Electronic Supplementary Material (ESI) for Molecular BioSystems
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Supporting information for:

Preparation of Non-Aggregated Fluorescent Nanodiamonds (FNDs) by Non-Covalent Coating with a Block Copolymer and Proteins for Enhancement of Intracellular Uptake

Authors: Jong Woo Lee[a†], Seonju Lee[b†], Sangmok Jang[b], Kyu Young Han[c,d], Younggyu Kim[b], Jaekyung Hyun[e], Seong Keun Kim[a,b]*, and Yan Lee[b]*

[a] WCU Department of Biophysics and Chemical Biology, Seoul National University, Gwanak-ro 1, Gwanak-gu, Seoul 151-747, Republic of Korea

[b] Department of Chemistry, Seoul National University, Gwanak-ro 1, Gwanak-gu, Seoul 151-747, Republic of Korea

[c] Department of Physics, University of Illinois at Urbana-Champaign, Urbana, IL 61801, USA

[d] Howard Hughes Medical Institute, Urbana, IL 61801,USA

[e] Division of Electron Microscopic Research, Korea Basic Science Institute (KBSI), 169-148 Gwahangno, Yuseong-gu, Daejeon 305-333, Republic of Korea

[†]These two authors equally contributed to this work.

* To whom correspondence should be addressed.

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Table. S1 Measurement of molecular weights of polymers

	M_{n1} [a]	M_{n2} [b]	M_w [b]	PD (M_w/ M_n) [b]
PEG-Br initiator (**3**)	5.15×10^3	4.25×10^3	4.36×10^3	1.02
Polymer1 (**6**)	1.09×10^4	1.25×10^4	1.28×10^4	1.03
Polymer2 (**7**)	1.07×10^4	9.34×10^3	1.00×10^4	1.03
Polymer3 (**8**)	1.10×10^4	8.81×10^3	9.10×10^3	1.03

[a] The values are determined from ^{1}H NMR spectra.

[b] The values are determined by GPC.

