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Optical tracking and biocompatibility assessment of nanoparticles from triblock copolymer encapsulating-dye complexes

Yang Liu,[a] Yipan Wu,[a] Daofu Feng,[c] Qijun Ye,[c] Xi Yang,[b] Xiao Liu,[b] Chunying Gao,[a] Ming Wu,[a] Dongyan Chen,[c] Yanjun Zhang,*[b] Lei Li*[c], Xizeng Feng*[a]

[a] *State Key Laboratory of Medicinal Chemical Biology, Key Laboratory of Bioactive Materials, Ministry of Education, College of Life Science, Nankai University, Tianjin 300071, China. E-mail: xzfeng@nankai.edu.cn.*

[b] *Nanomedicine Laboratory, China National Academy of Nanotechnology & Engineering, Tianjin 300457, China. E-mail: yanjun_zhang@cnane.com.cn.*

[c] *The Key Laboratory of Animal Models and Degenerative Diseases, Department of Physiology, School of Medicine, Nankai University, Tianjin, 300071, China. E-mail: leili@nankai.edu.cn.*

Figure S1 Optical images of DED (A) and DED-F (B) NPs in PBS.

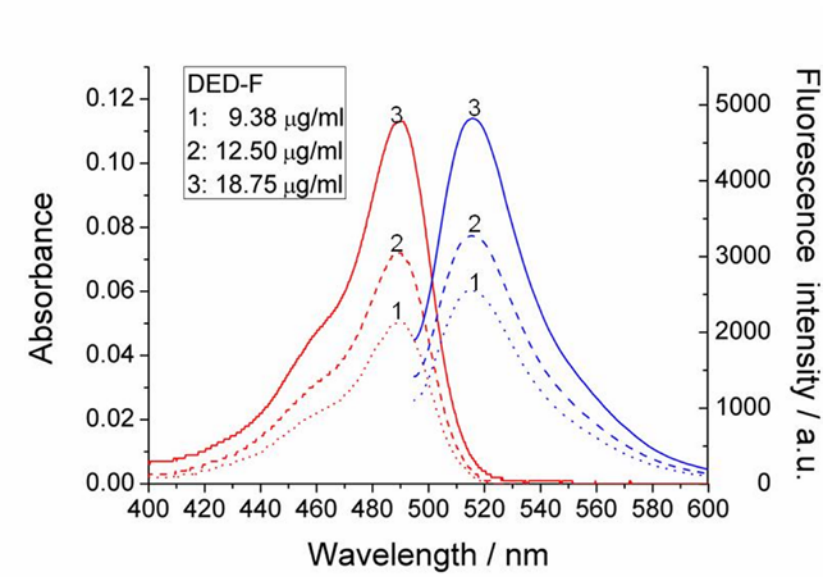

Figure S2 The absorption and emission spectra of DED-F NPs in PBS with different concentrations: (1) 9.38 μg/mL; (2) 12.5 μg /mL; (3) 18.75 μg /mL.

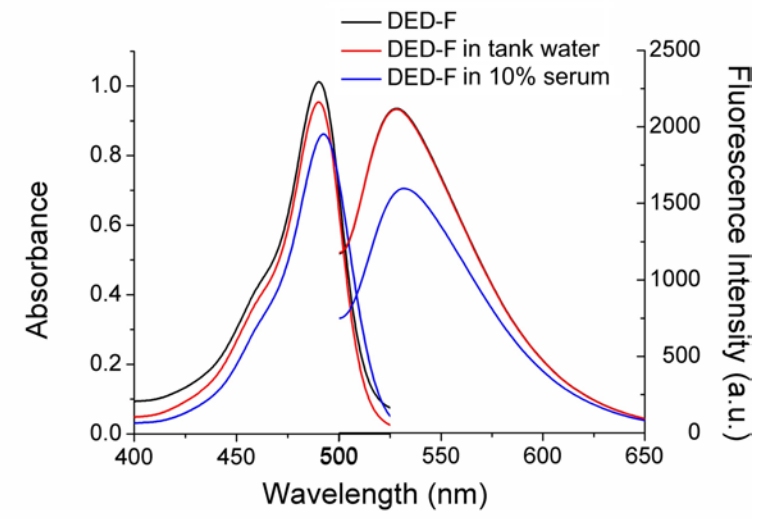

Figure S3 The absorption and emission spectra of 150 μg/mL DED-F NPs in PBS, regular tank water and 10% serum at room temperature.

