

<Electronic Supplementary Information>

The Effect of Quantum Dot Labeling on Virus Activity

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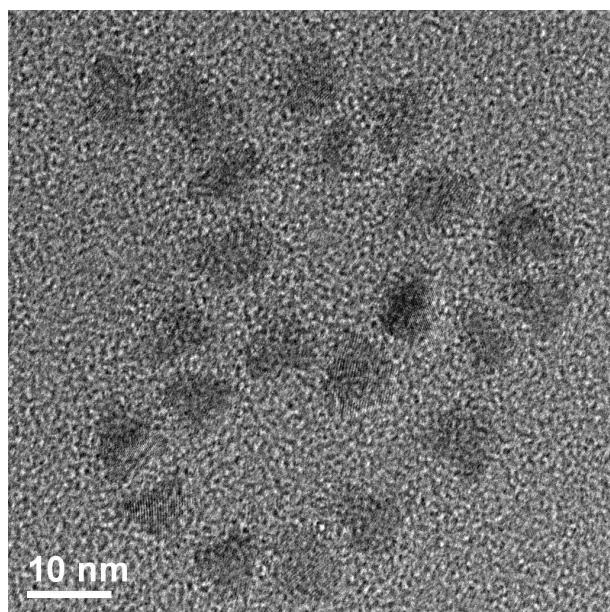


Fig. S1 TEM of SA-QDs

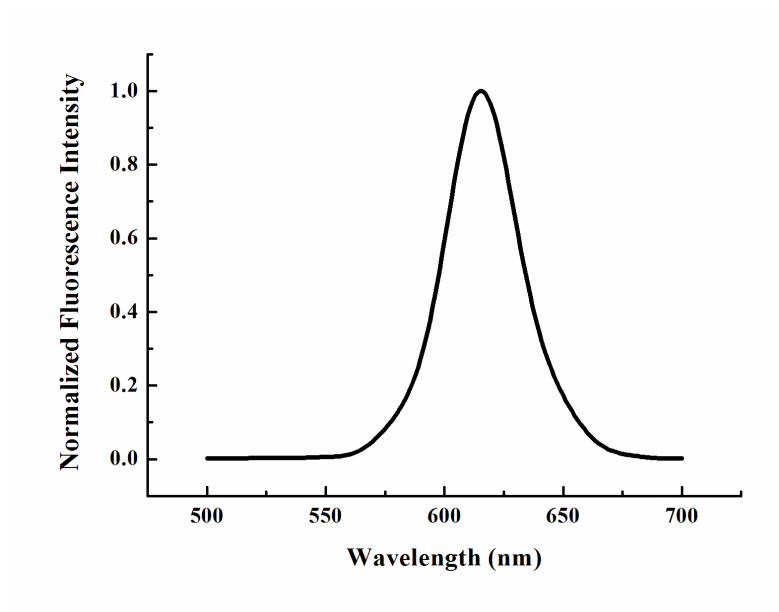


Fig. S2 Fluorescence emission spectrum of SA-QDs

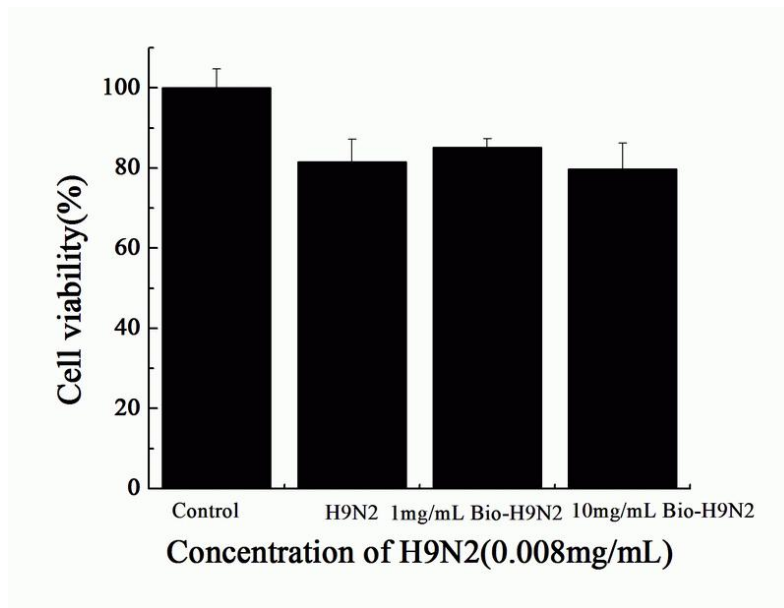


Fig. S3 The cell viability of A549 cells incubated with H9N2 virus modified with different concentration of biotin after 24h; H9N2: native unmodified H9N2; Bio-H9N2: biotin modified H9N2.