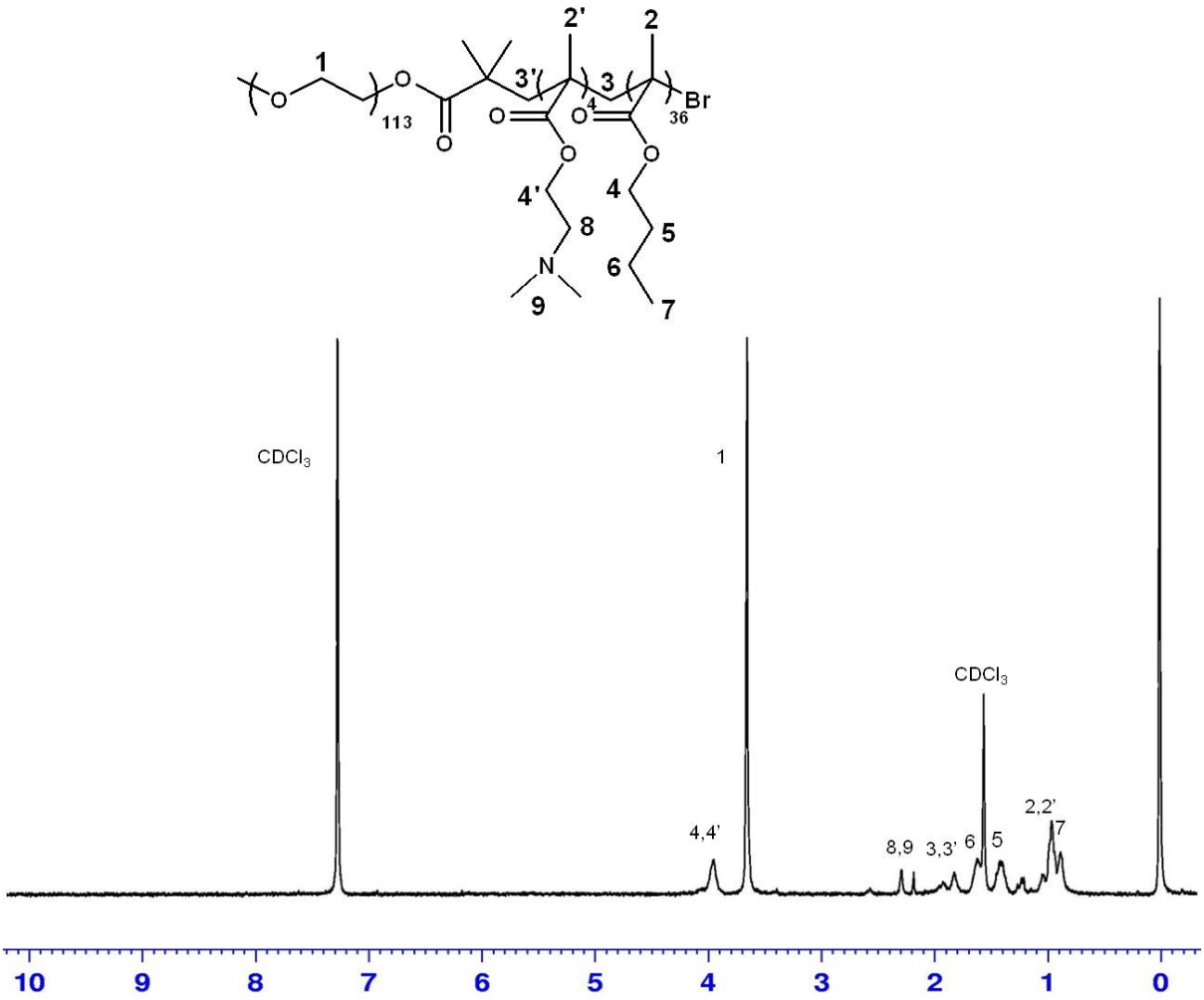
Polymer1: P(DMAEMA$_4$-*co*-BMA$_{36}$)

Polymer2: P(DMAEMA$_7$-*co*-BMA$_{31}$)

Poymer3: P(DMAEMA$_{12}$-*co*-BMA$_{28}$)

Fig. S1 ^{1}H NMR spectrum of PEG-*b*-P(DMAEMA-co-BMA) (6) in $CDCl_3$. (a) PEG-b-P($DMAEMA_4$-co-BMA_{36}, (b) PEG-b-P($DMAEMA_7$-co-BMA_{31}, (c) PEG-b-P($DMAEMA_{12}$-co-BMA_{28}

(a)



