Electronic Supplementary Material (ESI) for RSC Advances

Construction of Pt nanoparticle-decorated graphene nanosheets and carbon nanospheres nanocomposite-modified electrode: Application to ultrasensitive electrochemical determination of cefepime

Supplementary information:

Fig. S1. The Raman spectrum of GNS–CNS.

Fig. S2. CVs of PtNPs/GNS–CNS/GCE (—) and PtNPs/GCE (---) in 0.04 M BR buffer solution (pH 5.0). Inset shows CVs of GNS–CNS/GCE (—) and GCE (---) in the same solution; scan rate 100 mVs^{-1}.

Fig. S3. (A) The plot of log(i_{pa}) *vs.* log(ν), and (B) variation of peak potential (E_{pa}) with log(ν) of 4 µM CP at the PtNPs/GNS–CNS/GCE in 0.04 M BR buffer solution (pH 5.0).

Fig. S4. (A) LSVs of 4 µM CP at the PtNPs/GNS–CNS/GCE in various drop sizes of the GNS–CNS suspension (1–4 µL) cast on the GCE surface (without accumulation). (B) LSVs of 5 µM CP at the PtNPs/GNS–CNS/GCE in various accumulation time. Supporting electrolyte was 0.04 M BR buffer solution of pH 5.0.

Fig. S5. (A) LSVs for the spiked different amounts of CP (down to up:0.5 – 6.0 µM) in the CP ampoule solution diluted with 0.04MBRbuffer solution (pH 5.0). (B)Corresponding linear calibration plot of peak current versus concentration of added CP; scan rate 100$mVs^{-1}$and accumulation time 250 s.

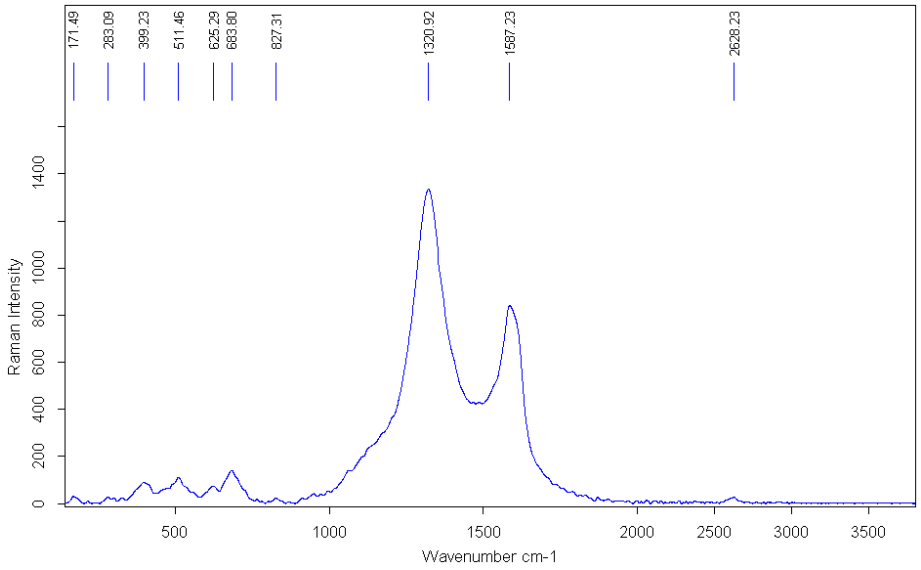

Fig. S1.

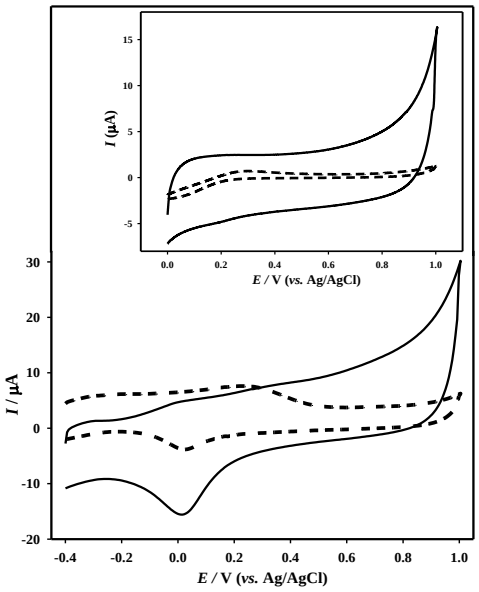

Fig. S2.

