

Supporting Information

Characteristic and chondrogenic differentiation analysis of hybrid hydrogels comprise of hyaluronic acid methacryloyl (HAMA), gelatin methacryloyl (GelMA), and the acrylate functionalized nano-silica crosslinker

Swathi Nedunchezian^{1,2,3}, Che-Wei Wu^{2,3}, Shung-Cheng Wu^{2,3}, Chung-Hwan Chen^{2,3,4}, Je-Ken Chang^{2,3,4}, Chih-Kuang Wang^{1,2,3,5,*}

¹Department of Medicinal and applied Chemistry, Kaohsiung Medical University, Kaohsiung, Taiwan.

²Regenerative Medicine and Cell Therapy Research Center, Kaohsiung Medical University, Kaohsiung, Taiwan.

³Orthopedic Research Center, College of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan.

⁴Department of Orthopedics, College of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan.

⁵Graduate Institute of Medicine, Kaohsiung Medical University, Kaohsiung, Taiwan

* Corresponding author: Chih-Kuang Wang

E-mail address: ckwang@kmu.edu.tw (C.K. Wang)

Tel.: 886-7-3121101 ext. 2677; Fax: 886-7-3125339

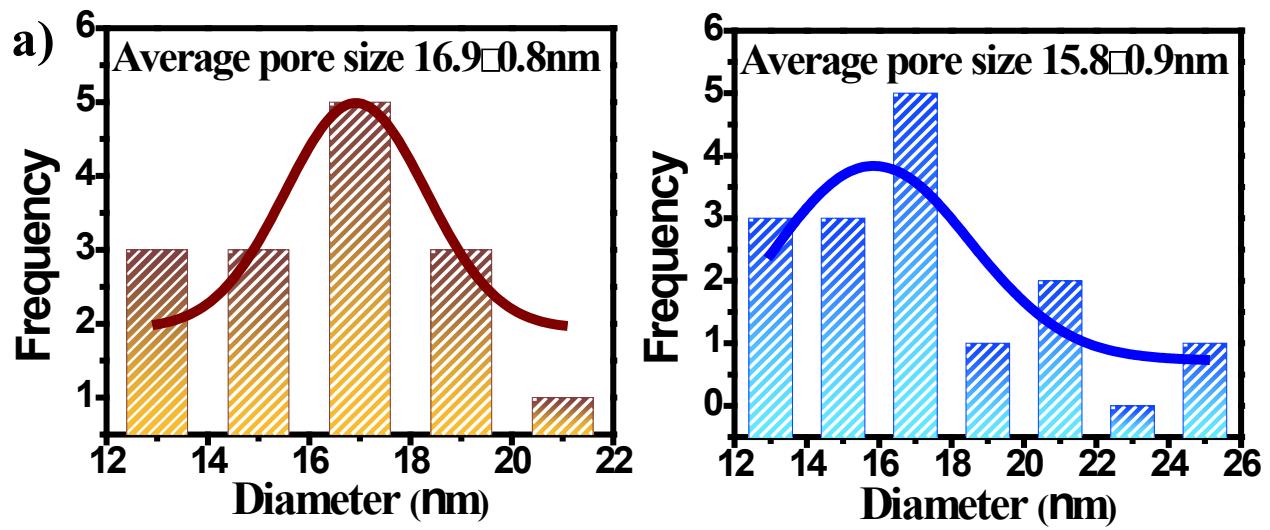


Figure S1 Particle size distribution of nano-silica (nSi) (a) and AFnSi crossliner (b).