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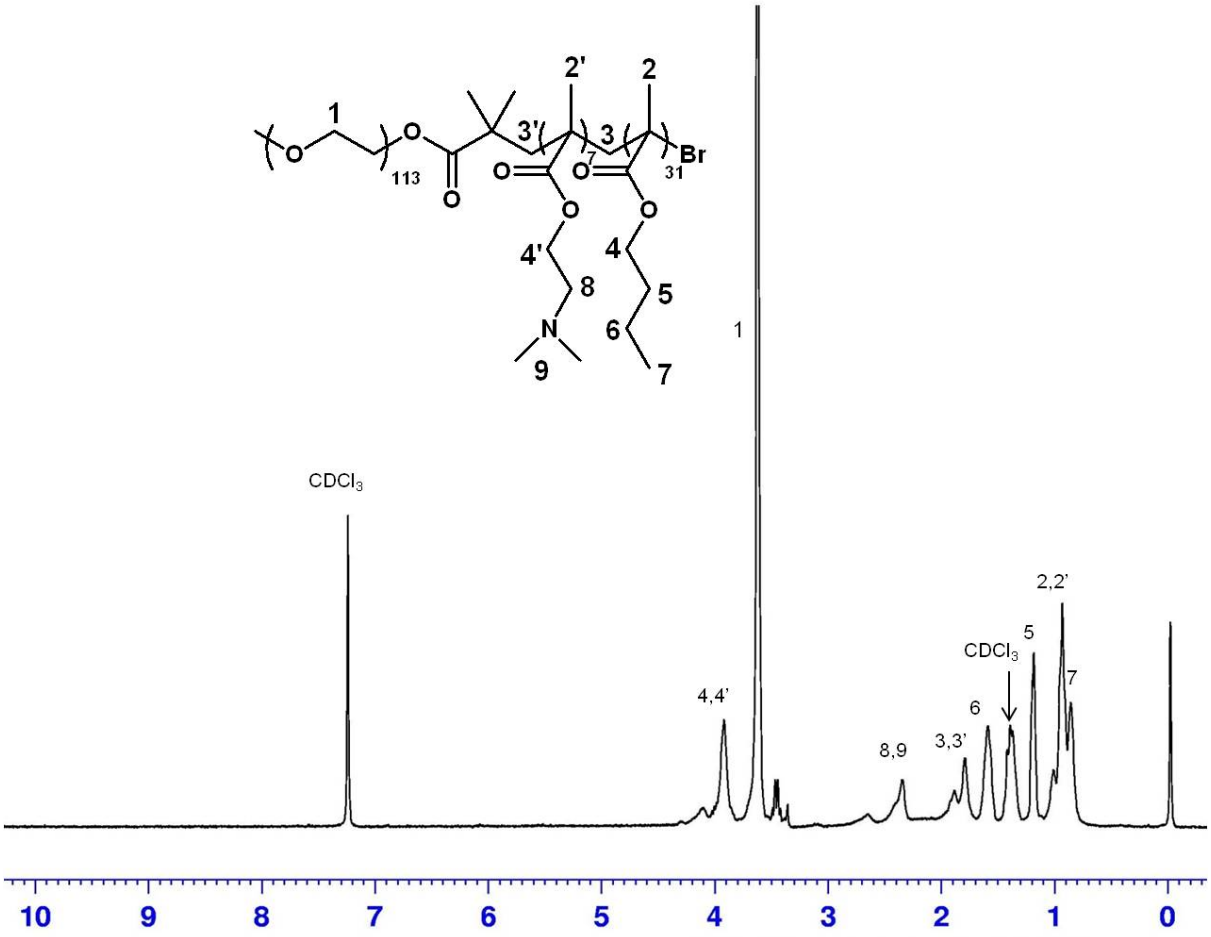
(b)



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(c)

