Supporting Information

A simple and effective strategy based on sodium gallate-exfoliated graphene for the simultaneous voltammetric determination of guaiacol and vanillin ‡

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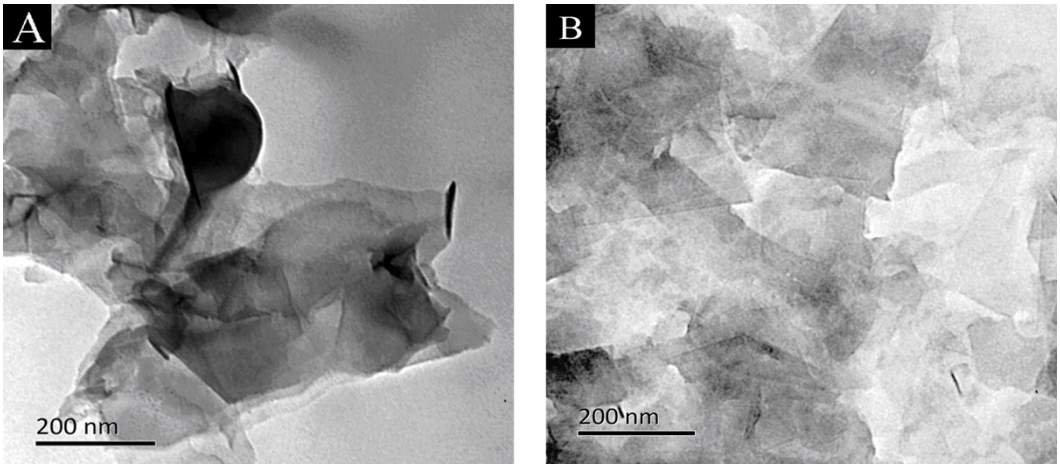

Fig. S1. TEM images of GNs (A) and SG-GNs (B).

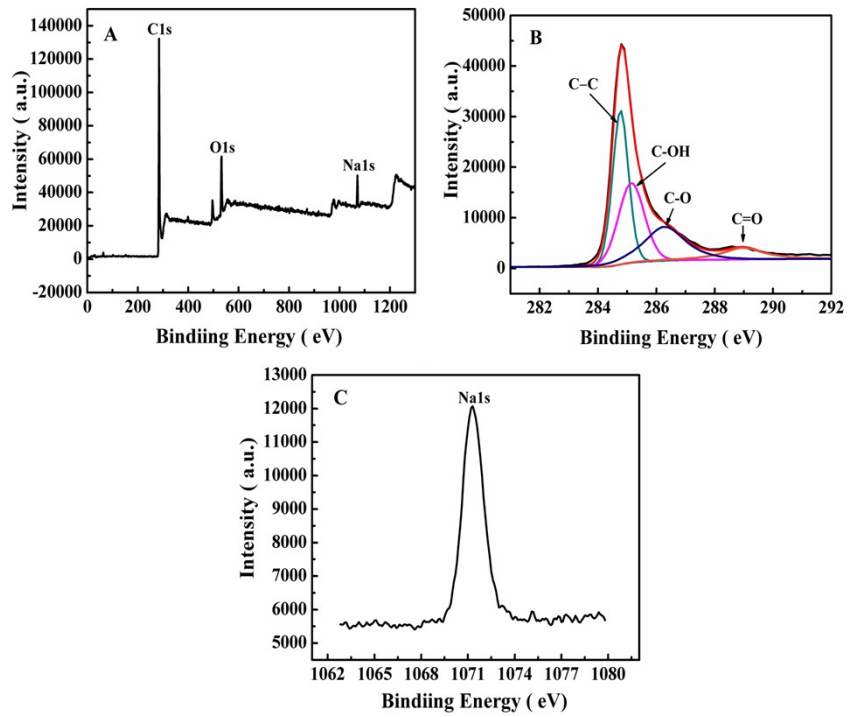

Fig. S2. XPS spectra of SG-GNs (A). High-resolution XPS spectra of C1s (B) and Na1s (C) of SG-GNs.