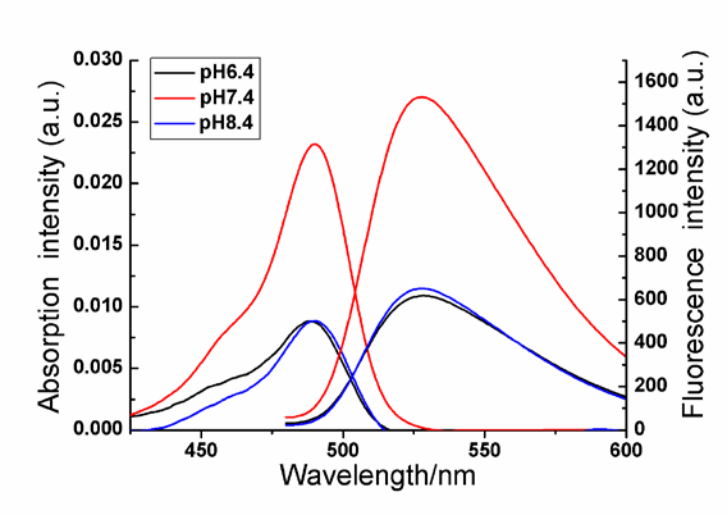

Figure S4 The absorption and fluorescence intensity of 3.75 μg/mL DED-F NPs in PBS under different pH conditions (pH = 6.4, 7.4 and 8.4, respectively).

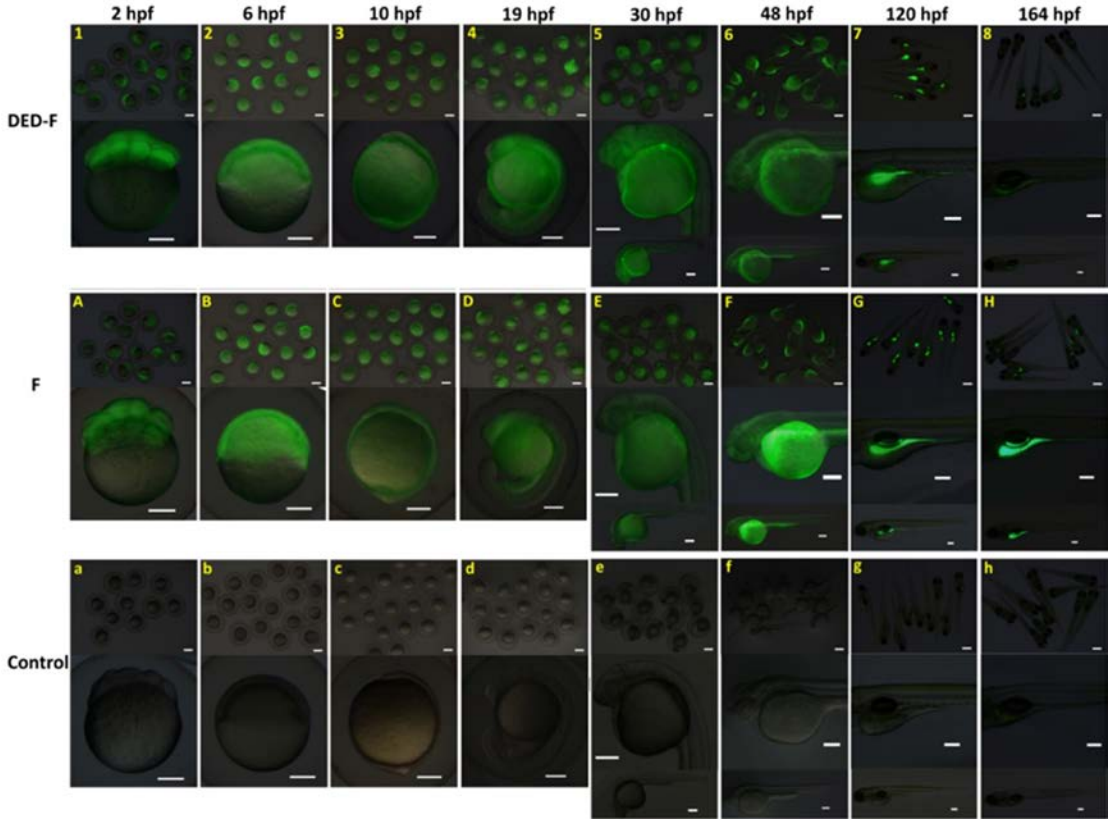

Figure S5 Fluorescent micrographs of DED-F injected, fluorescein (F) injected and uninjected zebrafish from 2 hpf to 168 hpf. **(1-8)** 0.5 mg/mL DED-F NPs injected zerbafish. **(A-H)** 33.3 μg/mL F injected zebrafish. **(a-h)** uninjected control groups. In each observation, the parameters of the camera such as exposure time and sensitivity remained the same among these three groups to exclude the interference of autofluorescence of organism. Scale bar: full view, 0.5 mm; single zebrafish or magnifying part, 0.2 mm.