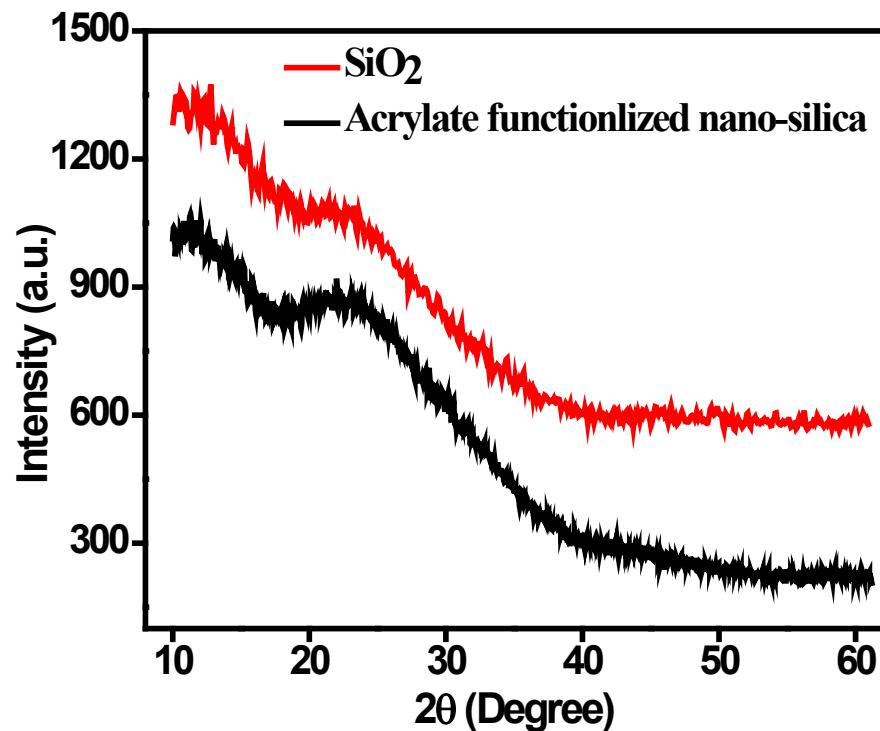


Figure S2 Demonstrates the XRD pattern of nano-silica (SiO_2) (red line) and acrylate functionalised nano-silica (black line).

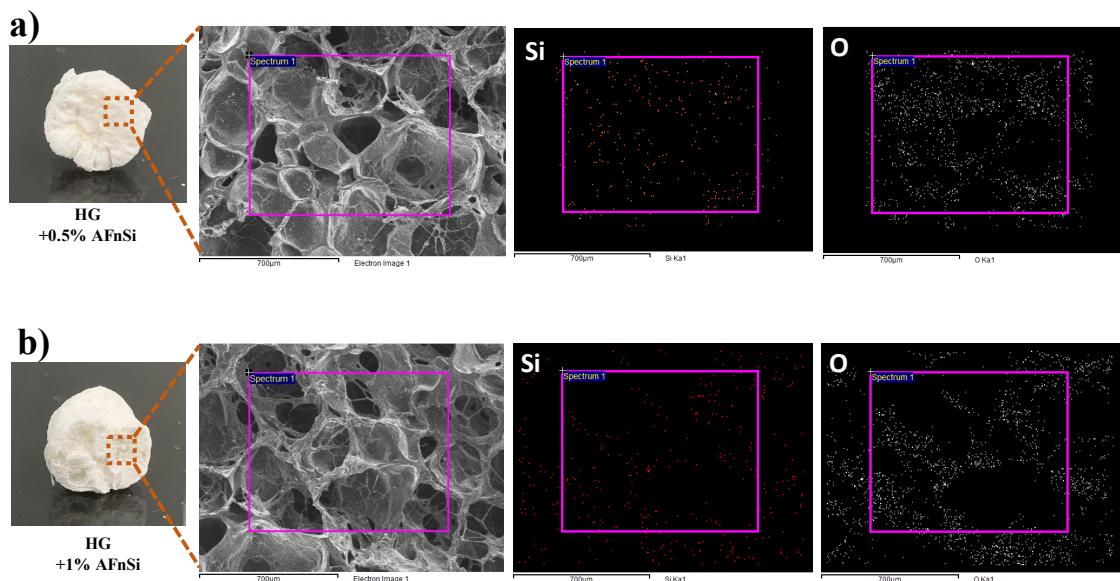


Figure S3 Side-view optical micrograph, SEM and its elemental mapping analysis of EDS image of the hybrid hydrogel HG with 0.5% AFnSi (a) and HG with 1% AFnSi crosslinker (b).

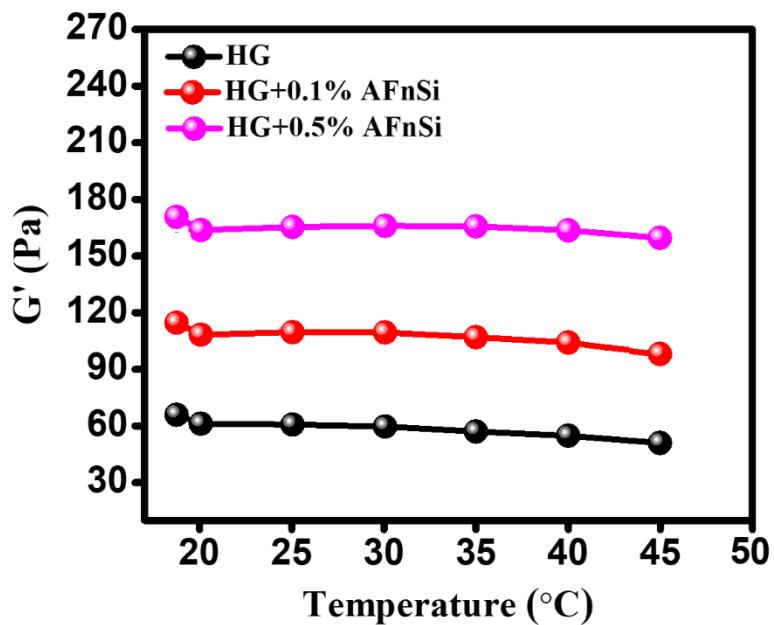


Figure S4 Storage modulus (G') as a function of the temperature sweep for the photo-crosslinked HG hydrogel with different concentrations of AFnSi crosslinkers such as 0, 0.1, and 0.5% (w/v) respectively.