

Electronic Supplementary Information (ESI)

**Stimuli-responsive magnetic nanoparticles for tumor-targeted bimodal
imaging and photodynamic/hyperthermia combination therapy**

Kyoung Sub Kim,^a Jiyoung Kim,^a Joo Young Lee,^a Shofu Matsuda,^b Sho Hideshima,^c
Yasuro Mori,^d Tetsuya Osaka,^{b,c,*} and Kun Na^{a,*}

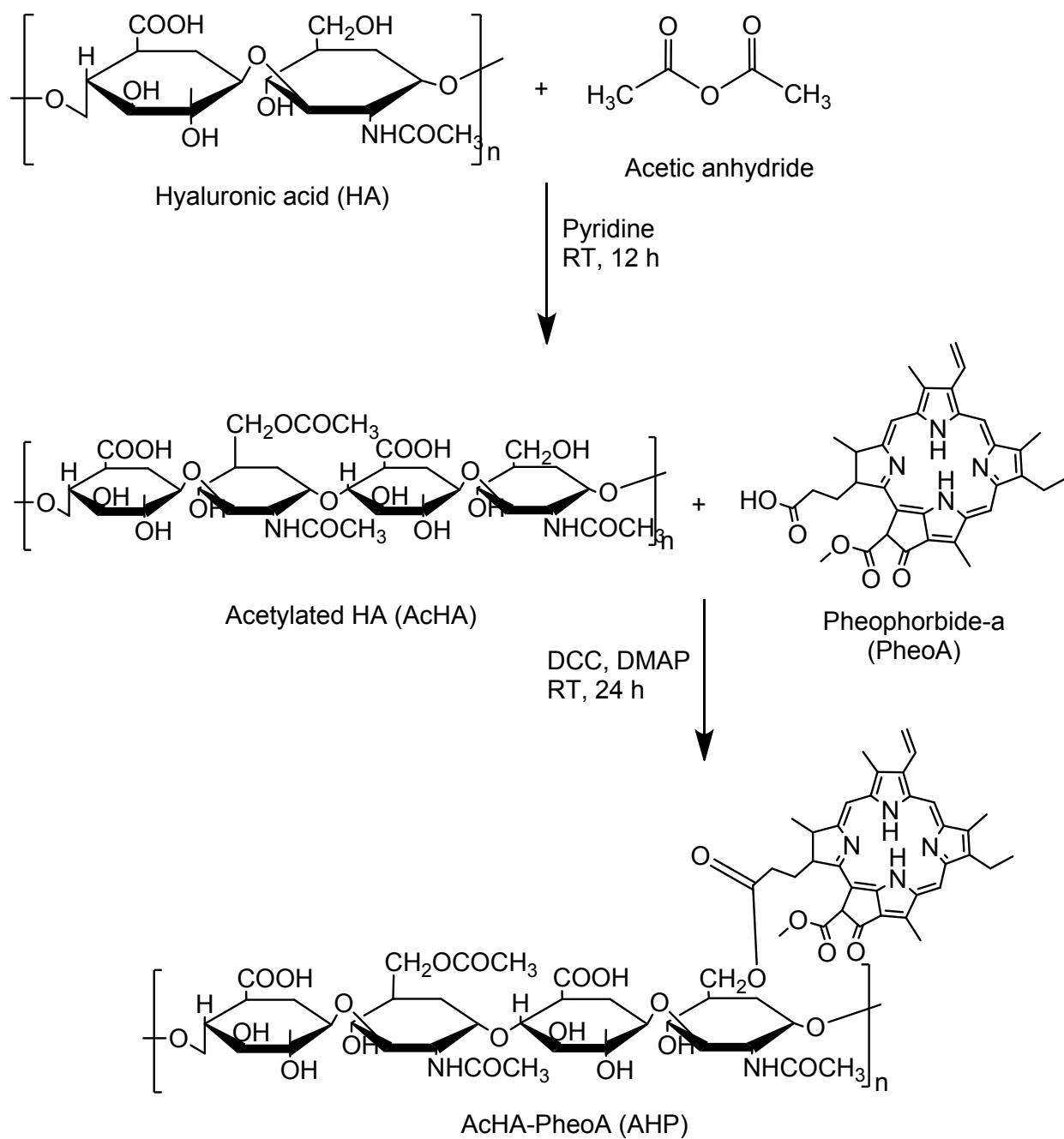
^a Department of Biotechnology, The Catholic University of Korea, 43 Jibong ro, Wonmi-gu,
Bucheon-si, Gyeonggi do, 420-743, Republic of Korea

