

A fabricated hydrogel of hyaluronic acid / curcumin shows super-activity to heal the bacterial infected wound

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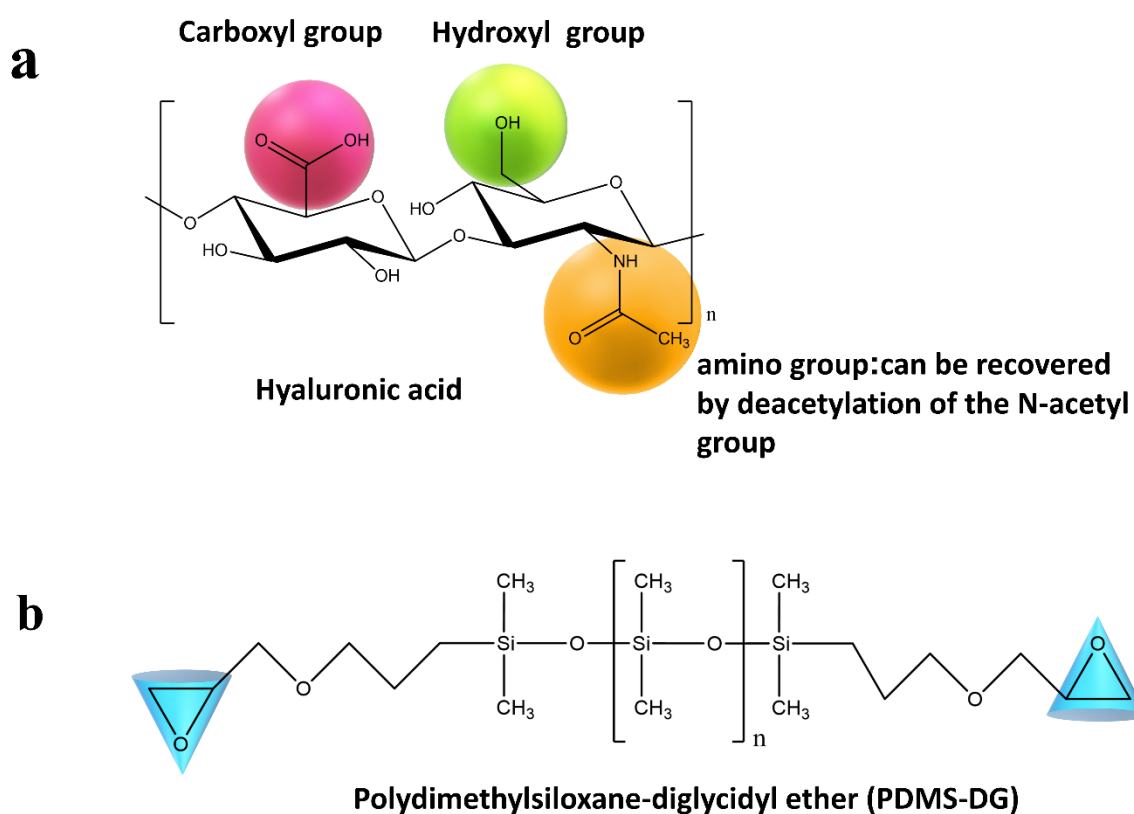


Figure S1. Chemical structure of HA (a) and PDMS-DG (b). HA consists of repeating disaccharide units: N-acetyl glucosamine and D-glucuronic acid. Two functional groups, hydroxyl and carboxyl, are shown by green and pink spheres. Also, an amino group can be recovered by deacetylation of the N-acetyl group (orange sphere). Polydimethylsiloxane is a kind of silicon that has two methyl groups attached to its silicon structure. PDMS-DG has two epoxy groups in its ends (blue cones). The chemical structures present here have been drawn by ChemBioDraw Ultra 12.0.

Table S1. The primers that were used to determine the effect of Gel-H.P and Gel-H.P.Cur on the expression of QS circuit genes (lasI, lasR, rhII and rhIR) employing real-time qPCR.

Gene	Primer sequence	Amplicon size (bp)
oprL	5'-AACAGCGGTGCCGTTGAC-3' 5'-GTCGGAGCTGTCGTACTCGAA-3'	87
lasI	5'-CGCACATCTGGGAACTCA-3' 5'-CGGCACGGATCATCATCT-3'	176
lasR	5'-CTGTGGATGCTCAAGGACTAC-3' 5'-AACTGGTCTTGCCGATGG-3'	133
rhII	5'-GTAGCGGGTTTGCGGATG-3' 5'-CGGCATCAGGTCTTCATCG-3'	101
rhIR	5'-GCCAGCGTCTTGTTTCGG-3' 5'-CGGTCTGCCTGAGCCATC-3'	160

Table S2. NMR characteristic peaks of HA, PDMS-DG and Gel-H.P

Material	Signal name	Shift (ppm)	Description
HA	1	1.9	CH ₃ of N-acetyl glucosamine
	2	3.502	Protons around the sugar ring
	3	3.725	Protons around the sugar ring
	4	4.673	Solvent: D ₂ O
PDMS-DG	a	-0.1-0.1	Si-CH ₃
	b	0.501	-CH ₂
	c	1.612	-CH ₂
	d	2.5	Epoxy group protons
	e	2.7	Epoxy group protons
	f	3.1	Epoxy group protons
	g	3.446	-CH ₂
	h	3.624	-CH ₂
Gel-H.P	a	-0.1-0.1	Si-CH ₃
	b	0.501	-CH ₂
	c	1.612	-CH ₂
	1	1.9	CH ₃ of N-acetyl glucosamine
	4	4.673	Solvent: D ₂ O