

Supplementary Information

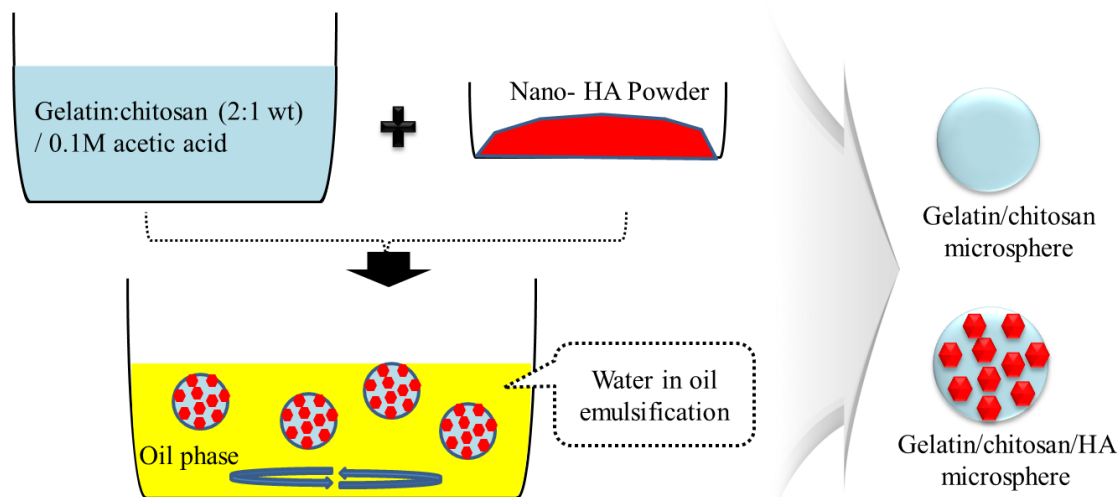


Figure S1. Schematic illustration of water in oil (W/O) emulsification to prepare HA-containing composite microspheres.

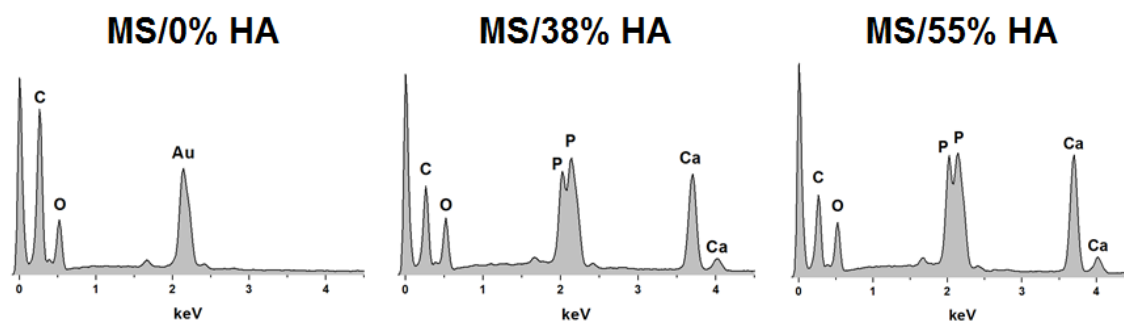


Figure S2. Energy dispersive spectroscopy (EDS) analysis of composite microspheres (MS): gelatin/chitosan microspheres with no hydroxyapatite (HA) (MS/0% HA), microspheres with 38 % HA (MS/38 % HA), and microspheres with 55 % HA (MS/55 % HA). The peaks for calcium (Ca) and phosphate (P) were clearly detected in the HA-containing microspheres (MS/38 % HA and MS/55 % HA) whereas no Ca and P peaks were observed in microspheres containing no HA (MS/0 % HA).

