

Supporting Information

Thermoreversible Radial Growth of Micellar Assembly for Hydrogel Formation Using Zwitterionic Oligopeptide Copolymer

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Jeong,^{*,‡} and Dong Keun Han^{*,†}**

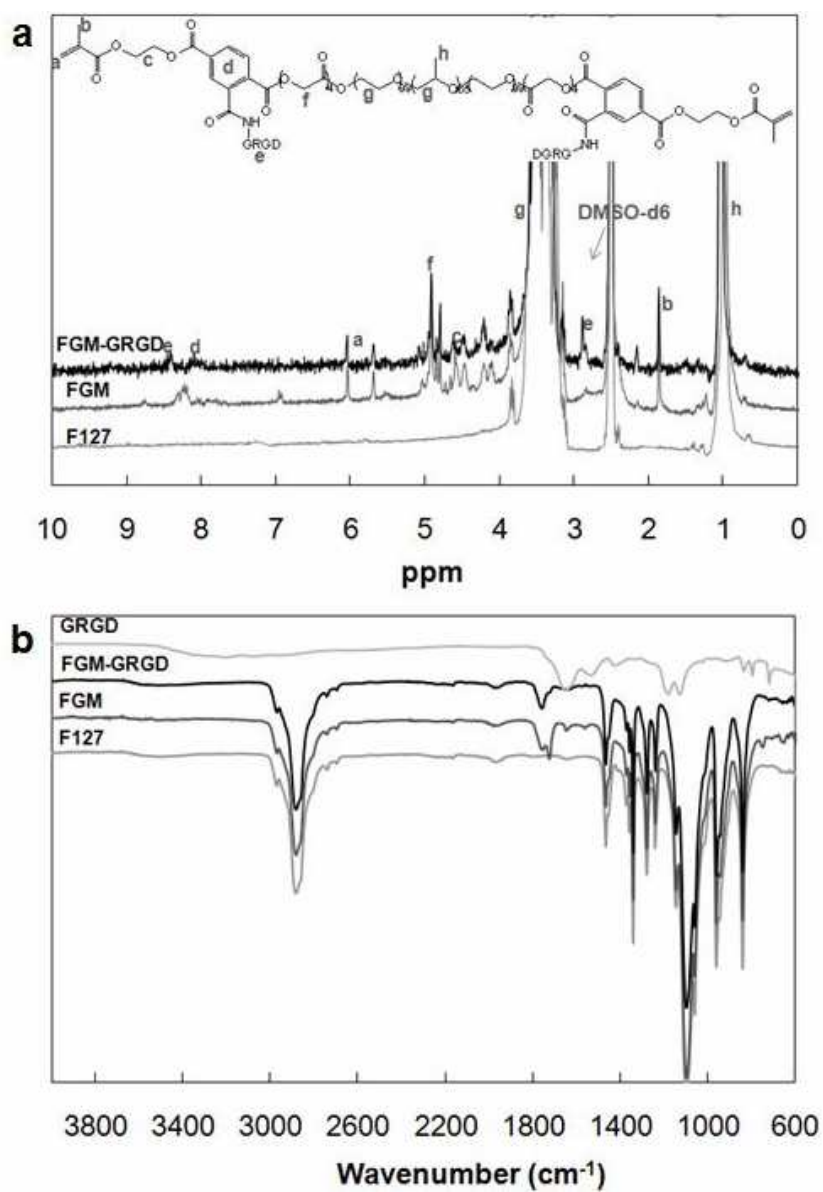


Figure S1. Characterization of synthesized polymers. (a) ^1H -NMR spectra of F127, FGM, and FGM-GRGD in DMSO- d_6 . (b) FTIR spectra of F127, FGM, and FGM-GRGD.