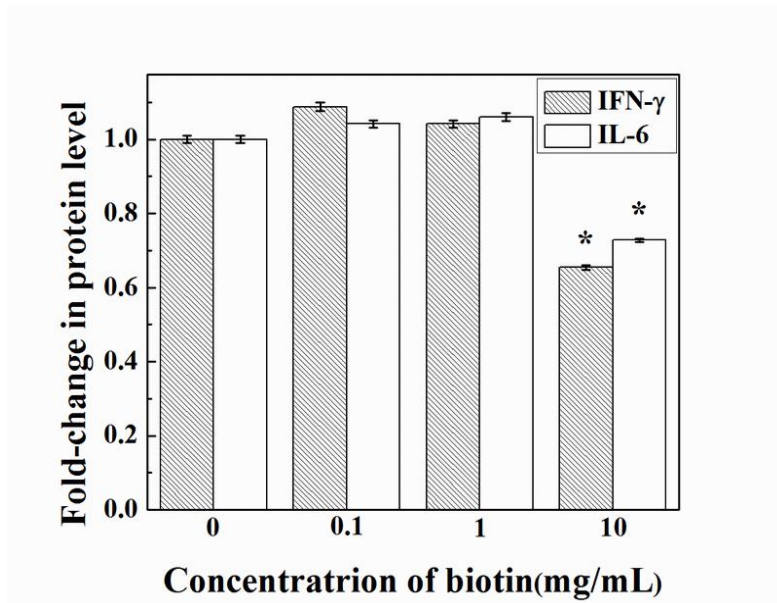


Fig. S4 IFN- γ and IL-6 secretion of A549 incubated with H9N2 virus modified with different concentration of biotin after 48h.

Concentration of H9N2: 0.008 mg/mL. Fold-change in protein level = cytokine secretion induced by modified H9N2: cytokine secretion induced by unmodified H9N2.

Fig. S5 The cell viability of MDCK cells incubated with different concentration of H9N2 virus for 24 h (a) and 48 h (b). Asterisks denote a statistically significant difference in cell viability compared to native unmodified H9N2 (*, $P < 0.05$).

