Electronic Supplementary Material (ESI) for RSC Advances.

Petal-like graphene-Ag composites with highly exposed active edge sites was designed and constructed for electrochemical determination of metronidazole

Cong Li[a], Bo Zheng[a], Tingting Zhang[a], Jingyu Zhao[a], Yue Gu[a], Xiaoyi Yan[a], Yaru Li[a], Weilu Liu[b], Guodong Feng[a*], and Zhiquan Zhang[a*]

[a] *College of Chemistry, Jilin University, Changchun 130012, China.*

[b] *School of Pharmacy, Shenyang Pharmaceutical University, Shenyang 110016, China*

***** *Corresponding author.*

Tel: +61-431-85168352-7; Fax: -86-431-85168399; E-mail: zzq@jlu.edu.cn, fenggd@jlu.edu.cn

Supplementary materials:

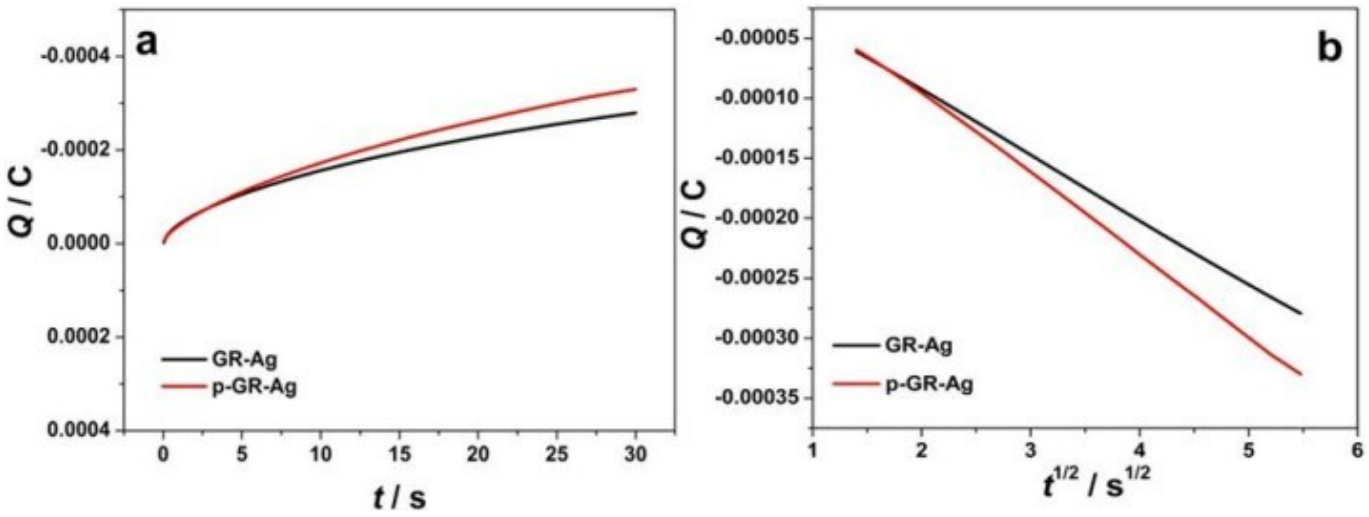

Fig. S1 (a) Plot of Q-t curve of the GR-Ag/GCE and the p-GR-Ag/GCE in 1 mM $K_3[Fe(CN)_6]$ containing 0.1 M KCl; **(b)** Plot of Q-$t^{1/2}$ curve of the GR-Ag/GCE and the p-GR-Ag/GCE.