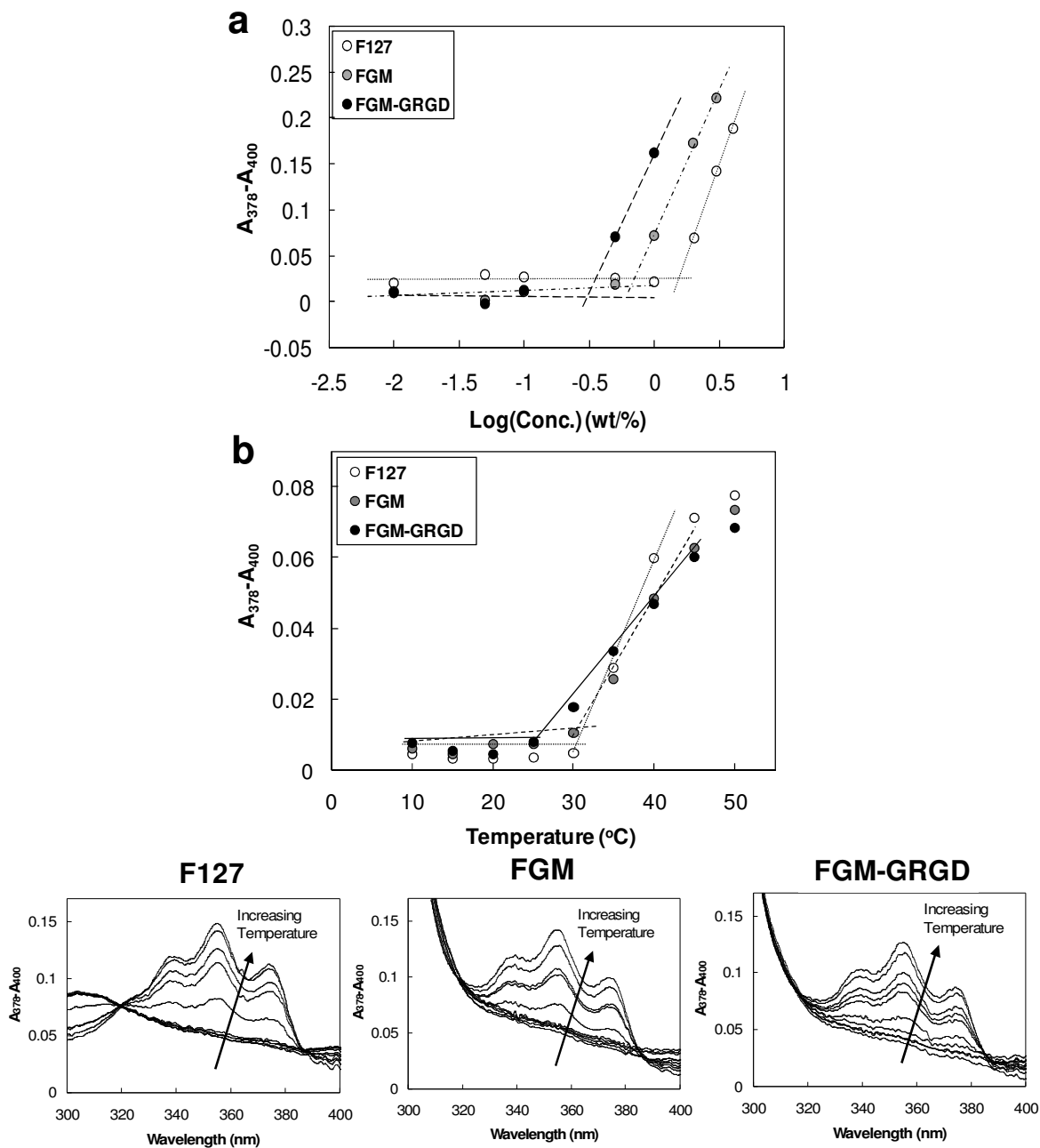
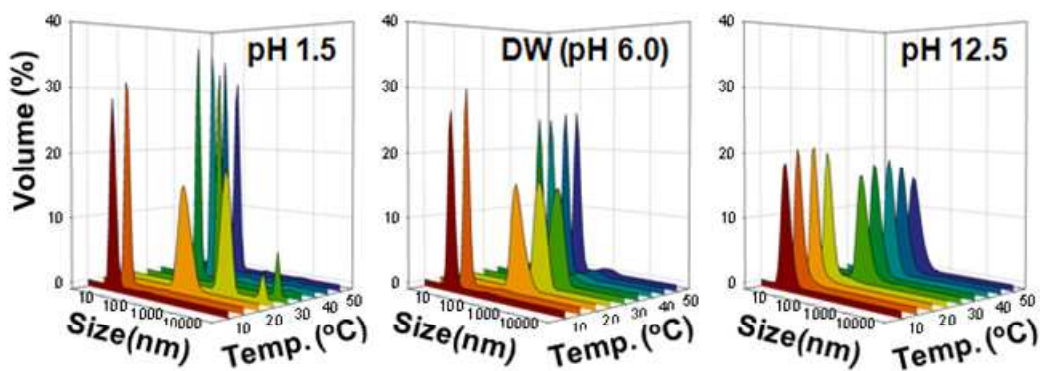


Figure S2. Dye solubilization in the F127, FGM, and FGM-GRGD aqueous solutions (0.1 wt.%). Change of absorbance ($A_{378} - A_{400}$) as a function of concentration at room temperature (a) and as a function of temperature (b).