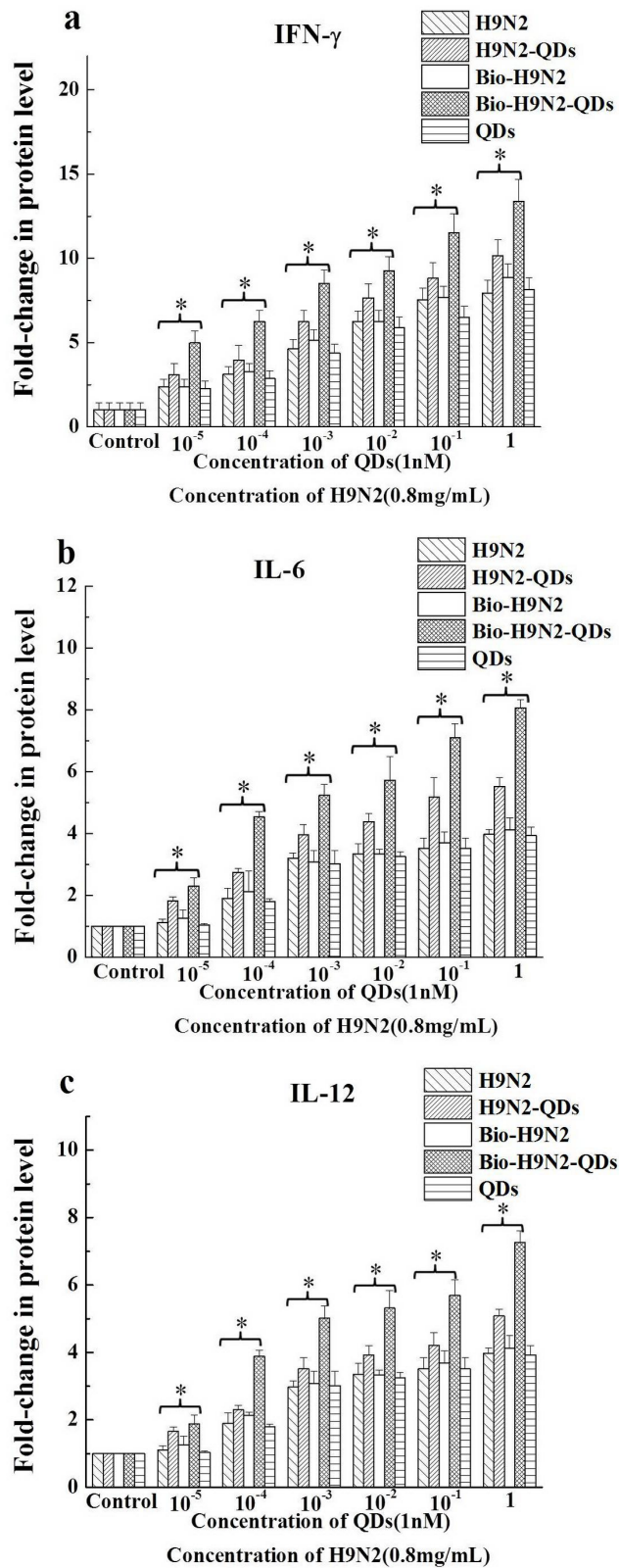


Fig. S6 The cytokine secretion of RAW264.7 cells incubated with different concentration of virus after 24h. Asterisks denote a statistically significant difference in cell viability compared to native unmodified H9N2 (*, $P < 0.05$).

