Supplementary Information

Controlled drug release characteristics and enhanced antibacterial effect of graphene nanosheets containing gentamicin sulphate

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FTIR Analysis of Gentamicin sulphate and Gentamicin loaded MDG nanomatrix

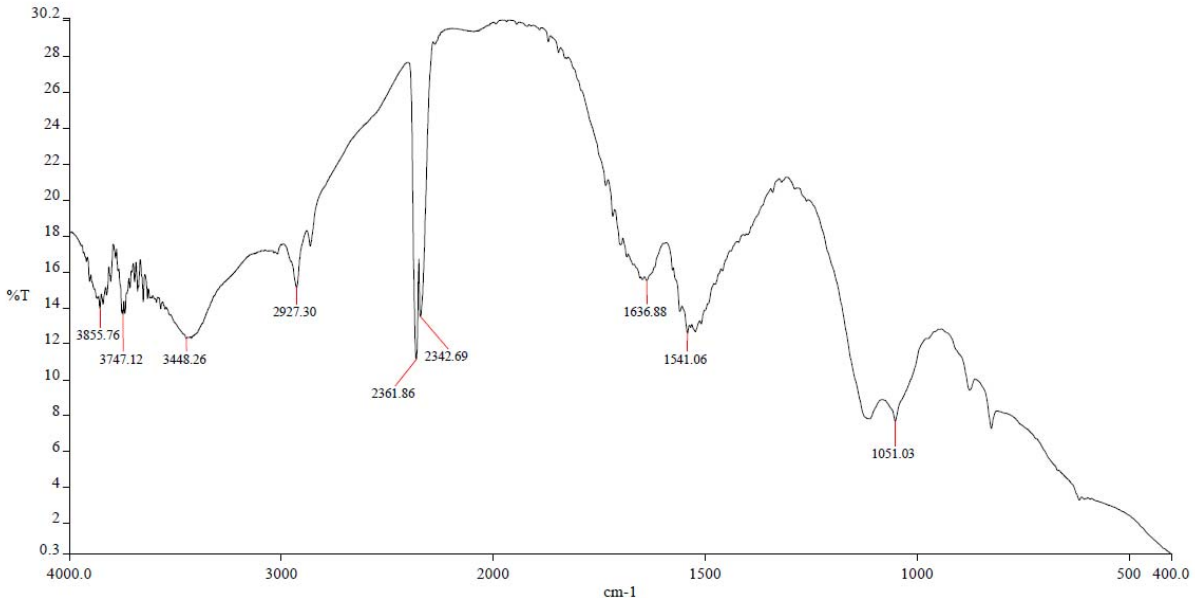

Fig. S1 FTIR of Gentamicin sulphate

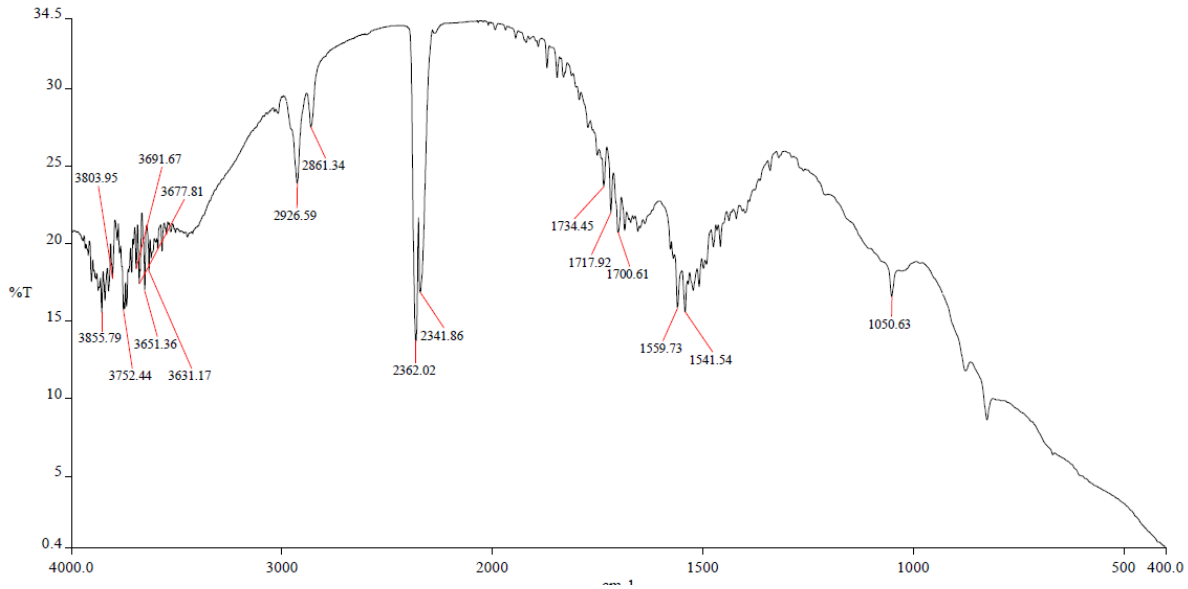

Fig. S2 FTIR of Gentamicin sulphate loaded MDG nanomatrix

Protocol for the preparation of buffer solution of different pH *viz.* 3, 7.4 and 9 respectively[1]

Phosphate Buffer Solution pH 3.0

Mix 0.7 ml of orthophosphoric acid with 100 ml of deionized water and dilute to 900 ml with deionized water. Adjust to pH 3.0 with 10 M sodium hydroxide and add sufficient water to produce 1000 ml.

Phosphate Buffer Solution pH 7.4

Add 250 ml of 0.2M potassium dihydrogen orthophosphate to 393.4 ml of 0.1M sodium hydroxide.

Phosphate Buffer Solution pH 9.0

Dissolve 1.74 g of potassium dihydrogen orthophosphate in 80 ml of deionized water , adjust the pH, if necessary, with 1M potassium hydroxide and dilute to 100 ml with deionized water .

Ninhydrin reagent: preparation protocol[1]

Dissolve 0.2 g of ninhydrin in 4 ml of hot deionized water, add 5 ml of a 0.16% w/v solution of tin (II) chloride, allow standing for 30 minutes, filtering and storing at 2°C to 8°C. Immediately before use, dilute 2.5 ml of the solution with 5 ml of deionized water and 45 ml of propan-2-ol.

Reference

1. British Pharmacopoeia 2007: Electronic version 11.0