FGM-GRGL



FGM-GFGD

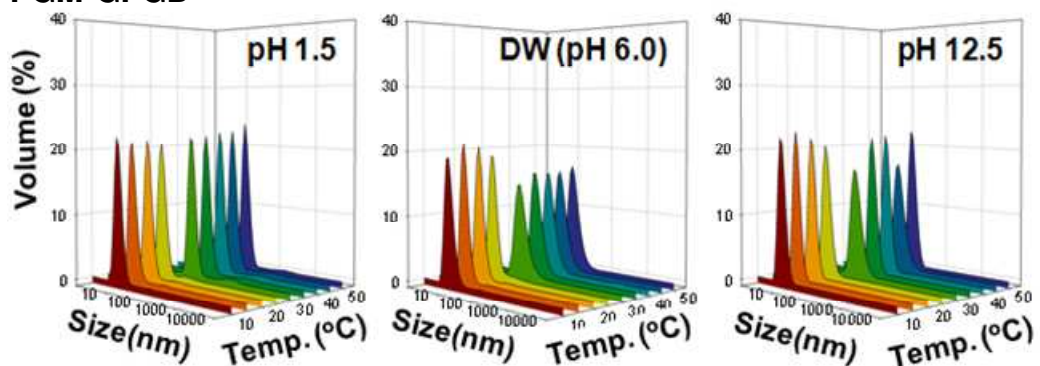


Figure S3. Structural effect of oligopeptides and pH effect on the nanoassembly of FGM-OligoP. Apparent sizes of FGM-GRGL and FGM-GFGD in water (0.1 wt.%) as a function of temperature at pH 1.5, 6.0, and 12.5.

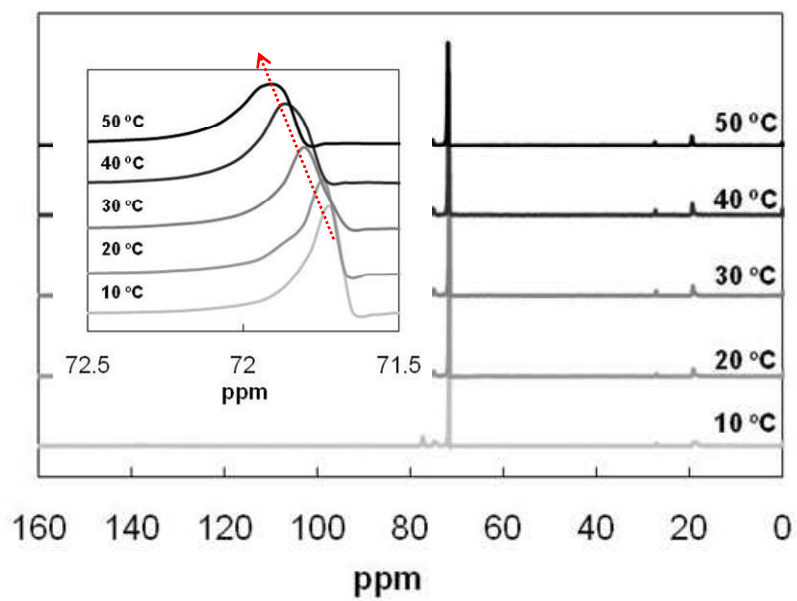


Figure S4. ^{13}C -NMR spectra of FGM-GRGD in D_2O as a function of temperature. The solution was equilibrated for 20 min at each temperature before measurement.

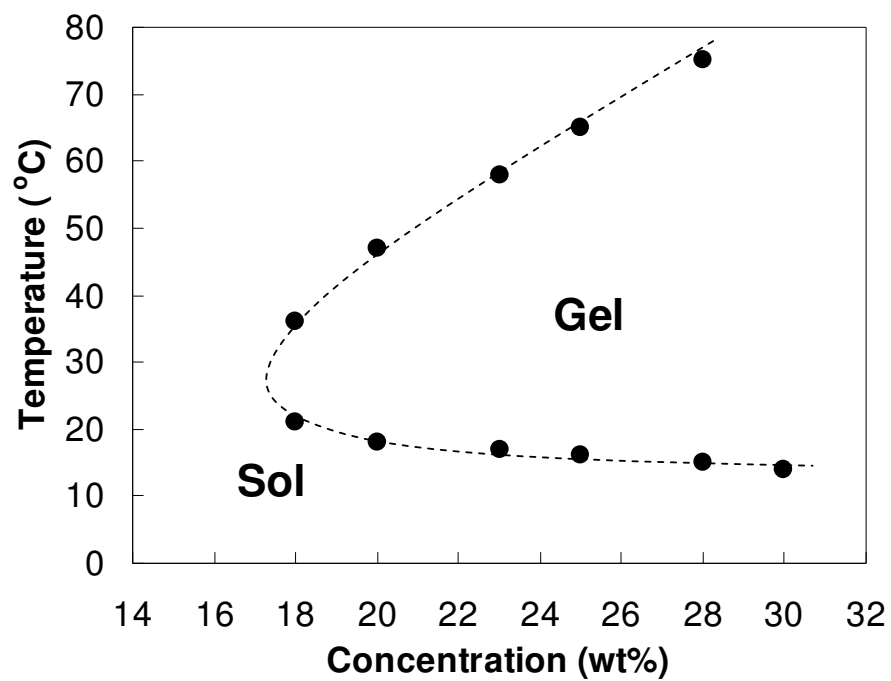


Figure S5. Phase diagram of FGM-GRGD aqueous solutions. The transition temperature was determined by the test-tube inverting method.

