Electronic Supplementary Information

Design of thermoresponsive hydrogels by controlling the chemistry and imprinting of drug molecules within the hydrogel for enhanced loading and smart delivery of drugs

Sang-Yu Park[a,b†], Seong Yeol Kim[b†], Ji-Hye Kang[a,b], Han-Sem Kim[a,b] and Ueon Sang Shin[a,b*]

[a]Department of Nanobiomedical Science & BK21 PLUS NBM Global Research Center for Regenerative Medicine, Dankook University, Chungnam, Cheonan, 330-714, Korea.

[b]Institute of Tissue Regeneration Engineering (ITREN), Dankook University, Chungnam, Cheonan, 330-714, Korea.

*Corresponding author. Tel.: +82 41 550 3691, Fax.: +82 41 559 7911, E-mail address: usshin12@dankook.ac.kr.

[†]Sang-Yu Park and Seong Yeol Kim contributed equally to this work.

Sample name	Drug (mmol)	NIPAAm (mmol)	AAc (mmol)	DVB (mmol)	DW (μL)
NIH	0	1.07	0.06	0.06	500
ACVIH	0.0119	1.07	0.06	0.06	500
DCFIH	0.0119	1.07	0.06	0.06	500
DXRIH	0.0119	1.07	0.06	0.06	500

Table S1. Molecularly imprinted hydrogel samples prepared with different feeding amounts of drug templates.

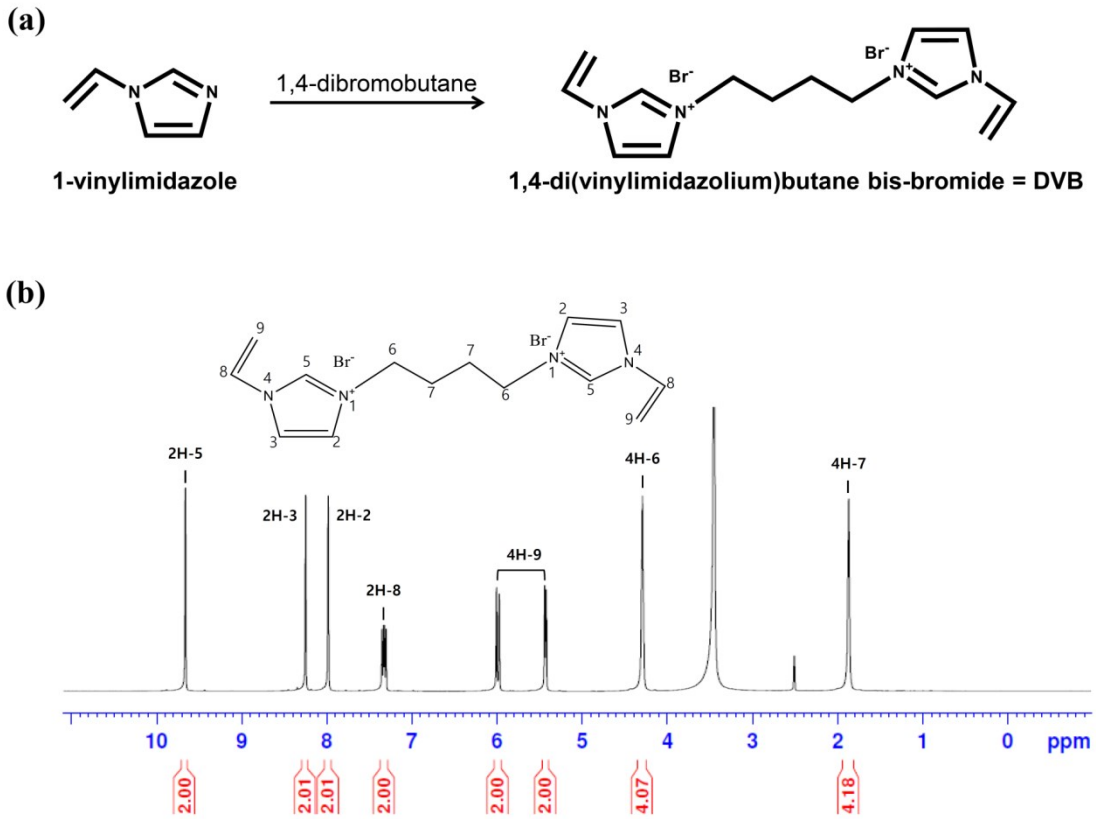

Figure S1. (a) Synthesis and (b) ^{1}H-NMR spectra of cationic crosslinker (1,4-di(vinylimidazolium)butane dis-bromide; DVB).

