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Electronic Supplementary Information (ESI)

Chitosan microspheres with extracellular matrix-mimicking nanofibrous structure as cell-carrier building blocks for bottom-up cartilage tissue engineering †

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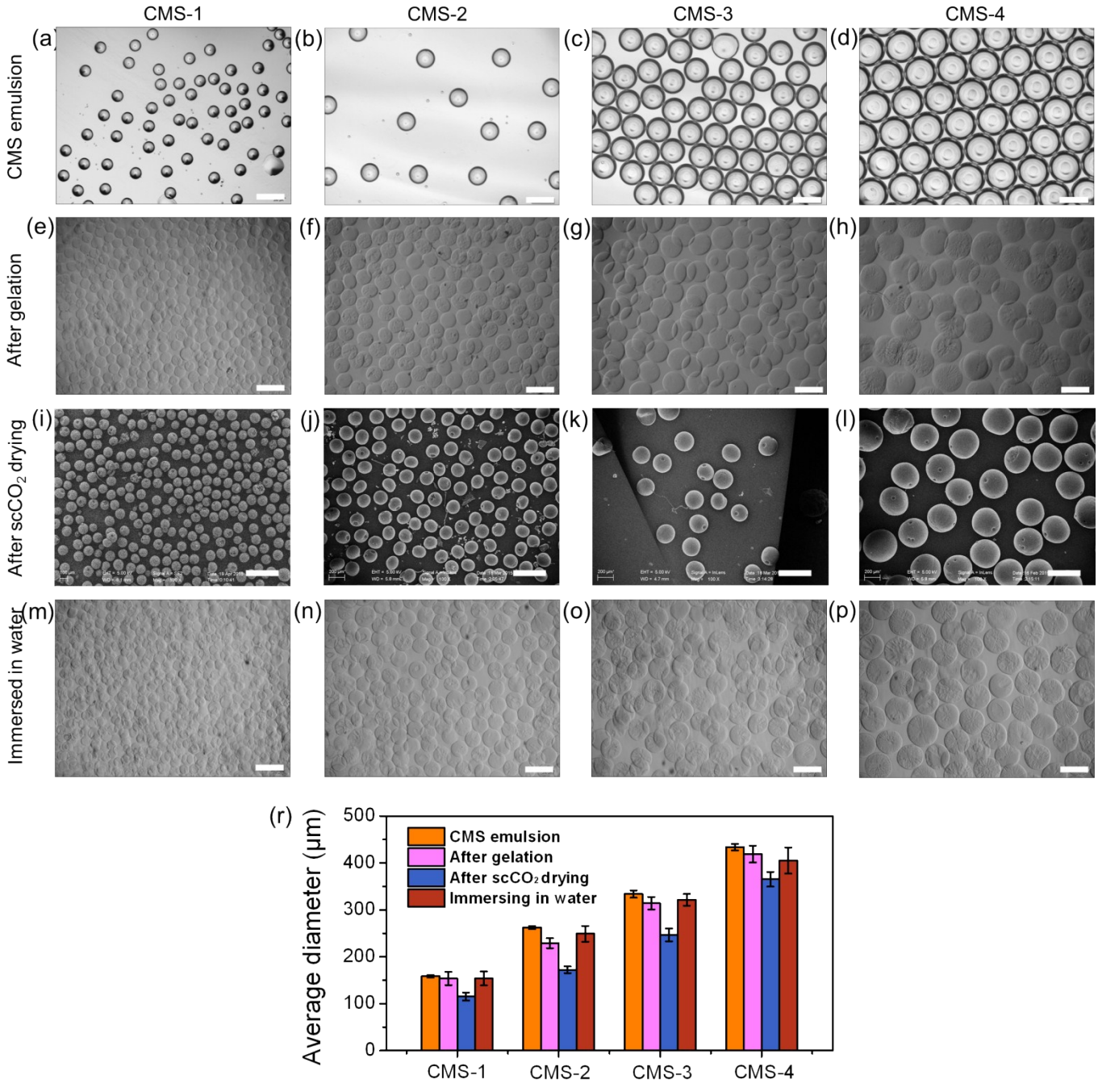

Fig. S1 (a-d) Optical microscope images of CMS emulsions with different sizes. (e-h) Optical microscope images of solidified CMS microgels with different sizes. (i-l) Optical microscope images of dried NCMS with different sizes. (m-p) Optical microscope images show dried NCMS with different sizes immersing in water. Scale bar is 400 μm. (r) Statistical sizes of the four types of CMS.