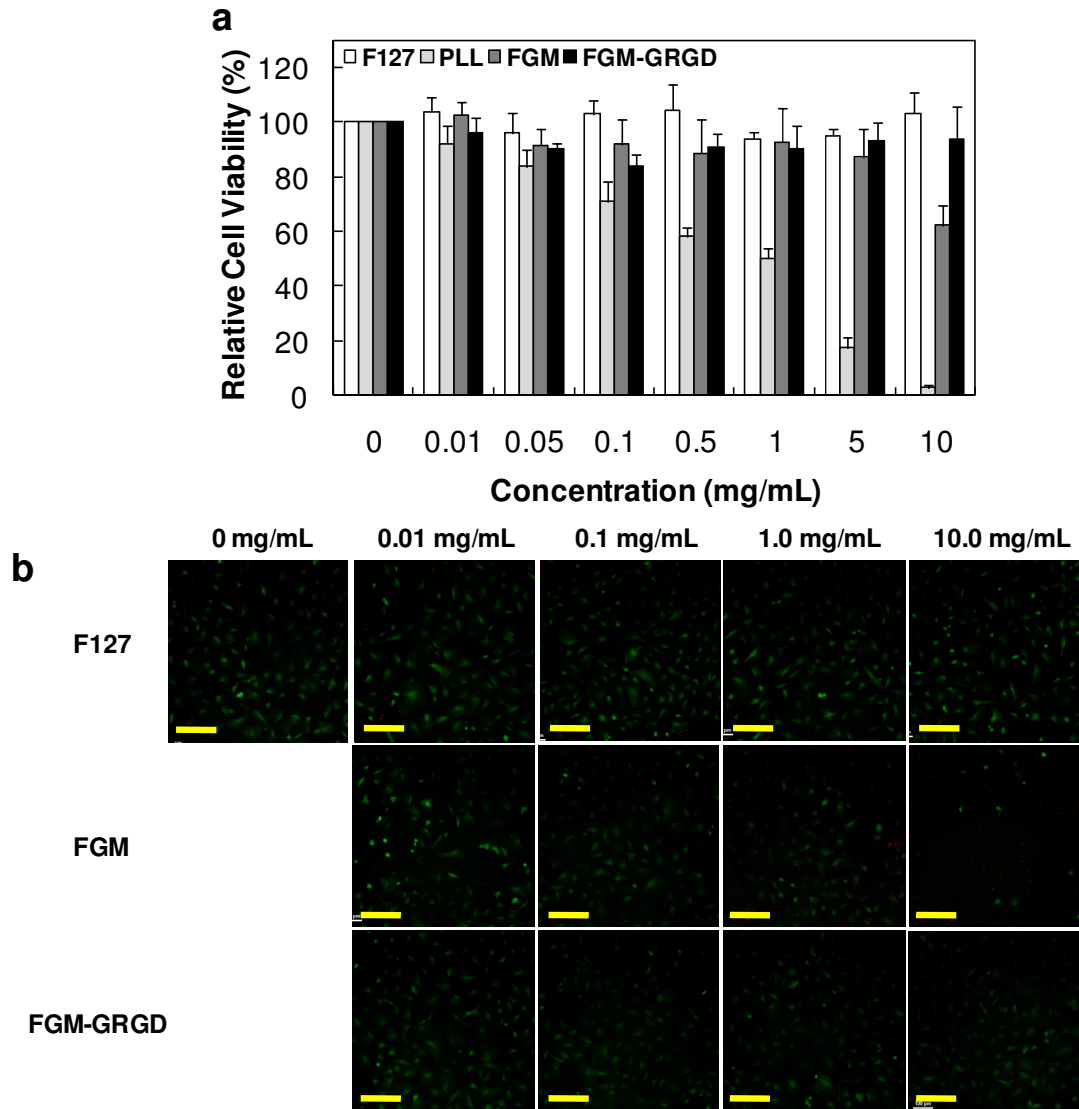


Figure S6. Chondrocyte viability in F127, FGM, and FGM-GRGD aqueous solutions as a function of concentration (0.01 ~ 10 mg/mL). (a) Relative cell viability determined by CCK-8. PLL with a molecular weight of 1,000 ~ 5,000 was compared as a control. $n = 5$. (b) Confocal microscopic images of monolayer cultured chondrocytes analyzed using a Live/Dead kit. Green and red images indicate live and dead cells, respectively. Scale bar is 200 μm .