^b Graduate School of Advanced Science and Engineering, Waseda University, 3-4-1 Okubo,
Shinjuku-ku, Tokyo, 169-8555, Japan

^c Research Organization for Nano & Life innovation, Waseda University, 513 Waseda-
tsurumaki-cho, Shinjuku-ku, Tokyo, 162-0041, Japan

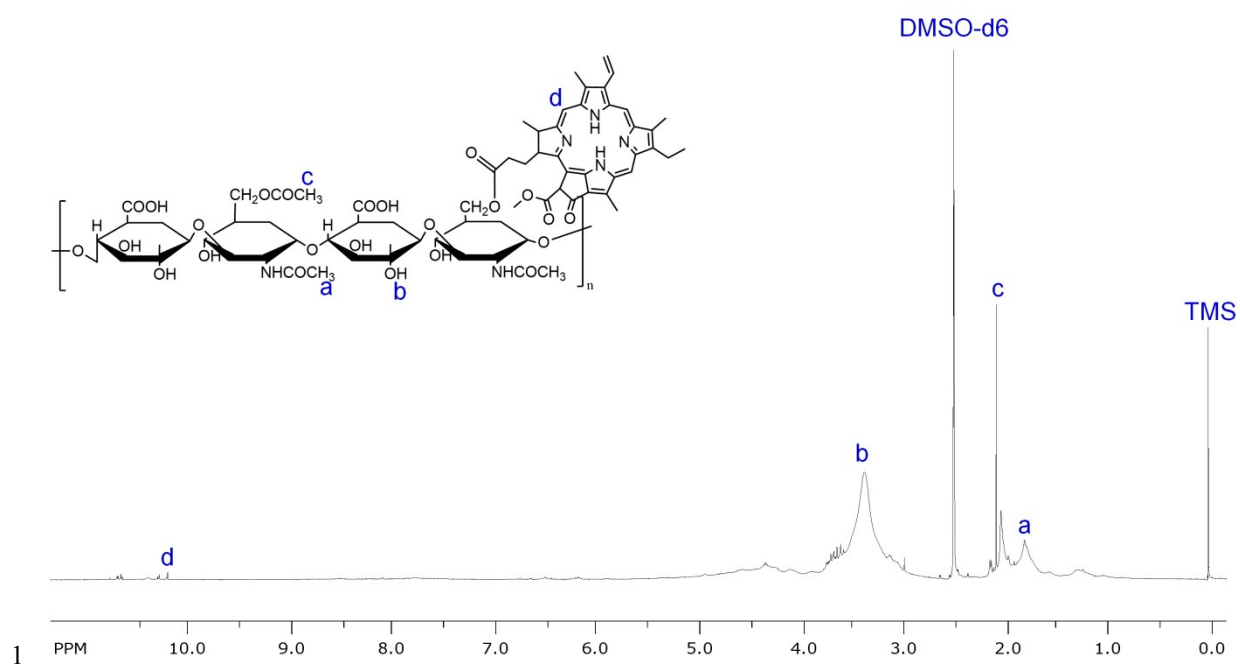
^d CUK-WASEDA Center for Nanotech Research, The Catholic University of Korea, 43
Jibong ro, Wonmi-gu, Bucheon-si, Gyeonggi do, 420-743, Republic of Korea

*Corresponding author e-mail: kna6997@catholic.ac.kr, osakatets@waseda.jp



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2 **Fig. S1.** Synthetic route of pheophorbide-a conjugated acetylated hyaluronic acid (AHP).