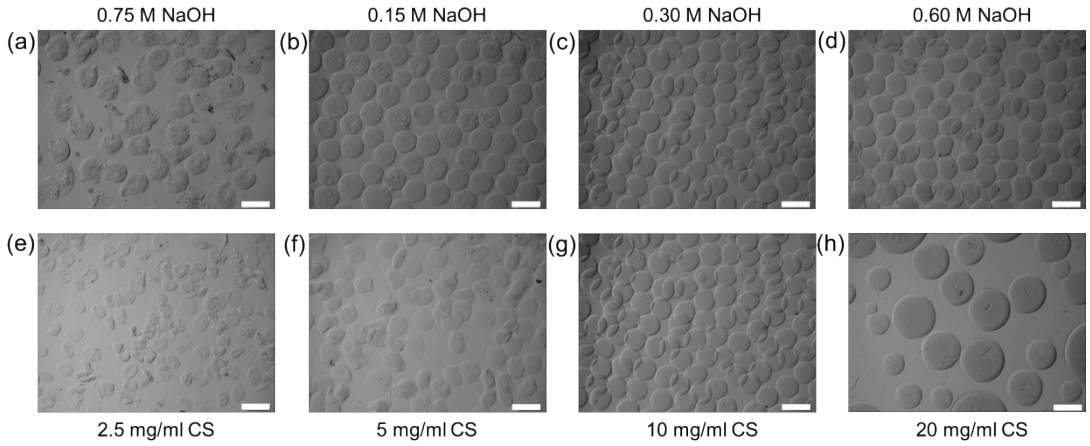

Fig. S2 (a-d) Optical microscope images of the CMS microgels solidified with different concentrations of NaOH solutions. (e-h) Optical microscope images of the CMS microgels made from different concentrations of CS. (r) Statistical sizes of the four types of CMS. Scale bar is 400 μm.

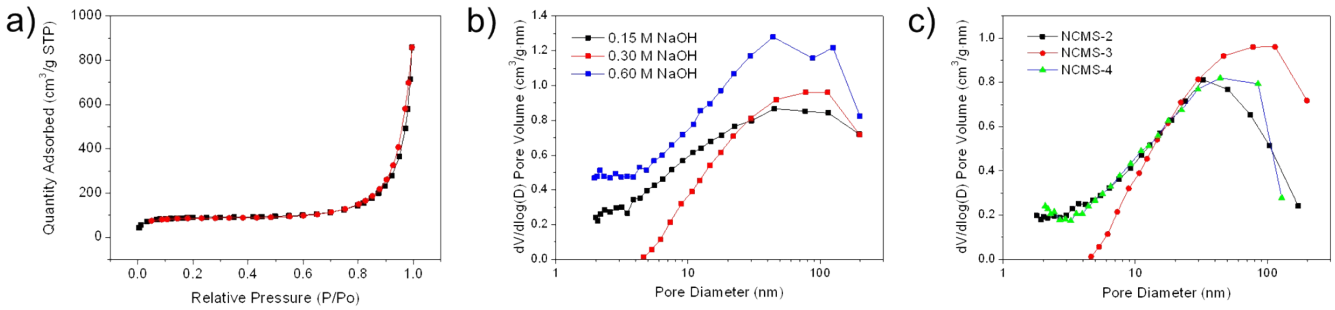

Fig. S3 N_2 sorption isotherms (a) and pore size distribution (b,c) from the BJH method reveal that the pores in the NCMS prepared at different conditions are macropores.

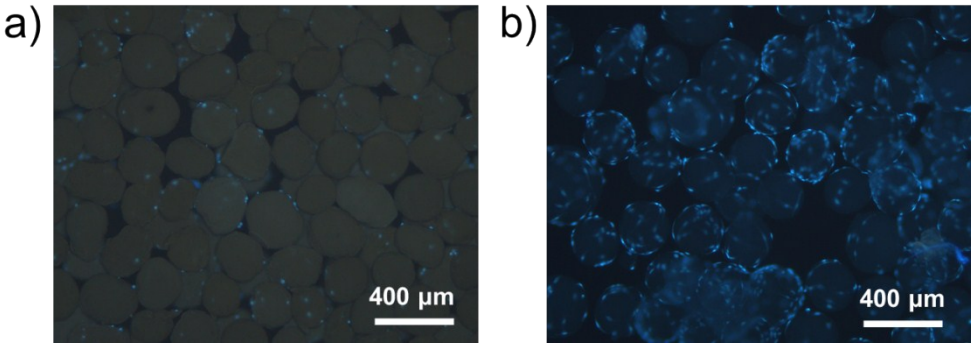

Fig. S4 (a,b) DAPI staining of the chondrocytes adhered on the surface of solid CMS (a) and NCMS (b) after 3 days of co-culturing under an agitated (60 rpm) culture condition.

Table S1. Details for preparation of CMS.

	NCMS-1	NCMS-2	NCMS-3	NCMS-4	Solid CMS
Orifice diameter of Inner channel (μm)	60	60	90	90	160
Inner diameter of collection channel (μm)	300	300	400	400	800
Flow rates for inner phases (ml/min)	0.008	0.03	0.05	0.05	0.2
Flow rates for outer phases (ml/min)	0.4	0.6	1.0	0.2	0.5