

Supplementary Material:

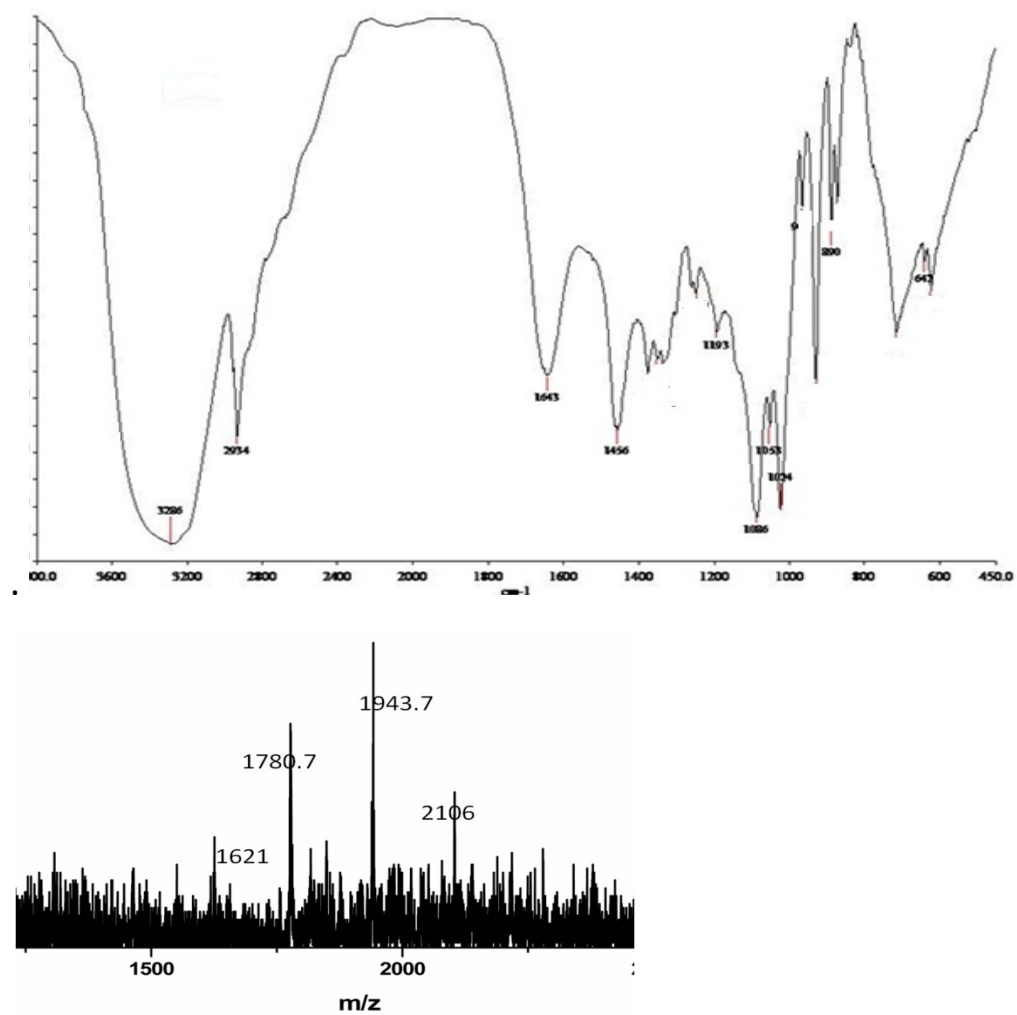


Fig S1: FT-IR spectrum and MALDI-TOF spectrum (negative mode) of cyclic β -(1 \rightarrow 3)1 \rightarrow 6) glucan