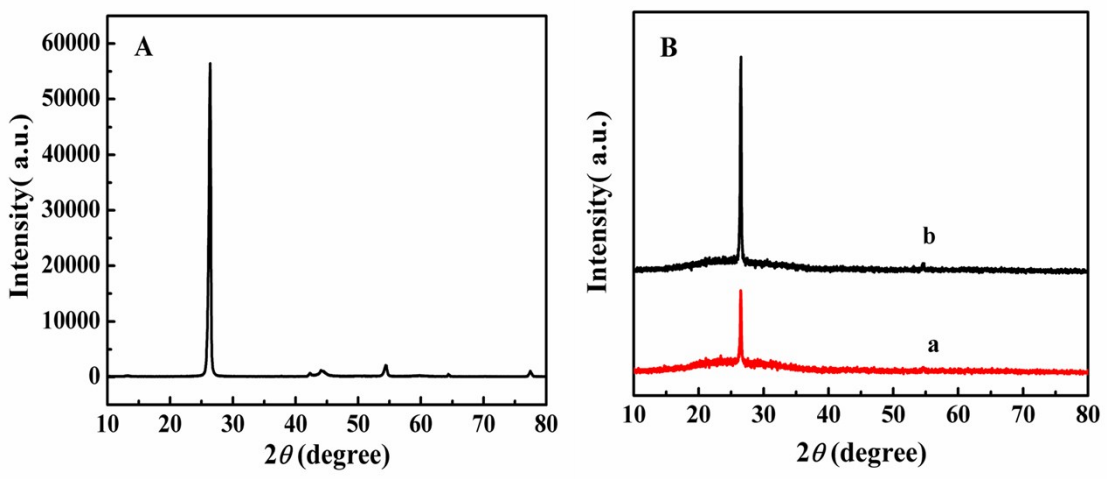

Fig. S3. Characterizations of (A) graphite powder and (B) SG-GNs(a), GNs(b) with XRD.

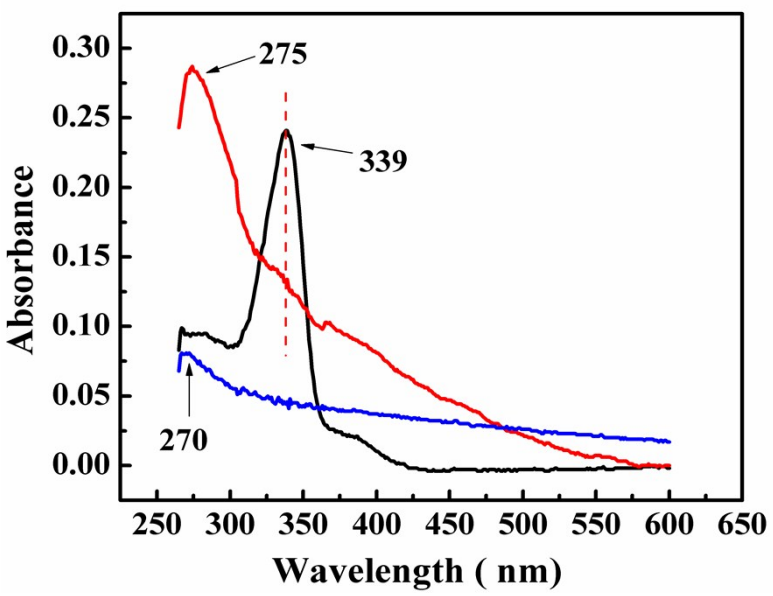

Fig. S4. UV of rGO (blue line), SG (black line), SG-GNs (red line)