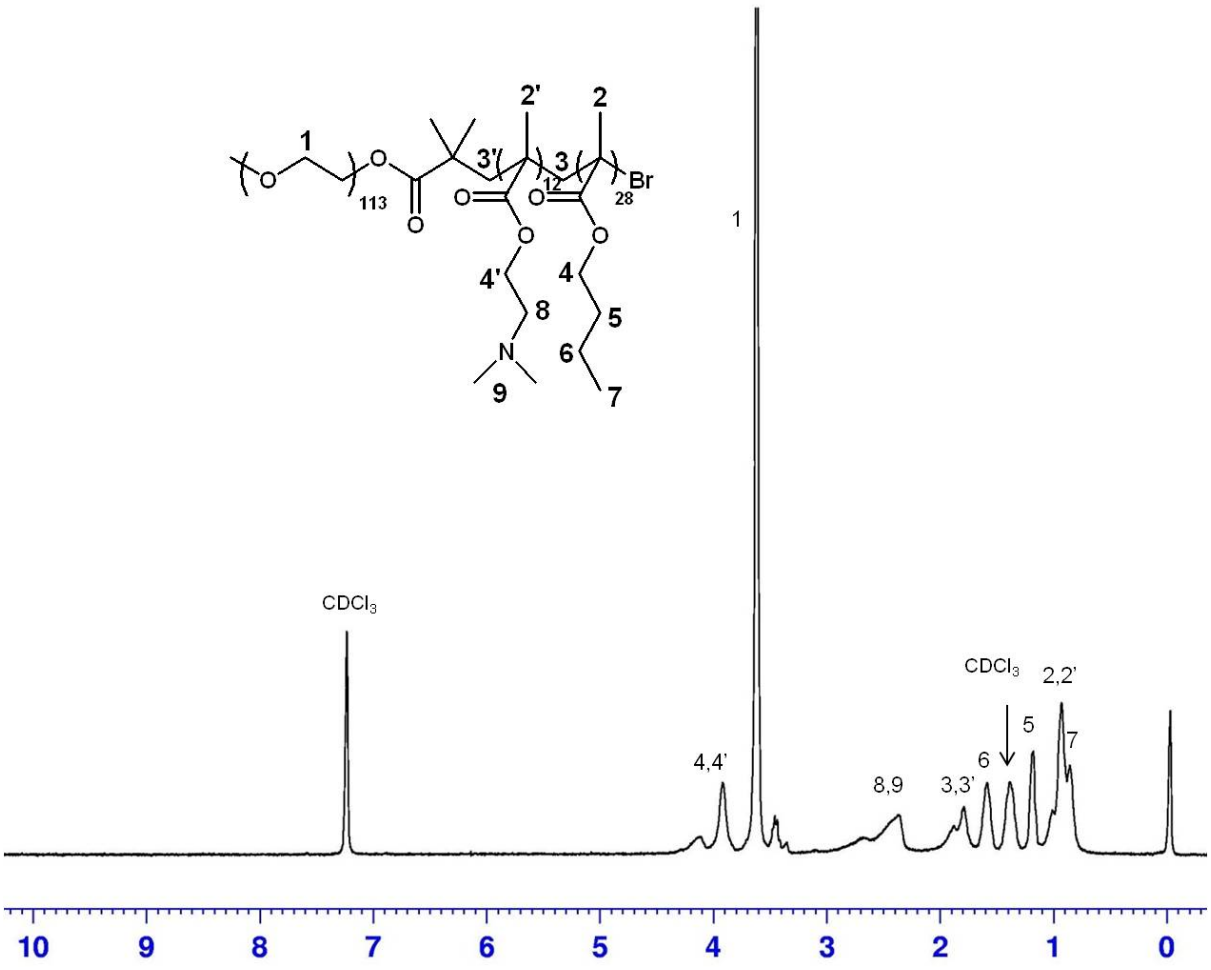

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Fig. S2 Change of the hydrodynamic diameters of polymer-coated FNDs in 150mM NaCl for 2 weeks. Size of polymer 3-coated FNDs aggregated over 2000 nm as soon as the salts were added (data not shown). Each data point represents the average value of three experiments (± S.D.).