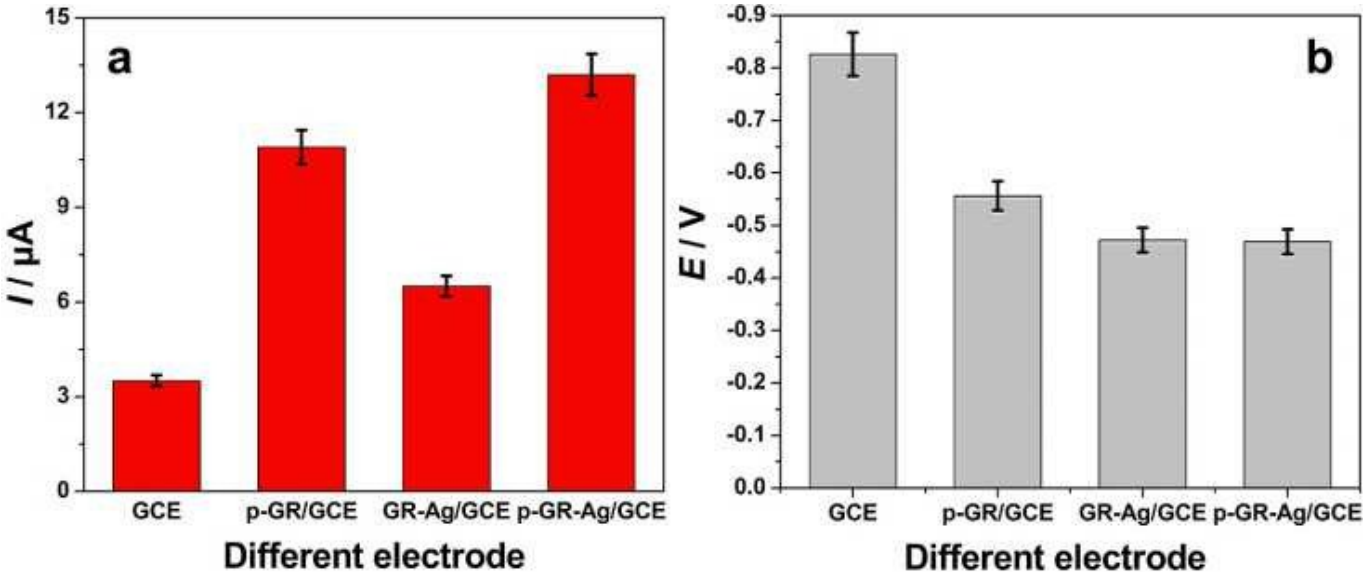

Fig. S2 (a) The histograms of the cathodic peak current of 300 μM metronidazole at different electrodes; **(b)** The histograms of the cathodic peak potential of 300 μM metronidazole at different electrodes.

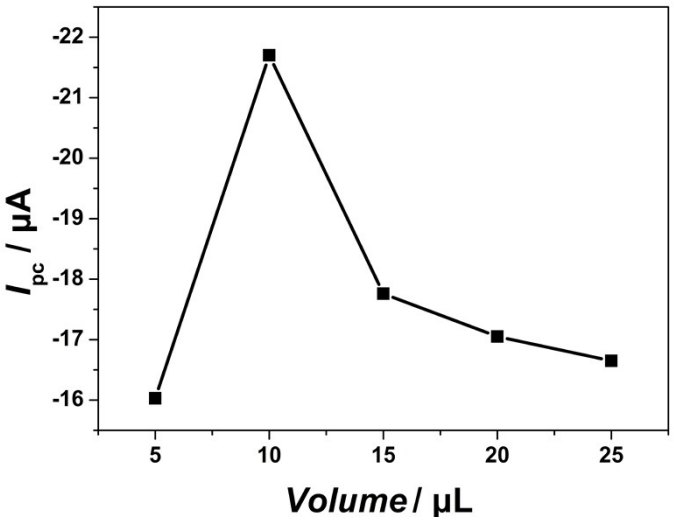

Fig. S3 Plots of peak current *versus* volume of the dropped suspension.

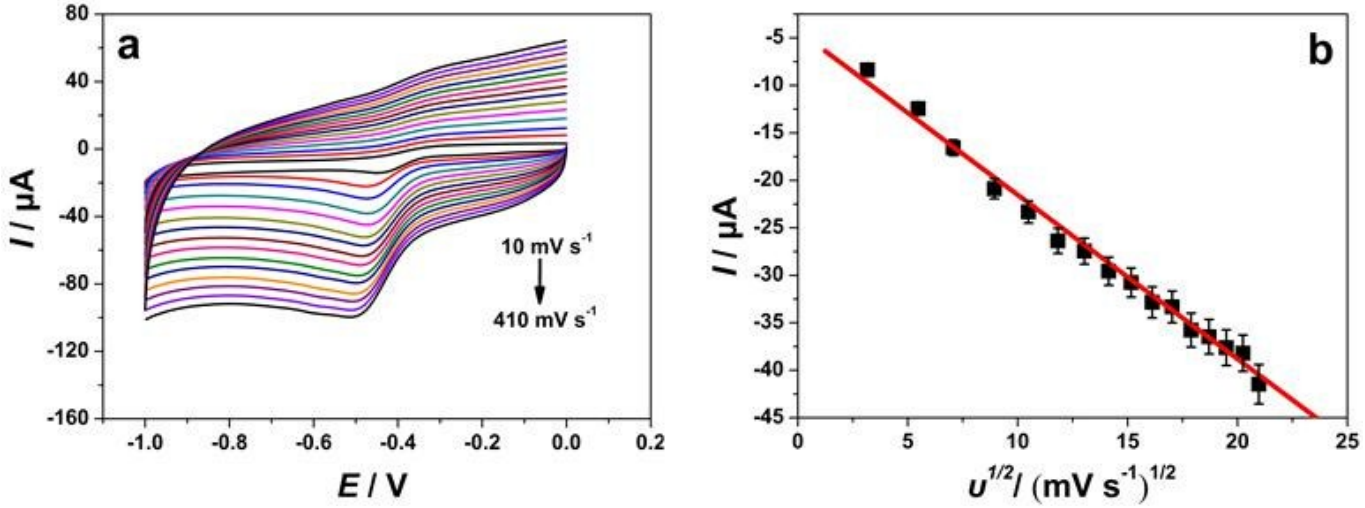

Fig. S4 (a) Cyclic voltammograms of 300 μM metronidazole at the p-GR-Ag/GCE in PBS (pH 6.0) buffer solution with different scan rates (10, 30, 50, 80, 110, 140, 170, 200, 230, 260, 290, 320, 350, 380, and 410 mV s^{-1}); **(b)** Plot of cathodic peak current *versus* square root of scan rates.

