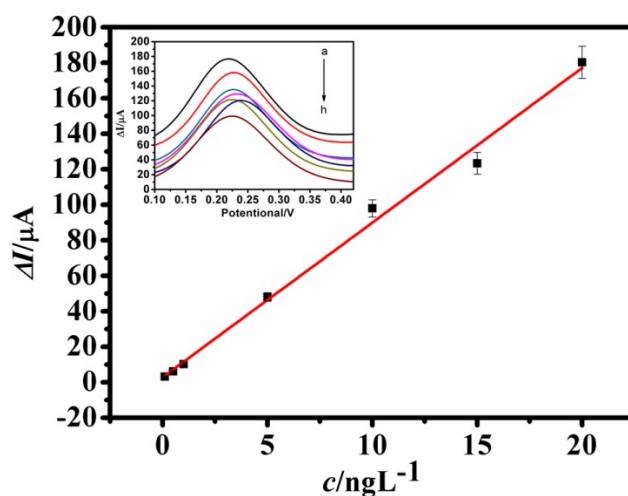


Fig. S4 Calibration curve of DPV peak currents for different OTA concentrations from 0.01 ng/L to 20 ng/L. The inset shows DPV responses of the electrochemical aptasensor to different concentrations of OTA (from a to h: 0, 0.1, 0.5, 1, 5, 10, 15, 20 ng/L).  $\Delta I(\mu\text{A}) = 8.7c(\text{ng/L}) + 2.8$  ( $\Delta I = I_{(\text{BSA}/\text{aptamer}/\text{PEDOT-AuNFs}/\text{GOS})} - I_{(\text{OTA}/\text{BSA}/\text{aptamer}/\text{PEDOT-AuNFs}/\text{GOS})}$ ),  $R^2 = 0.9921$ . DPV curves were recorded from -0.2 V to 0.6 V in the solution of 5 mM  $\text{Fe}(\text{CN})_6^{3-/4-}$  as a redox probe and 0.2 M KCl at a scan rate of 100mV/s.

**Table S1**

Table S1 The electroactive surface area (A) of different modified electrodes

Electrode	A (cm <sup>2</sup> )
GCE	0.094
GO/GCE	0.171
PEDOT-Au/GCE	0.213
PEDOT-Au/GO/GCE	0.256
GOS/GCE	0.299
PEDOT-AuNFs/GCE	0.367
PEDOT-AuNFs /GOS/GCE	0.444

Note: The data are calculated based on the Randles–Sevcik equation  $I_p = 2.65 \times 10^5 n^{3/2} A D^{1/2} \nu^{1/2} C$ , where  $I_p$  is the peak current,  $n$  is the transferring electron number,  $A$  is the electroactive area (cm<sup>2</sup>),  $D$  is the diffusion coefficient,  $\nu$  is the scanning rate, and  $C$  is the concentration of the substrate. The diffusion coefficient of  $K_3[Fe(CN)_6]$  is  $7.6 \times 10^6$  cm<sup>2</sup>/s.