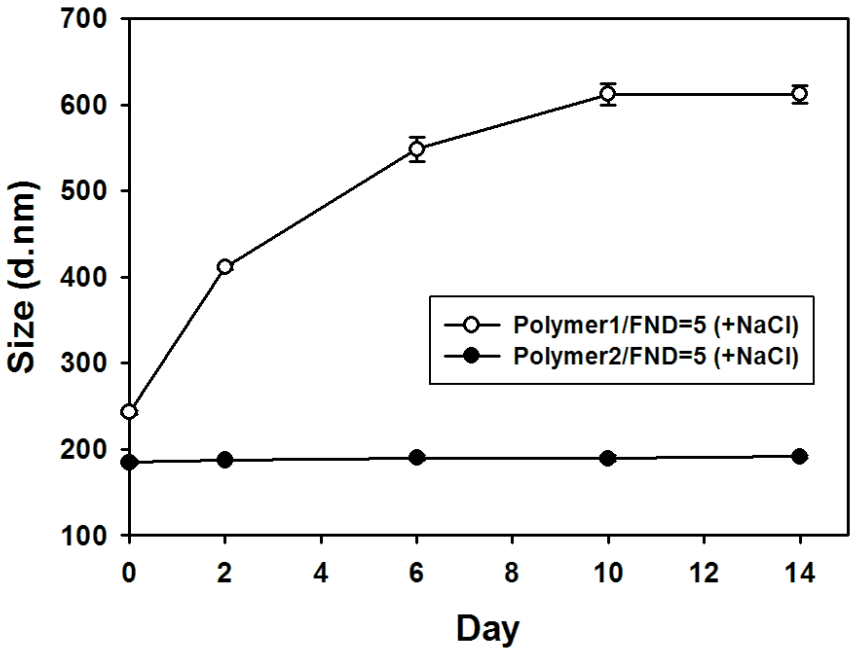

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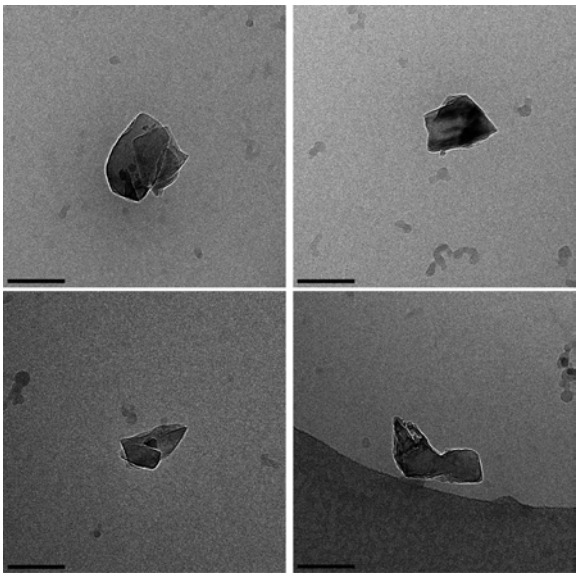
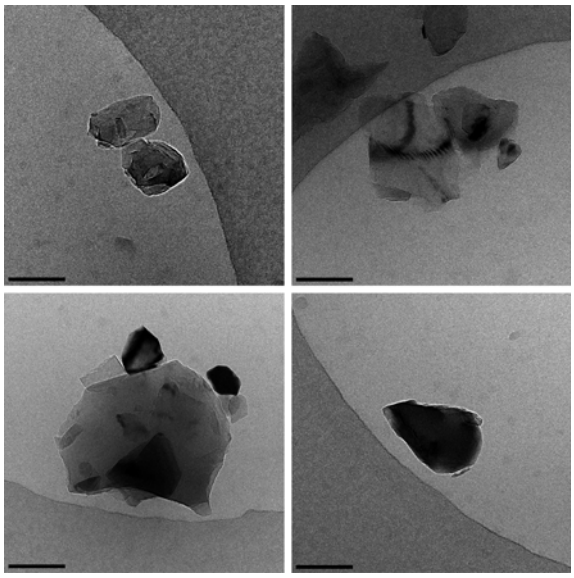
Fig. S3 Cryo-electron microscopy of FNDs. (a) Uncoated FND in D.W., (b) polymer 2-coated FND in D.W., (c) uncoated FND in PBS, and (d) polymer 2-coated FND in PBS. Scale bar represented 100 nm.

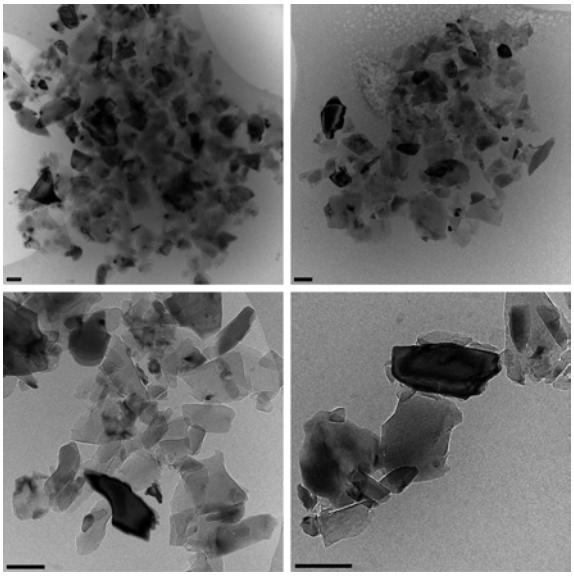
(a)



