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A label-free electrochemical immunosensor based on Au-BSN-rGO for high-sensitive detection of β-Amyloid 1-42

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Characterization of Au-BSN-rGO

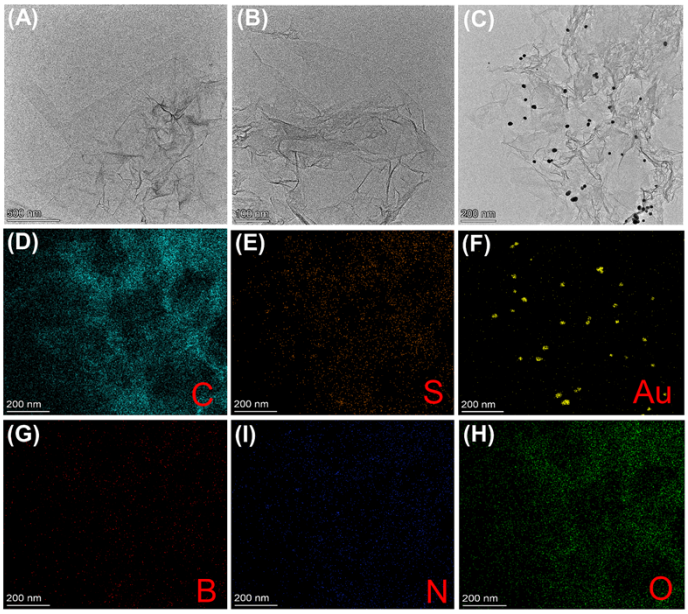

Fig. S1. TEM images of (A) GO, (B) BSN-rGO and (C) Au-BSN-rGO. (D-H) Elemental mapping images of Au-BSN-rGO.

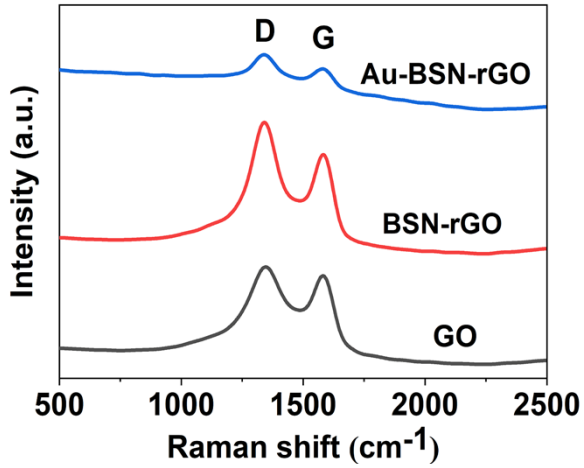

Fig. S2. Raman spectra of GO, BSN-rGO and Au-BSN-rGO.

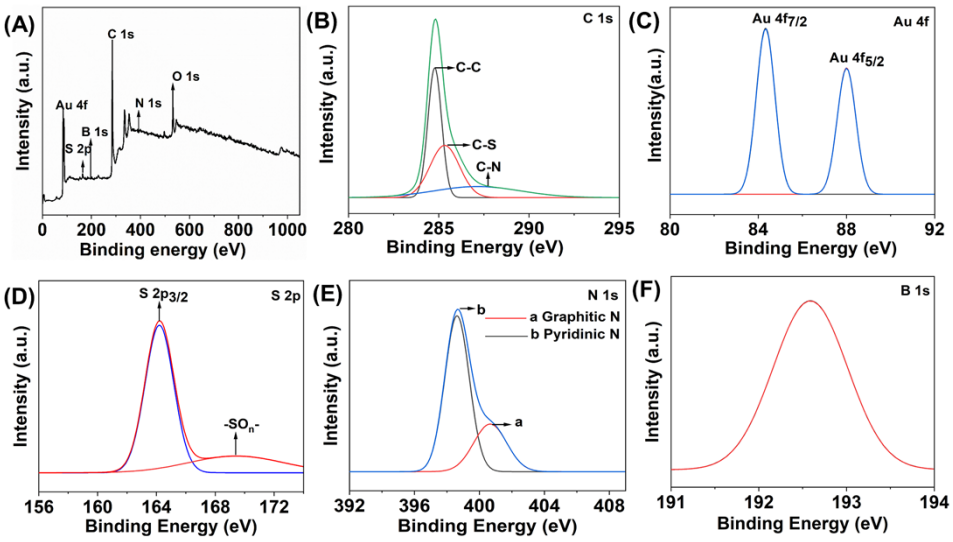

Fig. S3. (A) XPS spectrum of Au-BSN-rGO. High resolution spectra of (B) C 1s, (C) Au 4f, (D) S 2p, (E) N 1s and (F) B 1s.

Electrochemical performance of NS-rGO, BSN-rGO and Au-BSN-rGO

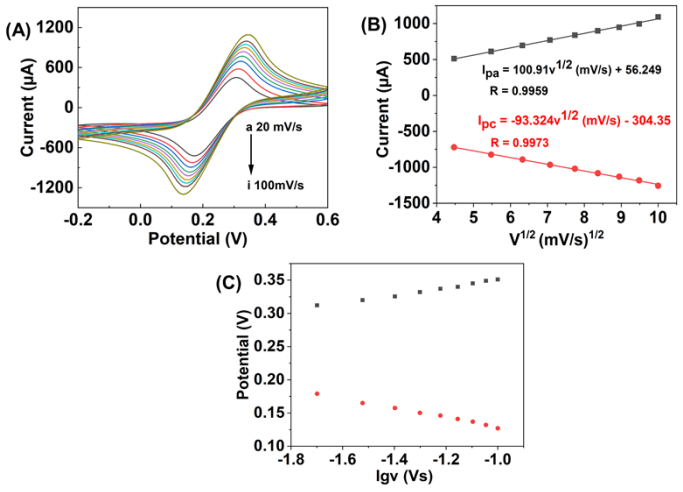

Fig. S4. (A) CV curves of the Au-BSN-rGO modified electrodes at different scan rates (from a to i, 20, 30, 40, 50, 60, 70, 80, 90 and 100 mV/s). (B) The linear relationship between peak current and the square root of scan rate. (C) The liner fitting of lgv to electric potential.

Table S1. Comparison of different immunosensors for the detection of Aβ 1-42.

Detection method	Linear range /ng·mL^{-1}	Detection limit /pg·mL^{-1}	Ref.

Electrochemistry	1.0×10^{-3}-1.0	1.4	1
Electrochemistry	1.0×10^{-3}-1.0	3.0	2
Electrochemistry	2.3×10^{-3}-0.45	7.6	3
Electrochemistry	2.25-36.0	0.9	4
Electrochemistry	1.0×10^{-4}-10.0	0.072	This work

References

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