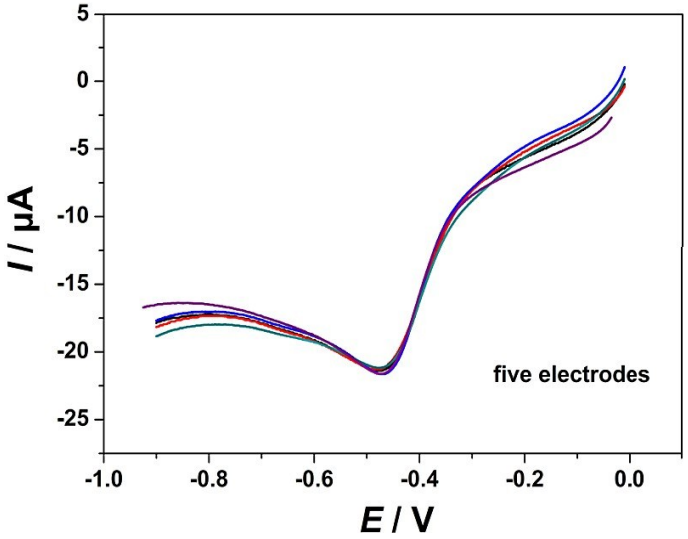

Fig. S5 The LSVs of 200 μM metronidazole in PBS (pH 6.0) buffer solution at five different p-GR-Ag/GCE.

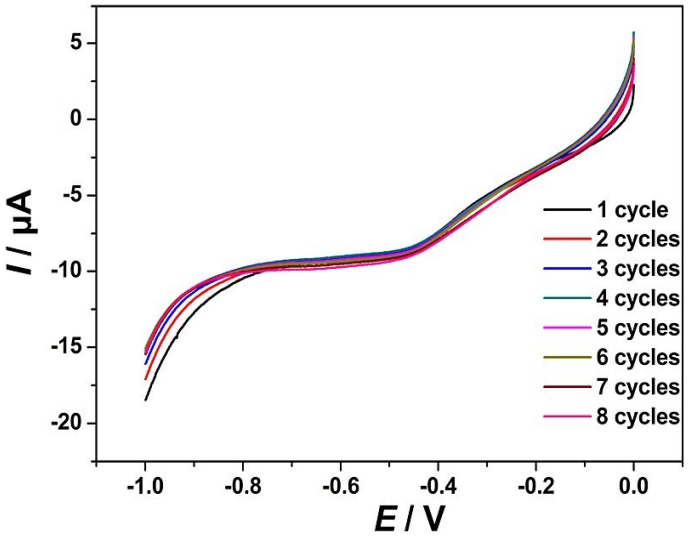

Fig. S6 The LSV responses of 50 μM metronidazole in PBS (pH 6.0) buffer solution at the p-GR-Ag/GCE by successive measurements.

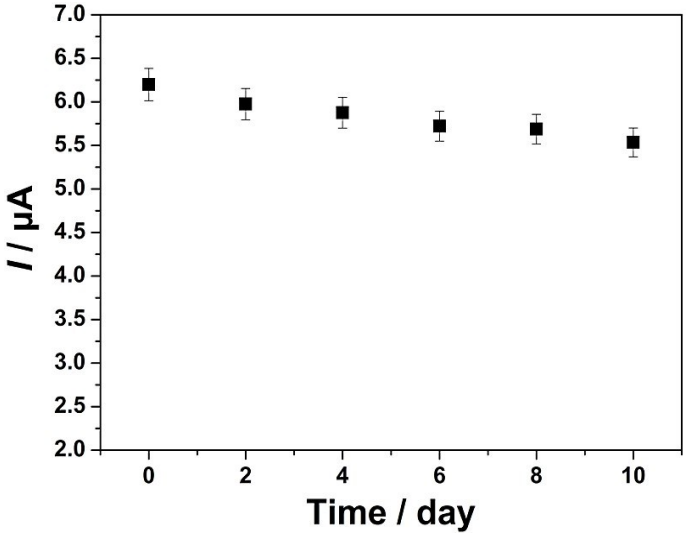

Fig. S7 The variation in the response current of 100 μM metronidazolein PBS (pH 6.0) buffer solution at the p-GR-Ag/GCE for 10 days.

Table S1

The response of the p-GR-Ag/GCE to the interferents.

Interferents	Response with respect to metronidazole (%)
Li_2SO_4	2.18
$LiClO_4$	0.34
$CaCl_2$	3.62
Na_2HPO_4	2.49
KH_2PO_4	2.64
glucose	1.09
fructose	4.56
maltose	0.62
phenacetin	4.37
uric acid	3.92
ascorbic acid	3.96