(b)



(c)



(d)

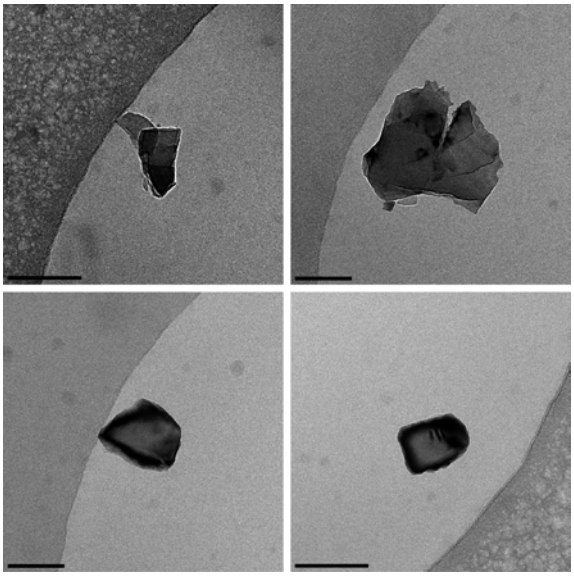


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Fig. S4 CLSM images of HEK 293 cells treated with uncoated FNDs. The final concentration of FNDs was 10 μg/mL and scale bar represented 20 μm.

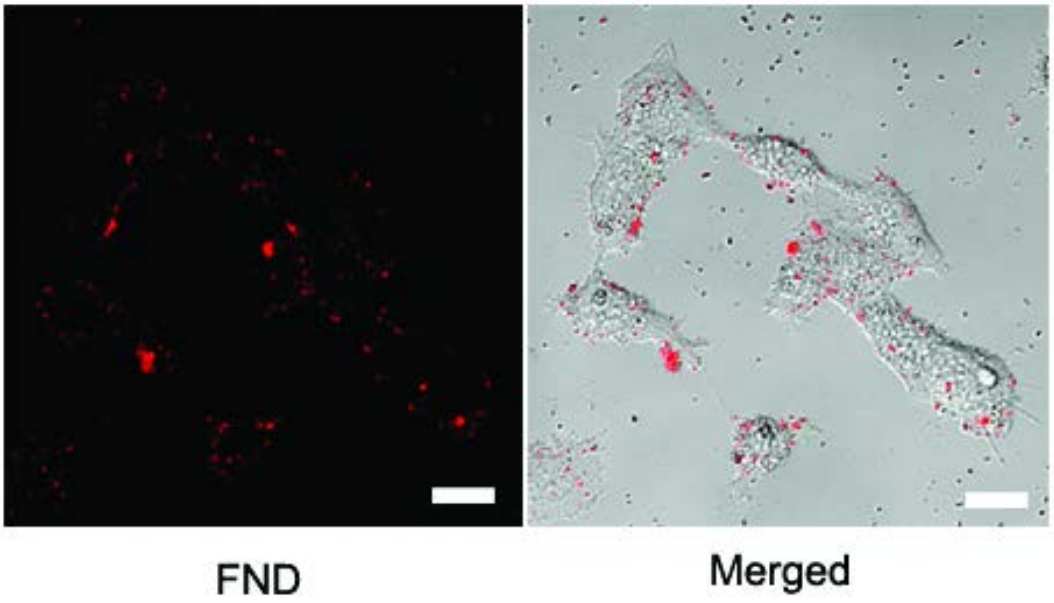

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Fig. S5 CLSM images of HEK 293 cells treated with BSA-coated FNDs, HSA-coated FNDs and polymer 2-coated FNDs (FND:coating material = 1:5). Scale bar represented 20 μm.