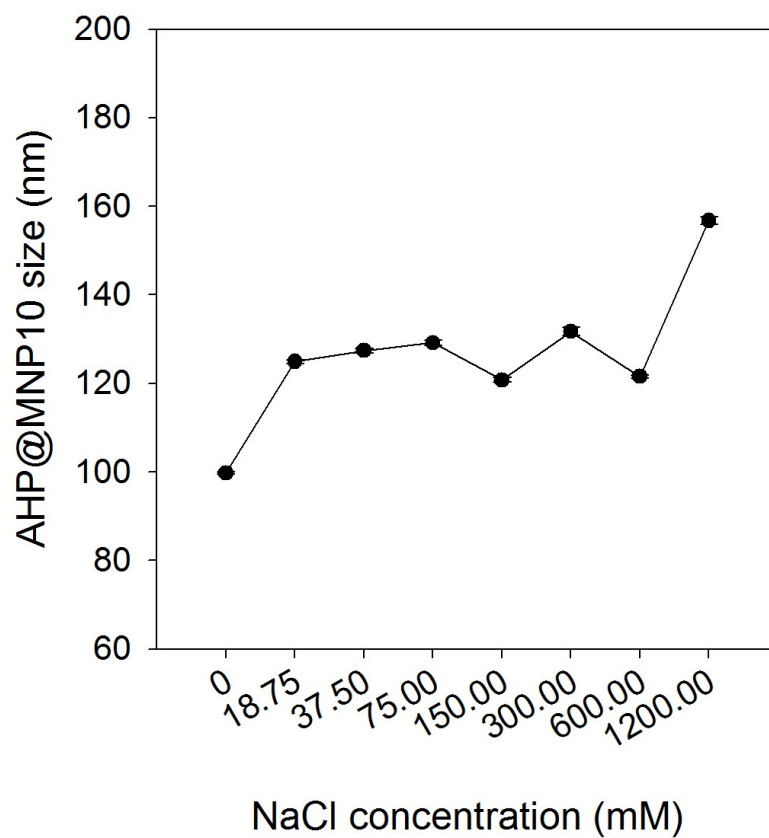


2 **Fig. S2.** ^1H NMR analysis of synthesized AHP.

1 **Table S1.** Size and zeta potential of fabricated AHP@MNPs.

Sample	Mix ratio (AHP:MNP, w/w)	Size (nm)	Zeta potential (mV)
AHP@MNP10	1:1	108.13 ± 1.08	-36.77 ± 0.40
	2:1	109.03 ± 0.38	-37.43 ± 0.55
	3:1	112.57 ± 0.77	-34.40 ± 0.20
AHP@MNP40	1:1	222.37 ± 5.05	-34.83 ± 1.96
	2:1	227.30 ± 3.72	-34.40 ± 0.26
	3:1	239.27 ± 1.96	-36.63 ± 0.51

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2 **Fig. S3.** Stability measurement of AHP@MNP10.