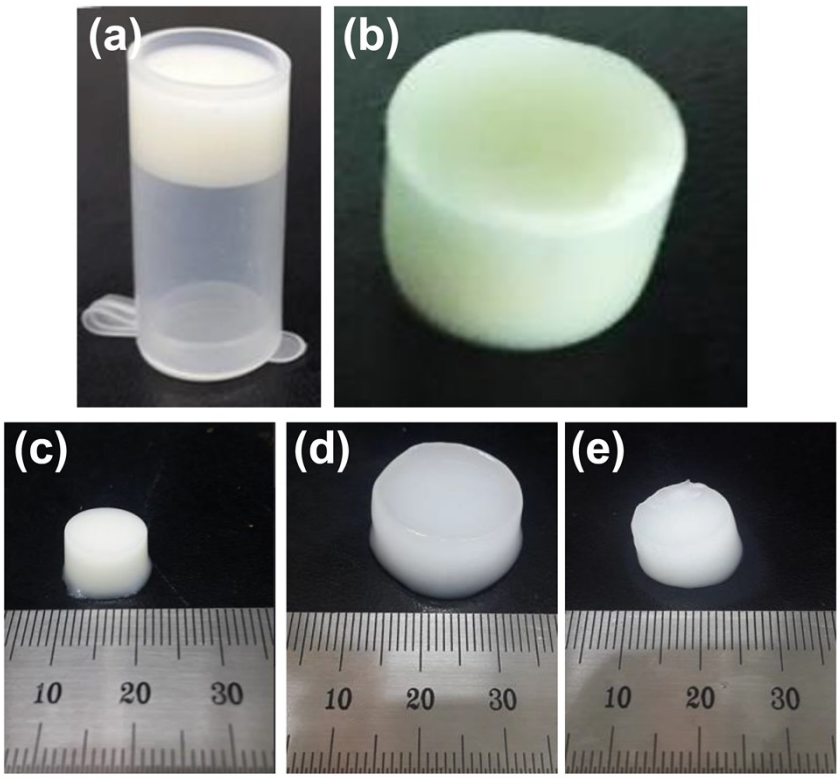

Figure S2. Photographs for (a, b) typical images of NIH, and demonstrating different state of MIH (b) freshly prepared hydrogel at 25 °C, (c) at equilibrium swelling (25 °C), and (d) at equilibrium shrunken state (50 °C).

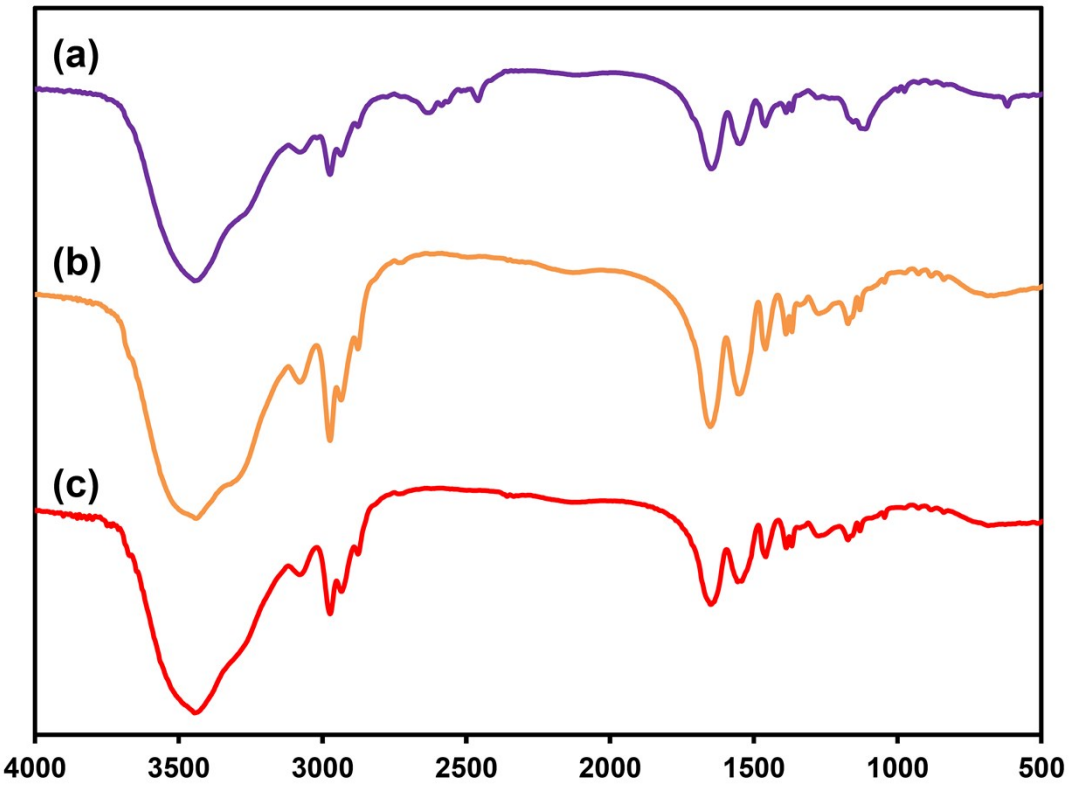

Figure S3. FT-IR spectra of the MIHs. (a) ACVIH, (b) DFNIH and (c) DXRIH.