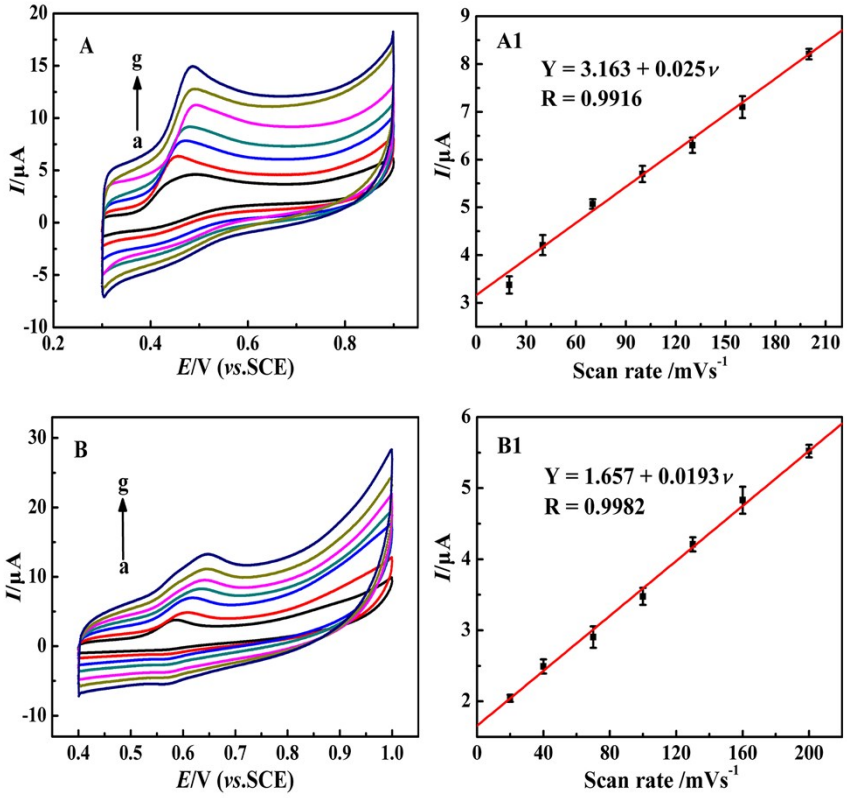

Fig. S5. CV curves of 40 μM GUA (A) and VAN (B) on SG-GN/GCE with different scan rates of 20, 40, 70, 100, 130, 160, 200 mV·s^{-1} (a→g); plots of peak current versus scan rates (ν: 20–200 mV·s^{-1}) for GUA (A1) and VAN (B1).

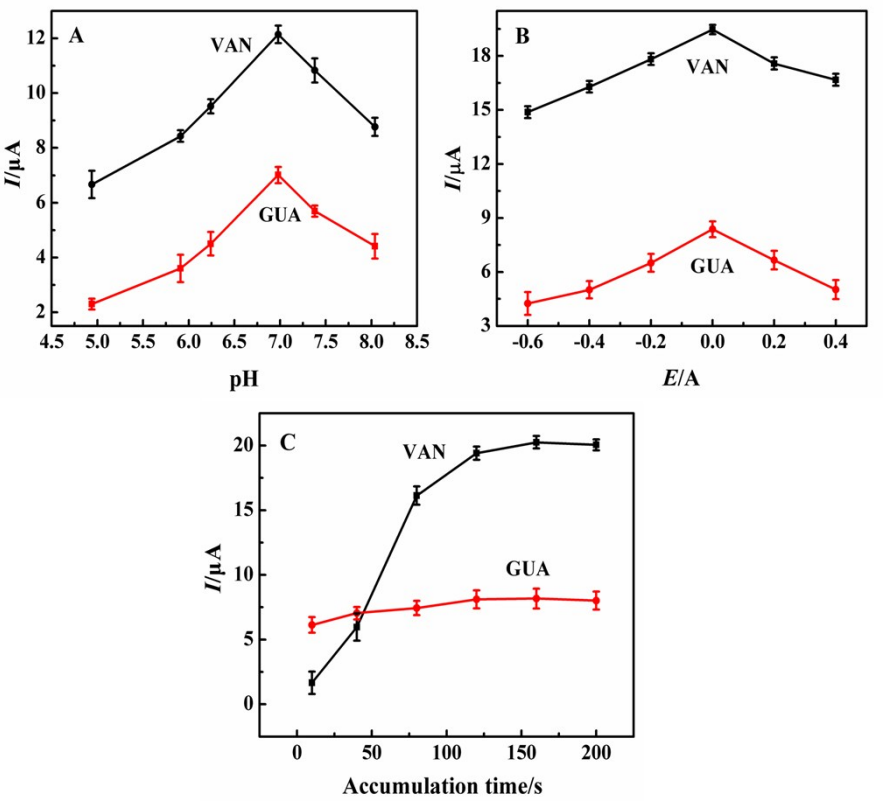

Fig. S6. Effects of pH value on the oxidation peak currents of 8 μM VAN and 10 μM GUA (A), accumulation potential on the oxidation peak currents of 8 μM VAN and 10 μM GUA (B), and accumulation time on the oxidation peak currents of 8 μM VAN and 10 μM GUA (C).

Table S1 Comparisons of the proposed SG-GN/GCE with previous reported electrochemical methods for GUA and VAN determination.

Modified electrode	Linear range (μM)		LOD (μM)		References
	GUA	VAN	GUA	VAN	
Pt/γ-Al_2O_3/GCE	0.05-30		0.0179		[1]
rGO/GCE	0.5-500		0.2		[2]
MWNTs-PDA@MIP/SWNT-COOH/GCE		0.2-10		0.1	[3]
Ag-Pd/GO/GCE		0.02-45		0.005	[4]
CPB/CNF/GCE		75-750		0.14	[5]
AuNP-PAH/GCE		0.9-15		0.055	[6]
TBAC-900/GCE		5-1150		0.68	[7]
MFG/GCE	0.03-1	0.03-8	0.0013	0.001	[8]
SG-GN/GCE	0.02-12	0.02-11	0.005	0.0045	This work

References

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