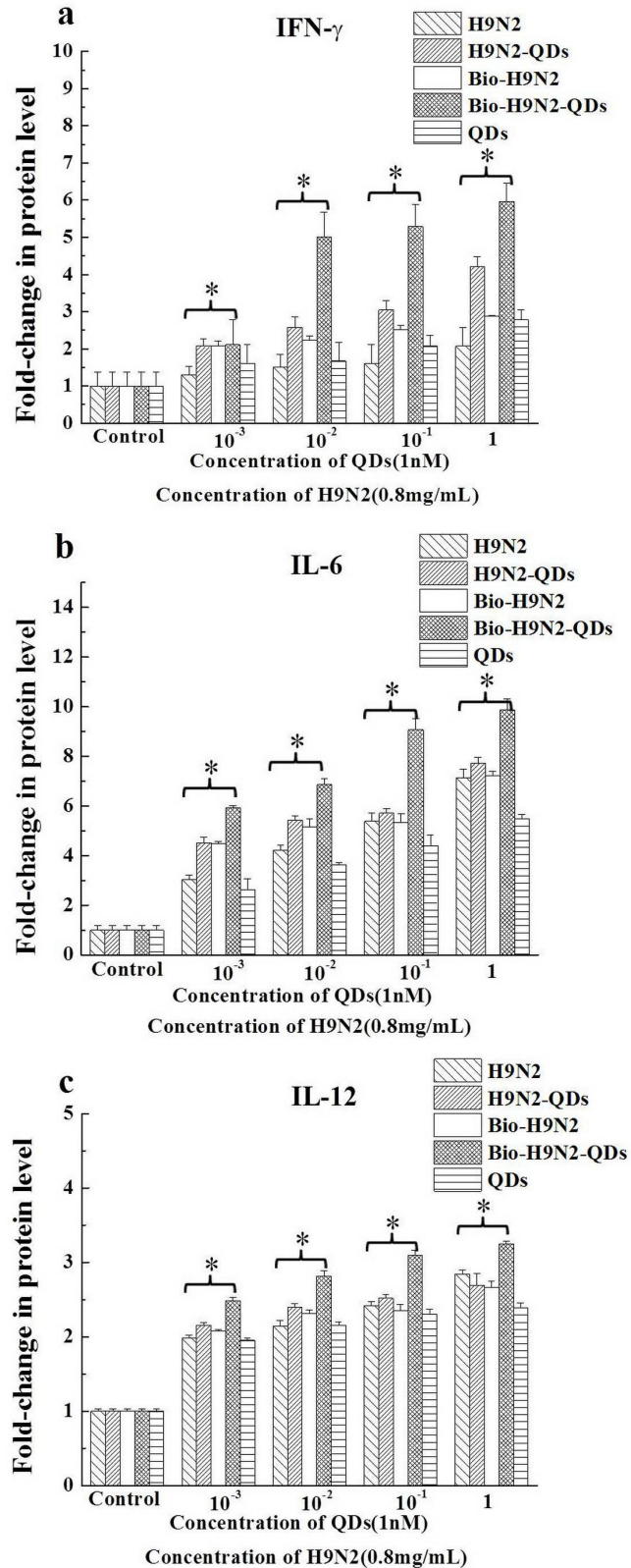


Fig. S7 The cytokine secretion of A549 cells incubated with different concentration of virus after 48h. Asterisks denote a statistically significant difference in cell viability compared to native unmodified H9N2 (*, $P < 0.05$).

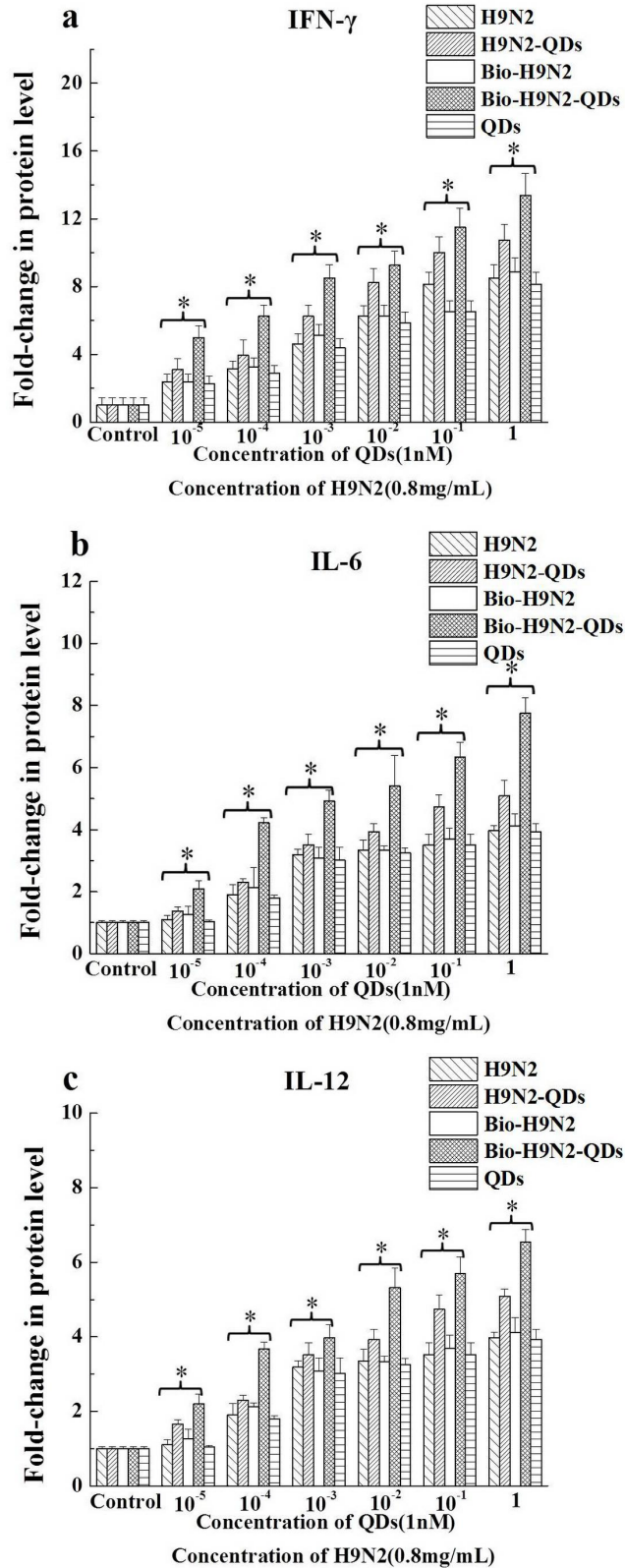


Fig. S8 The cytokine secretion of RAW264.7 cells incubated with different concentration of virus after 48h. Asterisks denote a statistically significant difference in cell viability compared to native unmodified H9N2 (*, $P < 0.05$).