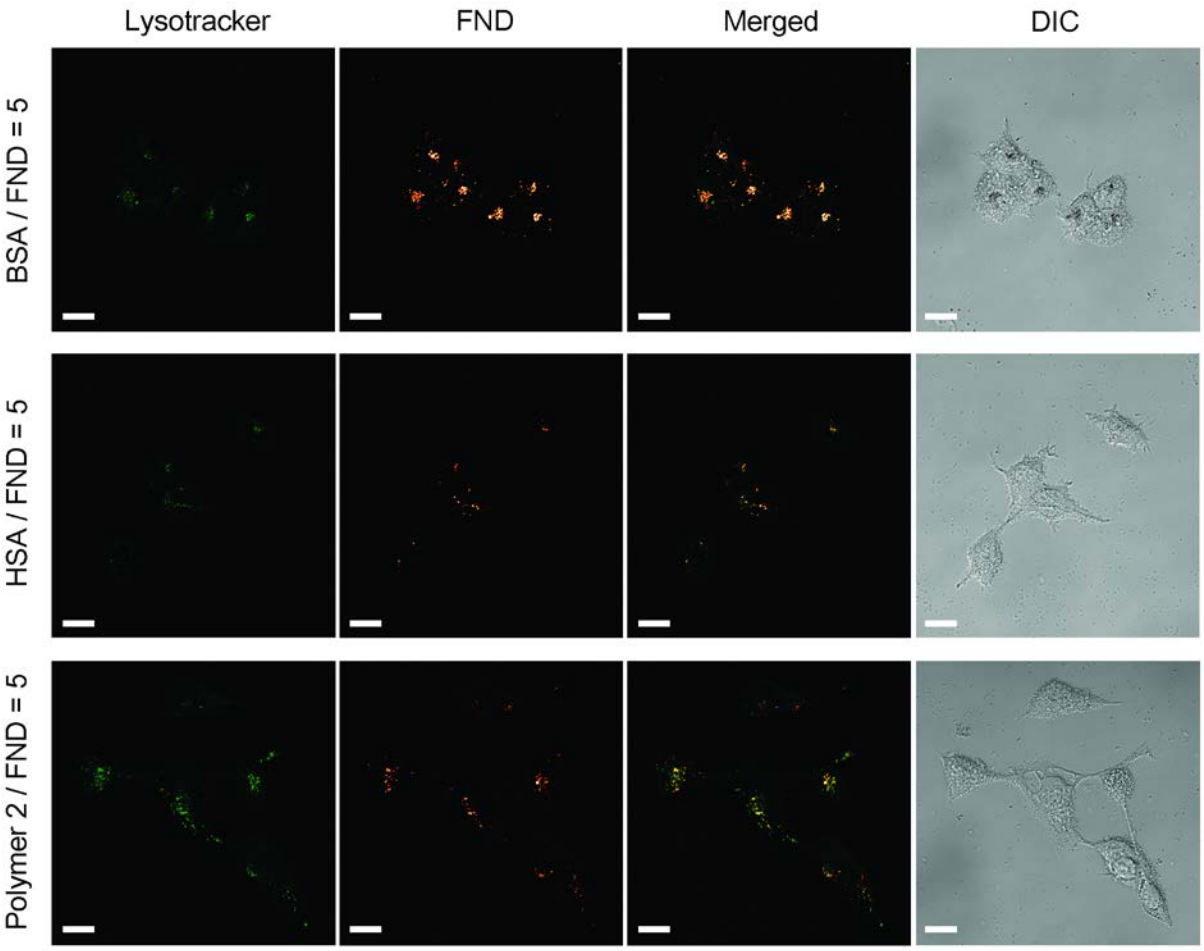

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Fig. S6 Enlarged cell images of merged images in Fig. 6. Scale bar represented 20 μm.