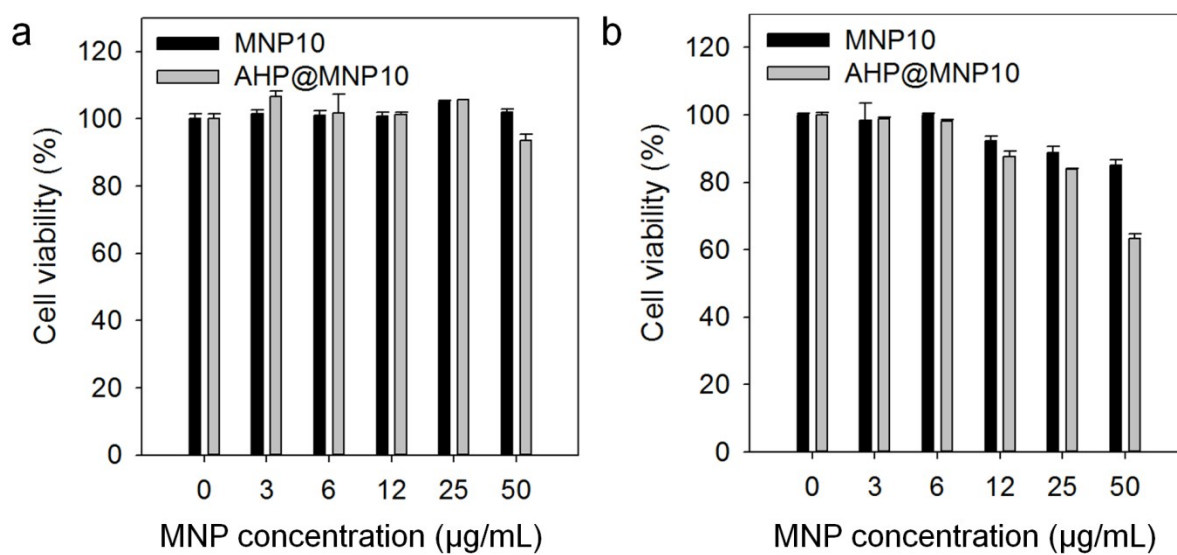
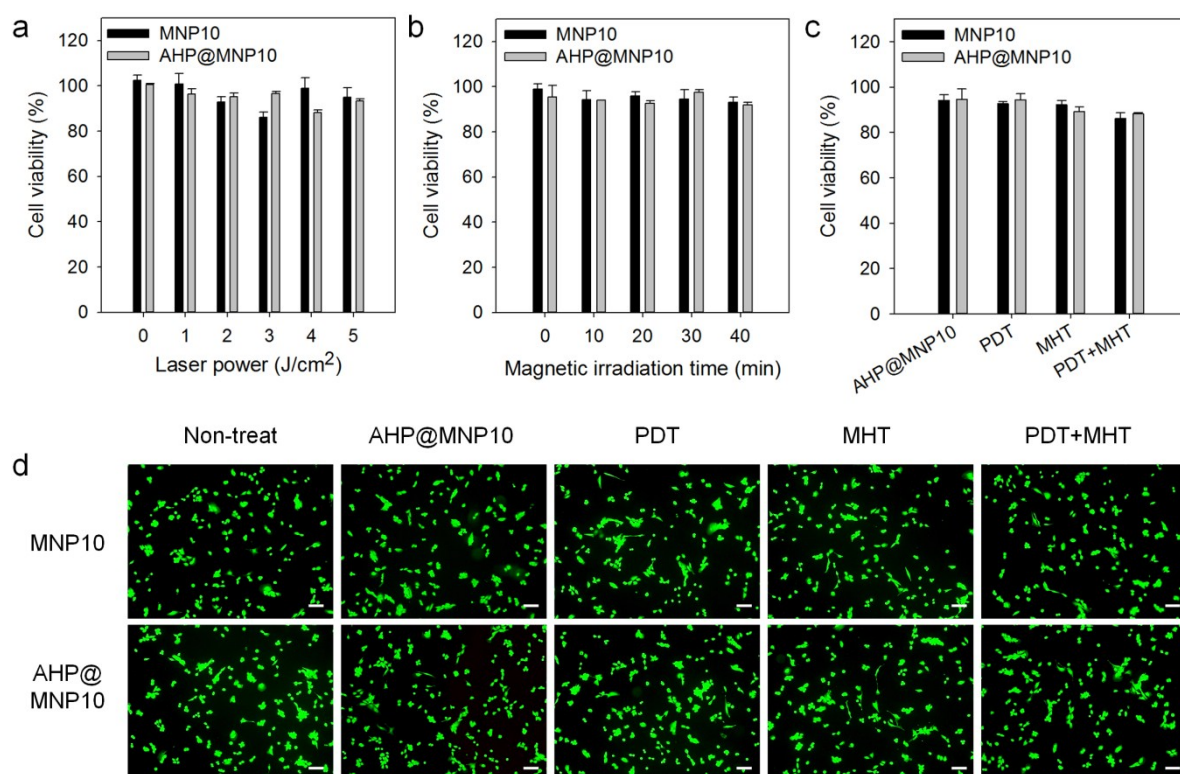


Fig. S4. a) Cytotoxicity of MNP10 and AHP@MNP10 in NIH3T3 cells. b) Cytotoxicity of MNP10 and AHP@MNP10 in K1735 cells.



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2 **Fig. S5.** a) Cytotoxicity of MNP10 and AHP@MNP10 with 671 nm laser irradiation in
3 NIH3T3 cells. b) Cytotoxicity of MNP10 and AHP@MNP10 with magnetic irradiation (112
4 kHz, 17-turn coil, 19.9 kA/m) in NIH3T3 cells. c) Cytotoxicity of MNP10 and
5 AHP@MNP10 with 2 J/cm² laser and 40 min magnetic irradiation in NIH3T3 cells. d)
6 Live/Dead assay of MNP10 and AHP@MNP10 exposed to PDT and MHT, alone and in
7 combination in NIH3T3 cells (live; green, dead; red). White scale bar is 50 μm. The same
8 concentration (12 μg/mL of MNP10, 3 μg/mL of PheoA) of MNP10 and AHP@MNP10 was
9 treated in NIH3T3 cells.