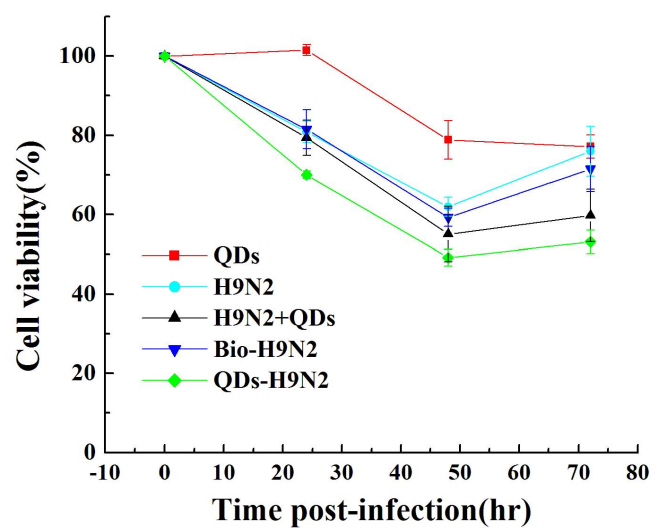


Fig. S9 The cell viability of MDCK cells incubated with H9N2 virus for different time. Concentration of H9N2 was 0.08 mg/mL; concentration of QDs was 0.1 nM.

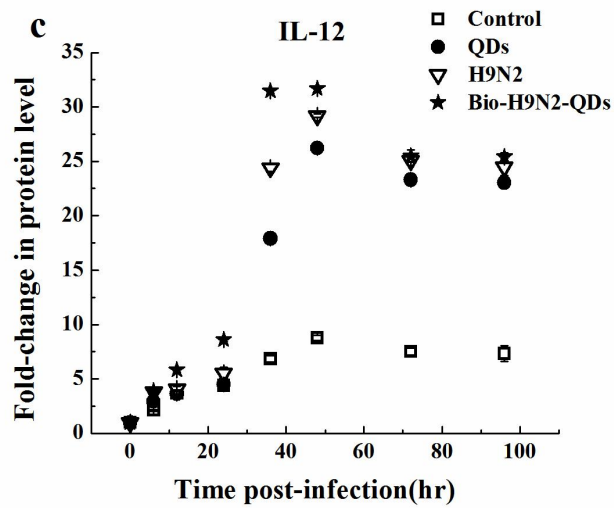
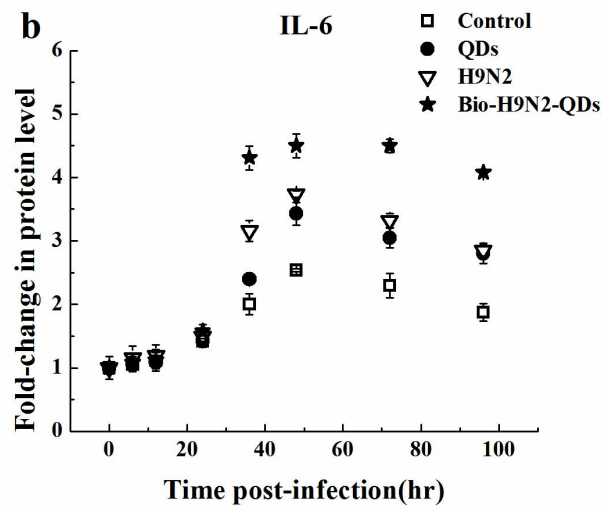
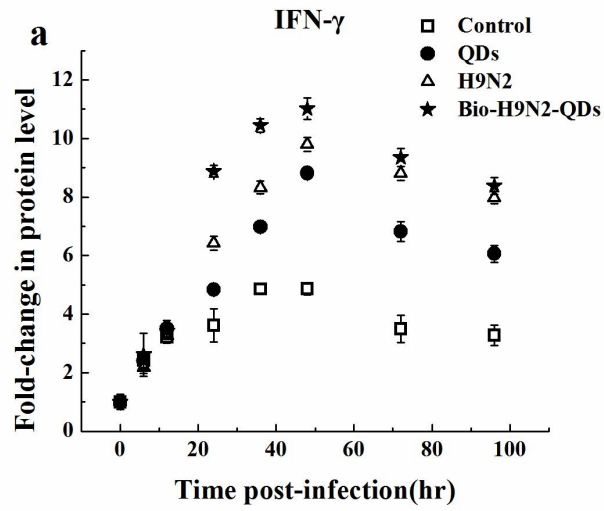