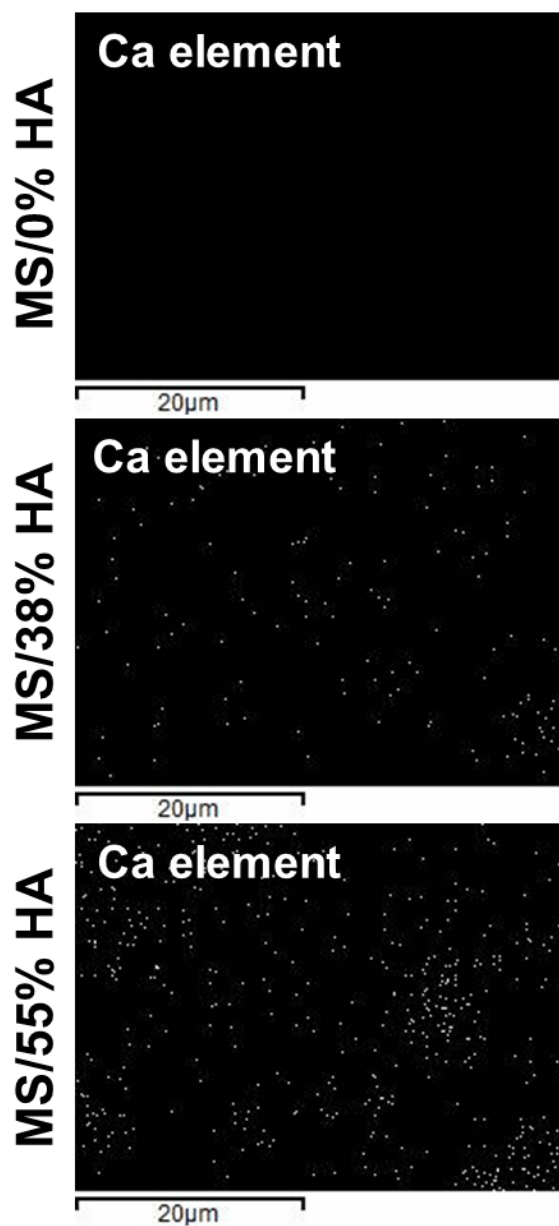


Figure S3. EDS mapping of calcium element in composite microspheres: gelatin/chitosan microspheres with no hydroxyapatite (HA) (MS/0% HA), microspheres with 38 % HA (MS/38 % HA), and microspheres with 55 % HA (MS/55 % HA).

