

## Supplementary Information

### **Characterization and evaluation of curcumin loaded guar gum-polyhydroxyalkanoates blend film for wound healing application**

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**ESI 1: Table 3 FTIR and <sup>1</sup>H NMR Spectra of guar gum, poly(3hydroxybutyrate-co-3hydroxyvalerate) (PHBV), Curcumin and their composite films.**


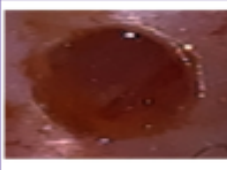






**ESI 2: Figure 13 Photographs of macroscopic appearance of wound repair covered with (a) control, (b) curcumin composite films at day 0, day 2, day 4 and day 7 respectively.**

## ESI 1

**Table 3. FTIR and <sup>1</sup>H NMR Spectra of guar gum, poly(3hydroxybutyrate-co-3hydroxyvalerate) (PHBV), Curcumin and their composite films.**

Sample	FTIR/ATR Spectra	<sup>1</sup> H NMR Spectra
	Stretching frequency (cm <sup>-1</sup> )	Chemical shift, $\delta$ (ppm)
<b>Guar gum</b>	845, 1033, 1108, 1275, 1386, 1576, 2880, 2934, 3251.17.	5.0, 4.72, 4.5, 3.5, 3.7, 3.8(d), 3.9(d), 4.1(s), 3.95(s).
<b>PHBV</b>	621,770, 839, 1054, 1102, 1136, 1286, 1381, 1452, 1639.7, 1726, 2854, 2934, 3468.	0.874, 1.256, 1.599, 2.016, 2.31, 5.339.
<b>Protein</b>	1057, 1095, 1260, 1462.57, 1521.84, 1642, 2823.2, 2891, 3287.37.	—
<b>GG/PHBV (7:3)</b>	3267(-OH group)	—
<b>GG/PHBV (5:5)</b>	32 86 (-OH group)	-

## ESI 2

<b>Treatment</b>				
<b>Wound area</b>	<b>20mm<sup>2</sup></b>	<b>16.3 ± 0.18mm<sup>2</sup></b>	<b>9.9 ± 0.51 mm<sup>2</sup></b>	<b>2.1 ± 0.081 mm<sup>2</sup></b>
<b>Control</b>				
<b>Wound area</b>	<b>20mm<sup>2</sup></b> <b>0 day</b>	<b>18.5 ± 0.12 mm<sup>2</sup></b> <b>2 days</b>	<b>13.4 ± 0.51 mm<sup>2</sup></b> <b>4 days</b>	<b>8.6 ± 0.5 mm<sup>2</sup></b> <b>7 days</b>

**Figure 13: Photographs of macroscopic appearance of wound repair covered with (a) control, (b) curcumin composite films at day 0, day 2, day 4 and day 7 respectively.**