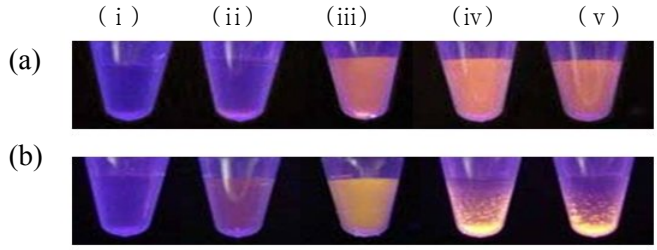
Supplementary Material (ESI) for *Physical Chemistry Chemical Physics*

SUPPORTING INFORMATION

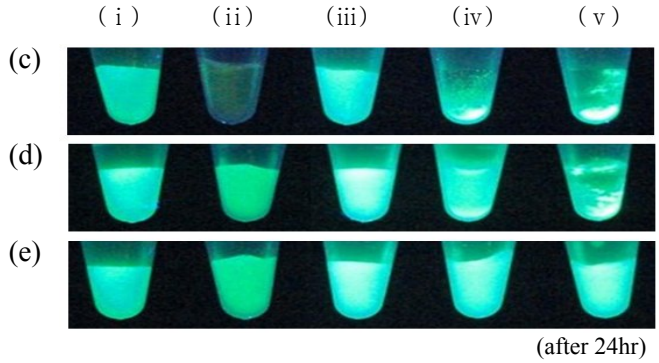
Pegylated Cationic CdSe/ZnS QDs as an Efficient Intracellular Labeling Agent

Junghan Lee, Junwon Kim, Eunjung Park, Shineun Jo and Rita Song

Figure S1. Stability test of QDs in various buffer conditions.

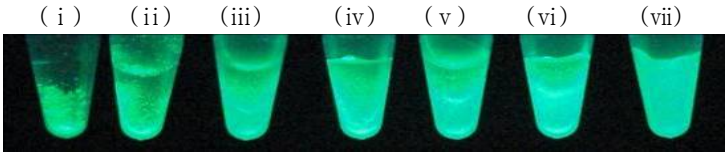


Fluorescence image of (a) DHLA@QDs and (b) AET@QDs. In 10 mM glycine buffer (pH 3.0) (□), 10 mM citrate-phosphate buffer (pH 5.0) (ⅱ), distilled water (pH ~6.5) (ⅲ), 10 mM PBS buffer (pH 7.4) (ⅳ), 10 mM borate buffer (pH 8.0) (ⅴ).



Fluorescence image of (c) AET@QDs, (d) DEDEA@QDs and (e) DEDEA-PEG5000 QDs (QD:PEG = 1:500). In water (pH ~6.5) (□), 10 mM HCl solution (pH 2.0) (ⅱ), 10 mM glycine buffer (pH 4.0) (ⅲ), 10 mM citrate-phosphate buffer (pH 5.0) (ⅳ), 10 mM PBS buffer (pH 7.4) (ⅴ).

Figure S2. Fluorescence images of QDs in 50 mM borate buffer solution (pH 8.5) after 24 hrs.



DEDEA@QDs (i), DEDEA-PEG2000 QDs (QD:PEG2000, 1:50 (ii), 1:250 (iii), 1:500 (iv)), and DEDEA-PEG5000 QDs (QD:PEG5000, 1:50 (v), 1:250 (vi), 1:500 (vii)).

Figure S3. (a) Stability of QDs 6 in different concentration of NaCl solution and (b) fluorescence spectra in water and 1 M NaCl.

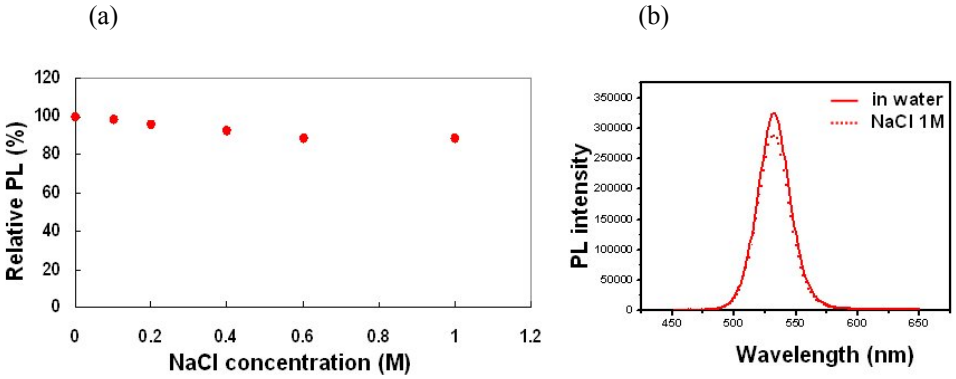
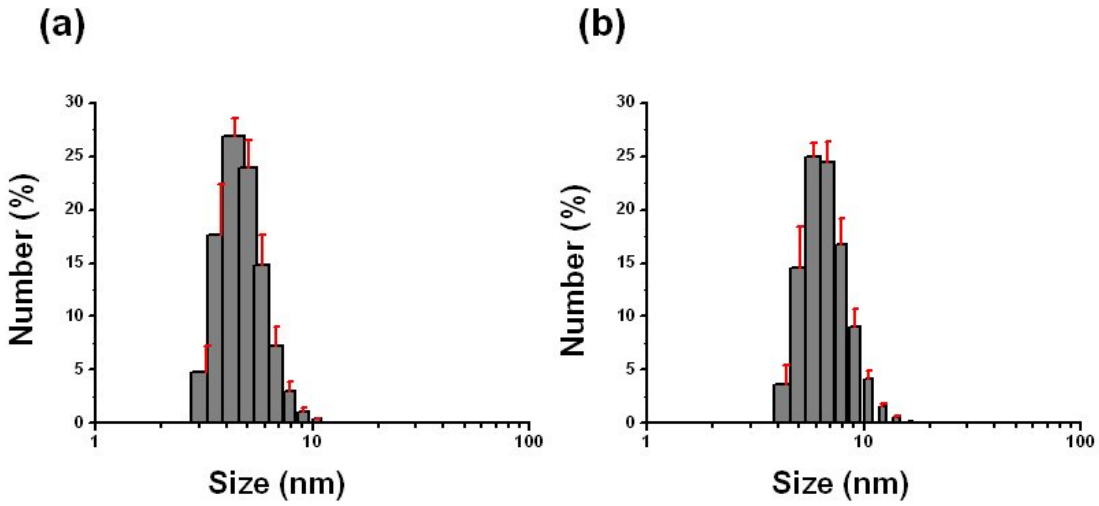
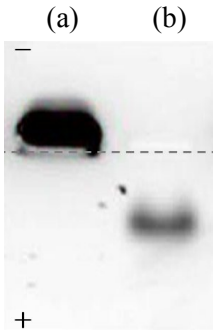


