

*Supplementary Information for*

## **Development of Injectable Colloidal Solution Forming *in situ* Hydrogel for Tumor Ablation**

*Sung Jin Choi<sup>a,b</sup>, Sanghee Lee<sup>a</sup>, Hyunjun Choi<sup>a</sup>, Min Jun Ko<sup>a</sup>, Dong-Hwan Kim<sup>b\*</sup>, Dong-Hyun Kim<sup>a,c,d,e\*</sup>*

<sup>a</sup> Department of Radiology, Feinberg School of Medicine, Northwestern University, Chicago, IL 60611, USA

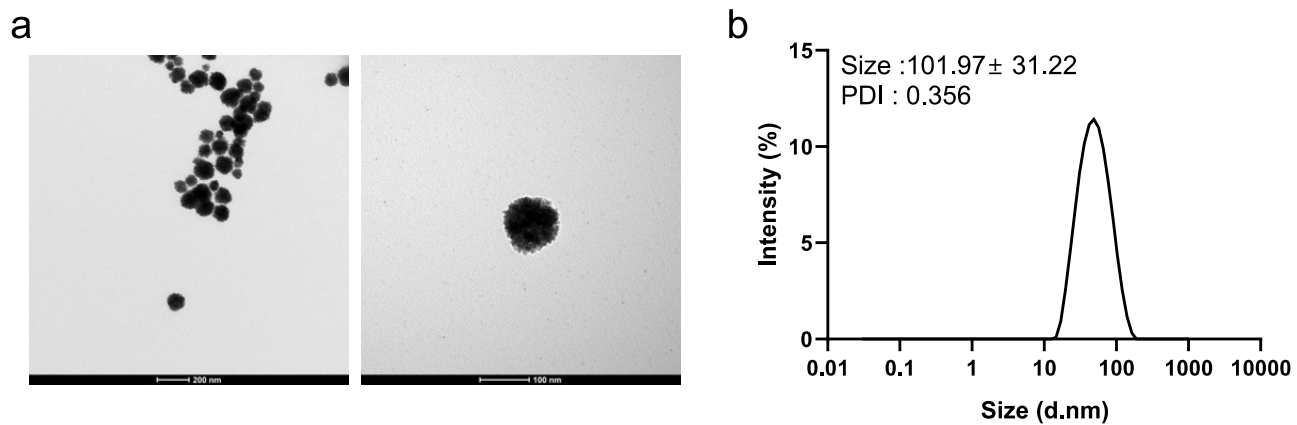
<sup>b</sup> School of Chemical Engineering, Sungkyunkwan University (SKKU), Suwon 16419, Korea

<sup>c</sup> Robert H. Lurie Comprehensive Cancer Center, Northwestern University, Chicago, IL 60611, USA

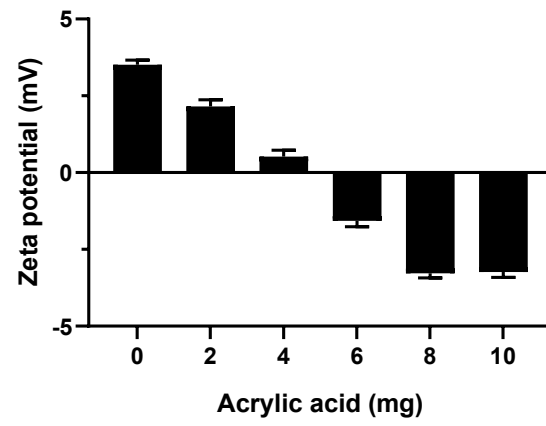
<sup>d</sup> Department of Biomedical Engineering, McCormick School of Engineering, Northwestern University, Evanston, IL 60208, USA

<sup>e</sup> Department of Biomedical Engineering, University of Illinois, Chicago, IL 60607, USA

\* Corresponding Authors: Prof. Dong-Hwan Kim (E-mail: [dhkim1@skku.edu](mailto:dhkim1@skku.edu)) and Prof. Dong-Hyun Kim (E-mail: [dhkim@northwestern.edu](mailto:dhkim@northwestern.edu))



**Supplementary Figure 1.** (a) Transmission electron microscope (TEM) images of AA-IONP and (b) hydrodynamic particle size of AA-IONP.

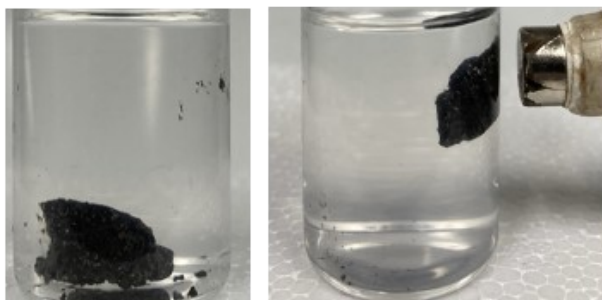


**Supplementary Figure 2.** Zeta potential of gelatin microsphere fabricated with acrylic acid.

### Magnetic field responsiveness



**MGM colloidal ethanol solution**



**MGM colloidal ethanol solution in aqueous solution**

**Supplementary Figure 3.** Magnetic field responsiveness of MGM colloidal ethanol solution and MGM colloidal solution in water.

**Supplementary video 1.** Video indicating *in-situ* gelation profile for MGM colloidal ethanol solution.

**Supplementary video 2.** Video indicating *in-situ* gelation profile for gelatin-gel.