Gel 25- wound healing gel



Commercial - ReliHeal® -



Gel 25- wound healing gel, Swollen in

Fig S2 CBG/ Carageenan hydrogels and commercial hydrogel ReliHeal-Optima

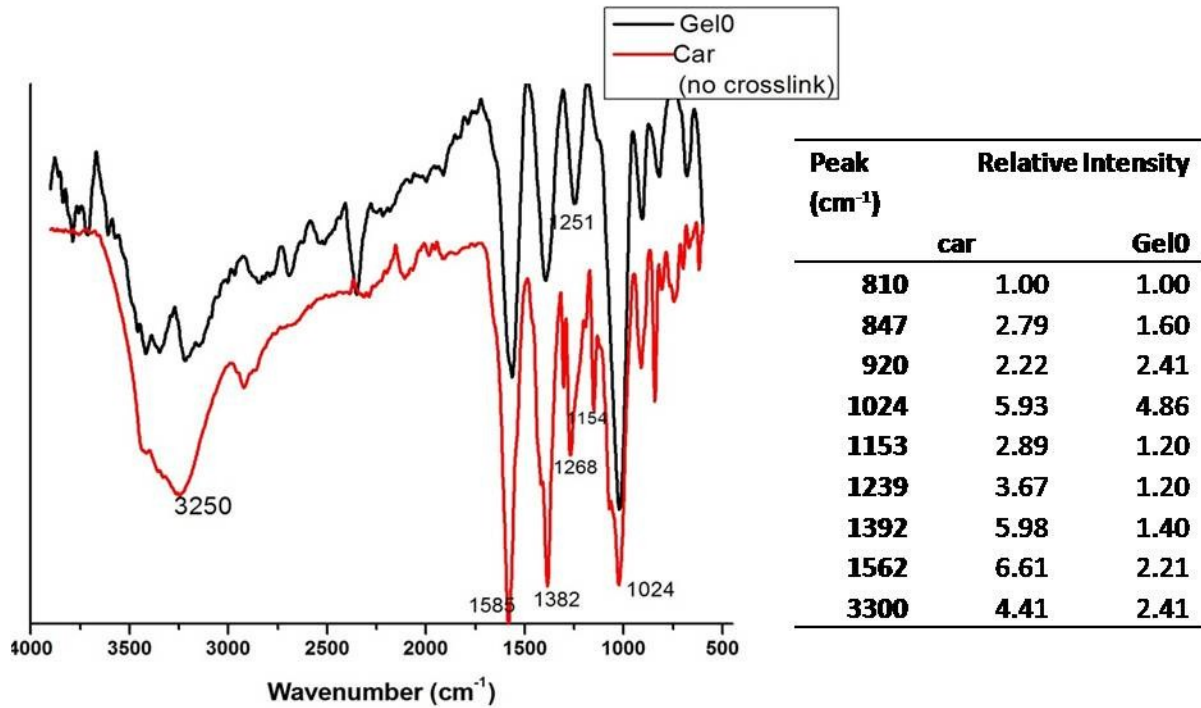


Fig S3: FTIR spectrum carrageenan and crosslinked carrageenan (Gel0) and relative absorbance intensity of the characteristic peaks with respect to 810 cm⁻¹

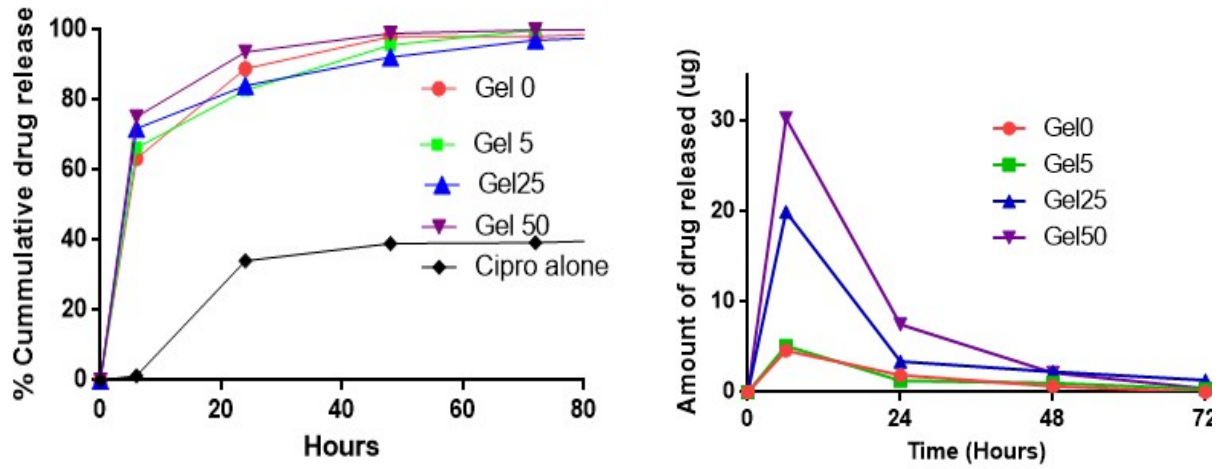


Fig S4: a) Cumulative percentage of drug (Ciprofloxacin) released from the hydrogels b) Actual amount of drug released into the medium

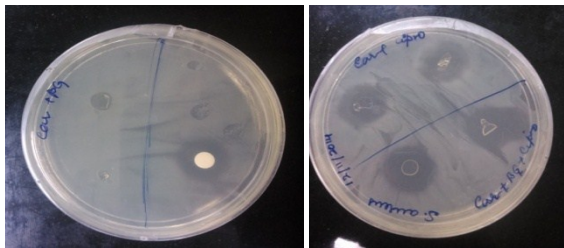


Fig S5: Antibacterial activity of the ciprofloxacin loaded hydrogel Gel 0 and Gel25 on *S.aureus* by disc diffusion method

Table S1: Characteristic IR peak and the relative band intensities of CBG/Car hydrogel without crosslink (5:95) and crosslinked hydrogels (Gel0, Gel5, Gel25, Gel50). The relative absorbance intensities were determined by normalizing the functional group peaks with sulfate (C-O-SO₃) group linked to the 3,6-anhydrogalactose ring (802 cm⁻¹).

Peak (cm ⁻¹)	Relative Absorbance Intensity				
	Gel0	No crosslink	Gel5	Gel25	Gel50
810	1.00	1.00	1.00	1.00	1.00
847	1.60	2.15	1.25	1.54	1.16
920	2.41	1.14	1.75	1.89	1.50
1024	4.86	4.33	3.92	3.51	2.72
1153	1.20	3.75	1.37	1.1	1.19
1239	1.20	6.10	1.25	1.21	1.25
1392	1.40	9.41	2.00	1.34	1.21
1562	2.21	9.87	2.50	1.63	1.27
3300	2.41	4.92	2.25	1.86	1.50

Table S2: List of Primers used for RT-PCR

		Primers	
1	IL-1b	Forward	GACCTGCTAGTGTGTGATGTTTC
		Reverse	CAGCACGAGGCATTTTTGTTGT
2	IL-1a	Forward	AAGACAAGCCTGTGTTGCTGAAGG
		Reverse	TCCCAGAAGAAAATGAGGTCGGTC
3	IL6	Forward	ACAGCCACTGCCTTCCTACTT
		Reverse	CAAGATCTCCCTGAGAACATATG
4	TNF-a	Forward	CCACACCGTCAGCCGATT
		Reverse	TCCTTAGGGCAAGGGCTCTT
5	IFN γ	Forward	AACAGTAAAGCAAAAAAGGATGCATT
		Reverse	TTCATTGACAGCTTTGTGCTGG
6	IL-10	Forward	CGACGCTGTCATCGATTCT
		Reverse	ATGGCCTTGTTAGACACCTTTGT