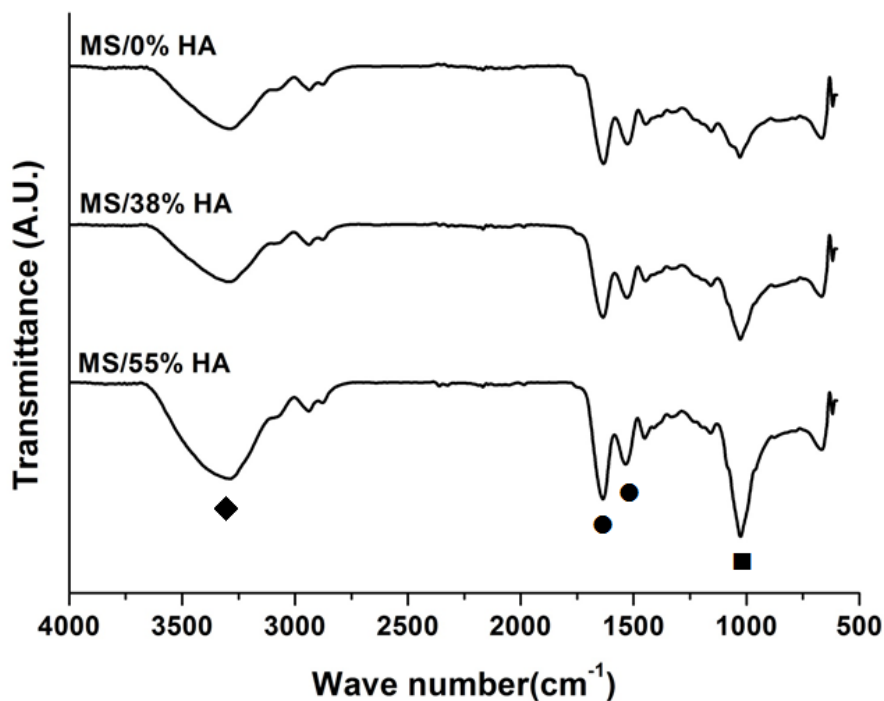


Figure S4. Fourier transform infrared (FT-IR) spectra of composite microspheres (MS): gelatin/chitosan microspheres with no hydroxyapatite (HA) (MS/0% HA), microspheres with 38 % HA (MS/38 % HA), and microspheres with 55 % HA (MS/55 % HA). The representative peaks for amide I and II (circle: ●), hydroxyl group (diamond: ◆), and phosphate (square: ■) are marked in the figure. Although the peaks at 1026 cm^{-1} assigned for phosphate overlap with the peaks at 1070 cm^{-1} corresponding to C-O stretching of chitosan, the overriding effect of HA is indicated by the increasing peak intensity of phosphate in HA-containing microspheres (MS/38 % HA and MS/55 % HA). The broad hydroxyl (-OH) band located at 3571 cm^{-1} became more amplified especially for the composite microspheres consisting of 55 % HA (MS/55 % HA) as these had the largest amount of HA.

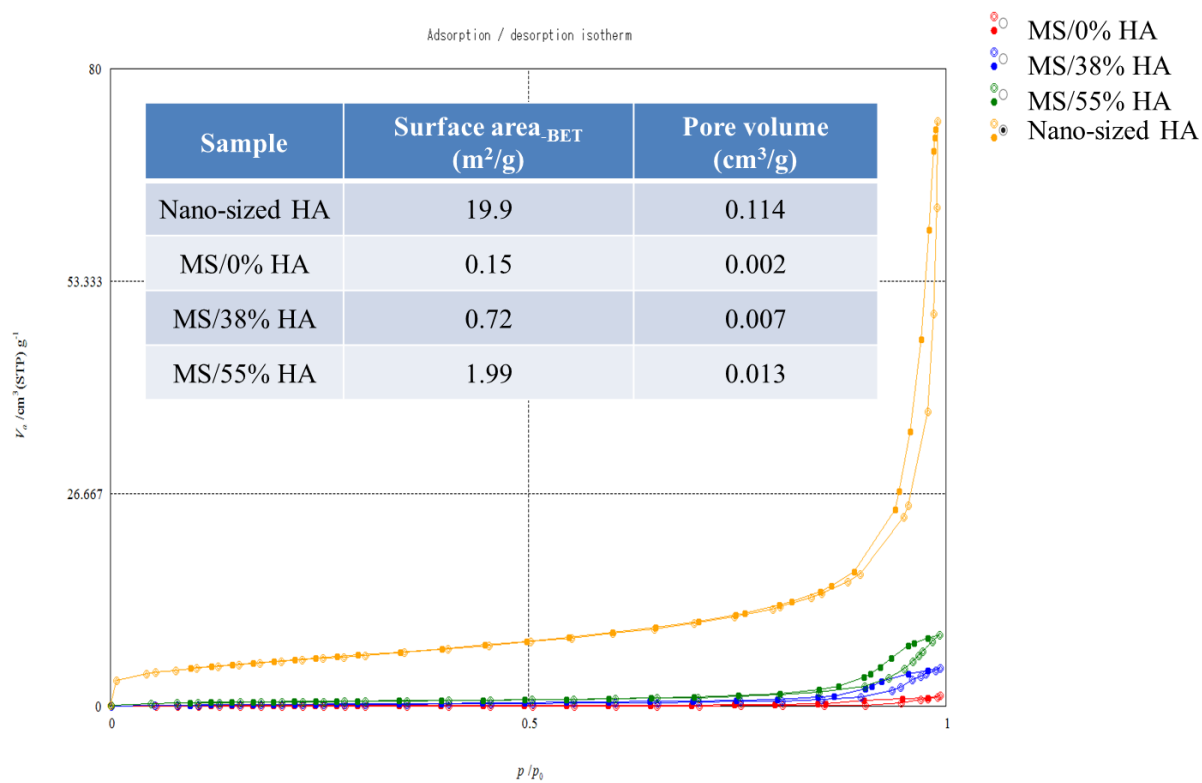


Figure S5. N₂ adsorption-desorption isotherms of composite microspheres and calculated specific surface area (m²/g) and pore volume (cm³/g).