Figure S4. Hydrodynamic size measured by Dynamic Light Scattering (DLS)



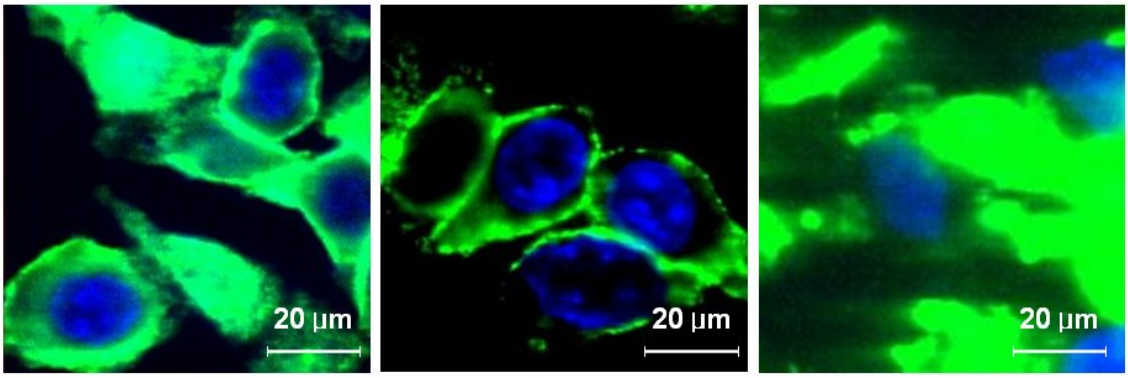
(a) DEDEA@QD (size = 4.8 ± 1.2 nm) and (b) DEDEA-PEG5000 QDs (QD:PEG = 1:500, size = 6.2 ± 1.5 nm)

Figure S5. Gel image of (a) DEDEA-PEG2000 QDs (QD:PEG2000 = 1:250) and (b) DEDEA-PEG2000 QDs conjugated with oligopeptide (*gly-gly-his-his-his-his-his-his*).



Gel condition: 1 % agarose gel (elution buffer: 10 mM acetic acid buffer, pH 6), 50V, 30 min

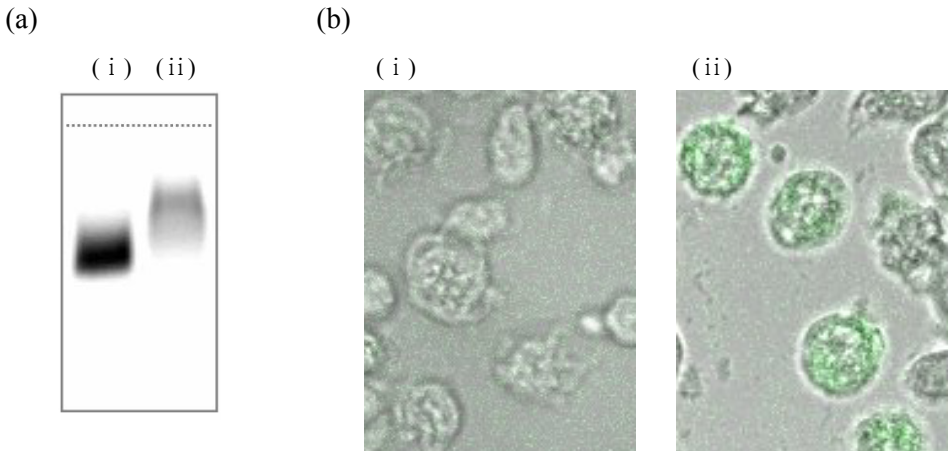
Figure S6. Fluorescence images of HeLa cells stained by QDs



(a) (b) (c)

(a) QDs 6, (b) DHLA-QDs, and (c) QDs 5.

Figure S7. (a) Gel image and (b) Fluorescence image of EBV infected B-cells stained by QDs



(a) Gel images of DEDEA-PEG5000 QDs (QD:PEG = 1:500 (i)) and DEDEA-PEG5000 QDs conjugated with anti-human W6/32 antibodies (ii). Gel condition: 0.5 % agarose gel (elution buffer: 5 mM TBE buffer and 1% SDS) 50V, 30 min.

(b) Fluorescence images of EBV infected B-cells stained by DEDEA-PEG5000 QDs (i) and DEDEA-PEG5000 QDs conjugated with anti-human W6/32 antibodies (ii).