## Supplementary Materials

## Article

## Polydopamine Nanosphere with In-situ Loaded Gentamicin and its Antimicrobial Activity

## Rahila Batul, Mrinal Bhave, Peter J. Mahon and Aimin Yu\*

Department of Chemistry and Biotechnology, Faculty of Science, Engineering and Technology, Swinburne University of Technology, Hawthorn, Victoria 3122, Australia

\* Correspondence: aiminyu@swin.edu.au



Figure S1. Schematic diagram representing method used for antimicrobial activity of G-PDA. NPs.

1000 µg/ml 500 µg/ml 250 µg/ml 125 µg/ml 62.5 µg/ml 31.25 µg/ml 15.63 µg/ml 7.8 µg/ml

(a)



3.9 µg/ml 1.95 µg/ml 0.97 µg/ml 0.49 µg/ml 0.24 µg/ml 0.12 µg/ml 0.06 µg/ml 0.03µg/ml

5 mg/ml 2.5 mg/ml 1.25 mg/ml 0.63 mg/ml 0.31 mg/ml 0.16 mg/ml 0.08 mg/ml 0.04 mg/ml



**Figure S2.** (a) Indicating MIC of gentamicin only; and (b) indicating one of the batch from G-PDA NPs 1:1 (in triplicate) as an example, showing visible bacterial growth after well no. 5 from left towards right. The values are presenting half serial dilutions alongside of each well.

Main Elements.	Samples	Possible Element State	Peak Position (eV)	<b>Relative Intensities (%)</b>
C1s	PDA	C-C	284.1	51.21
		C-N	285.6	35.13
		C-O	287.2	9.73
		C=O	288.5	2.65
	G-PDA	C-C	284.0	40.55
		C-N	285.5	45.28
		C-O	287.1	12.07
		C=O	288.2	2.10
N1s	PDA			
		N-C	401.1	35.24
		C-N-C	399.5	48.80
		=N-C	398.6	15.96
	G-PDA	N-C	401.3	43.50
		C-N-C	399.6	20.15
		=N-R	398.6	37.31
O1s	PDA	0-0	E21 E	42 E1
		0=0	551.5	43.31
		0-0	533.1	56.49
	G-PDA	O=C	531.6	25.76
		O-C	533.1	74.24