Fig. S10 The cytokine secretion of A549 cells incubated with H9N2 virus for different time. Concentration of H9N2 was 0.08 mg/mL; concentration of QDs was 0.1 nM.

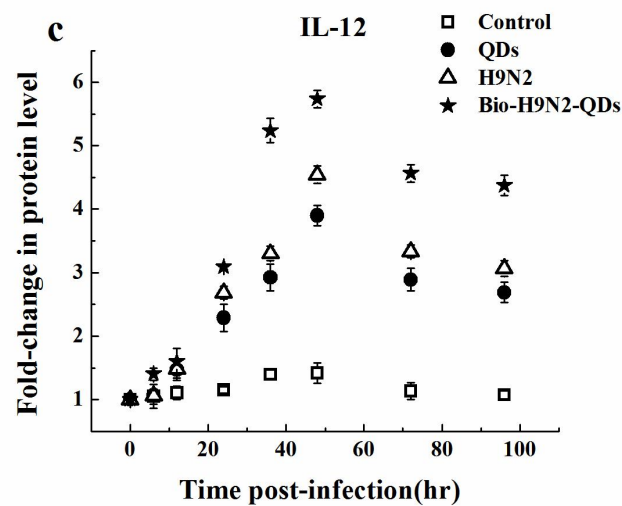
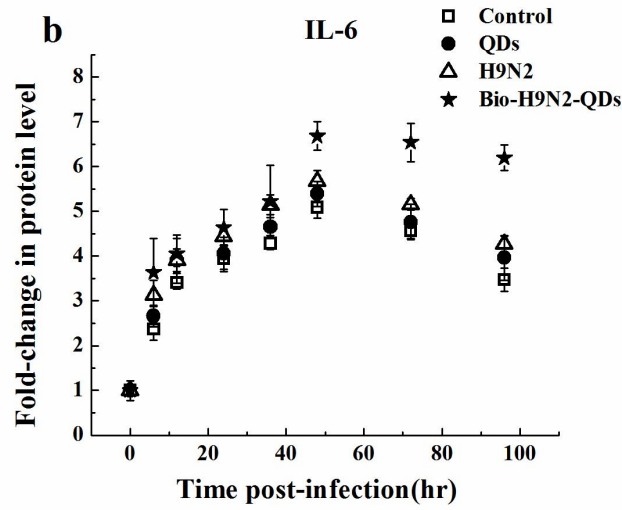
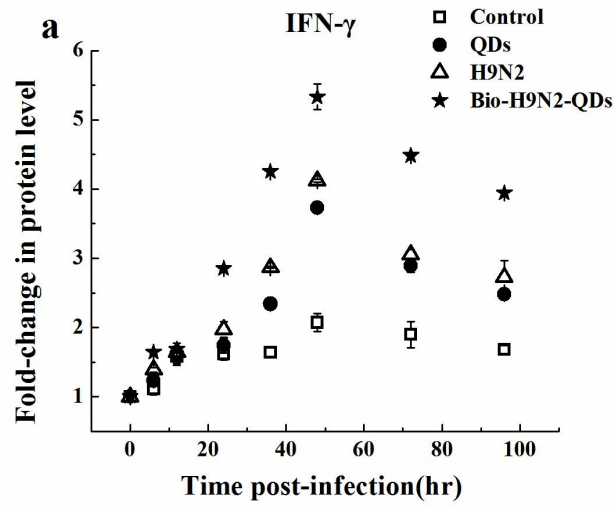


Fig. S11 The cytokine secretion of RAW264.7 cells incubated with H9N2 virus for different time. Concentration of H9N2 was 0.08 mg/mL; concentration of QDs was

0.1 nM.