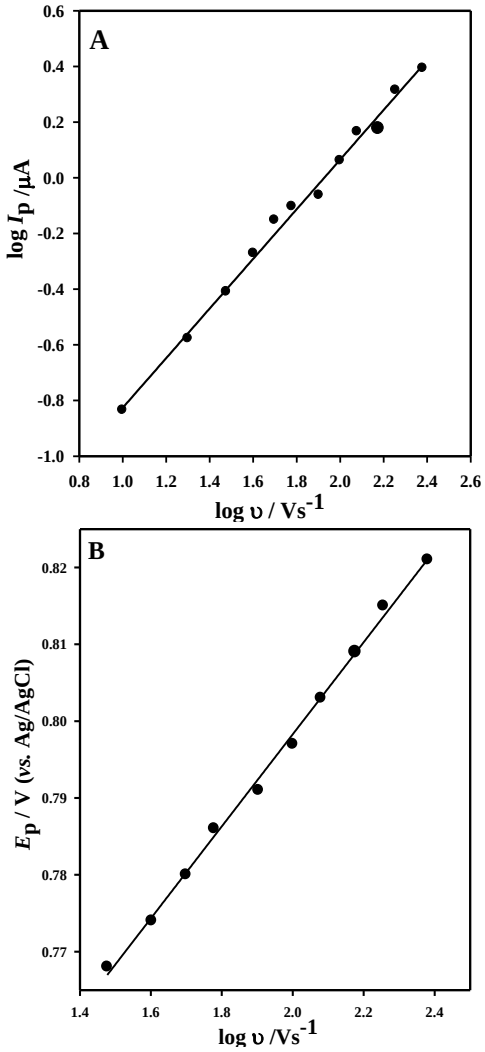

Fig. S3.

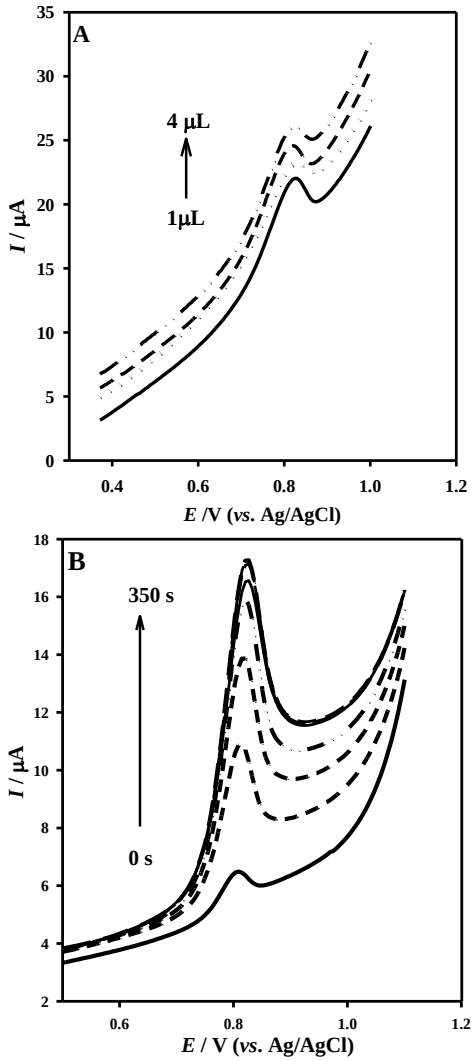

Fig. S4.

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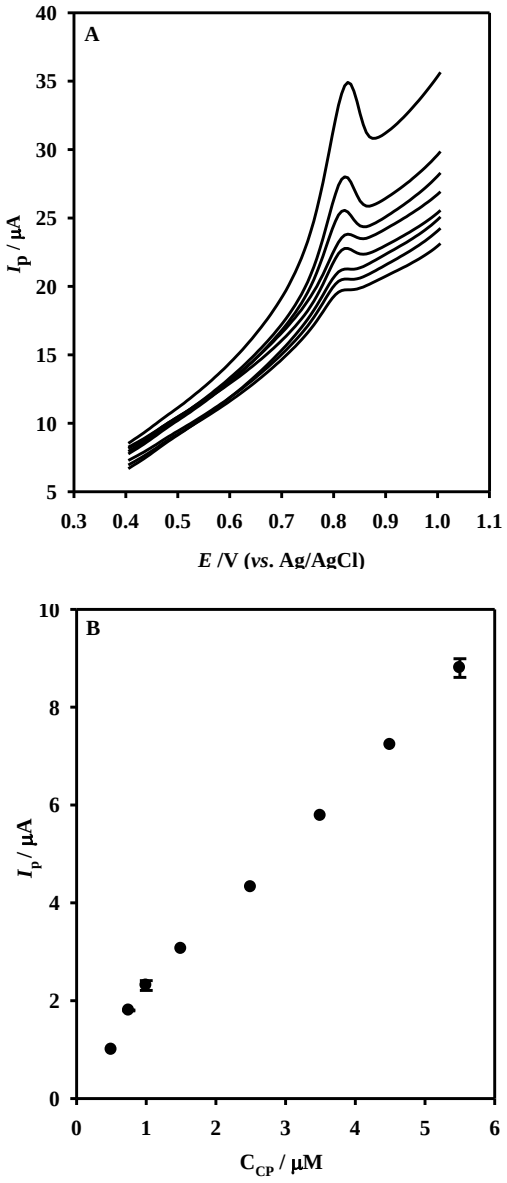

Fig. S5.