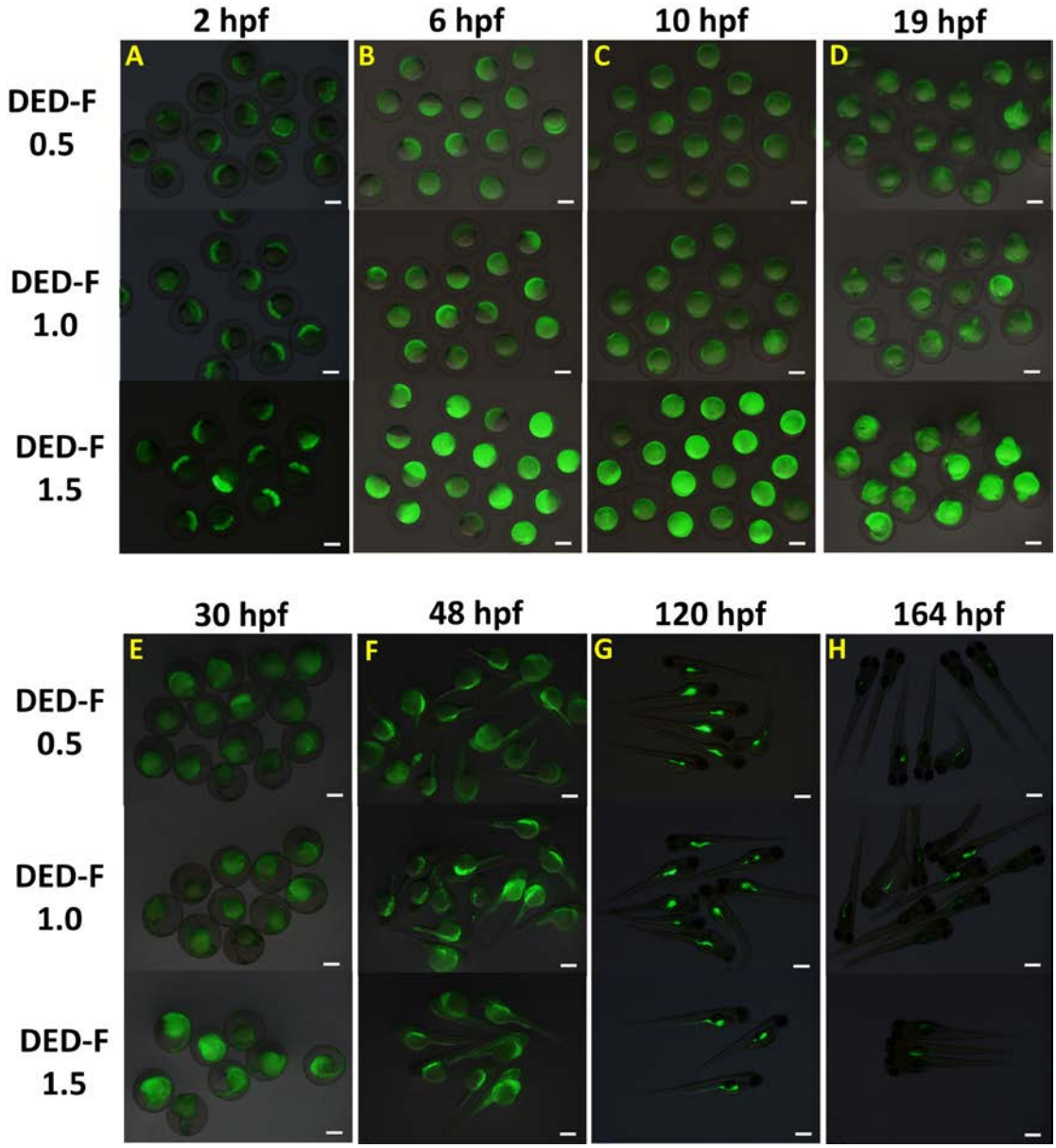

Figure S6 Fluorescent micrographs of 0.5, 1.0 and 1.5 mg/mL DED-F NPs injected zebrafish from 2 hpf to 168 hpf. In each observation, the parameters of camera remained the same among these three groups. Scale bar = 0.5 mm.

Table S1. Quantum yield (ϕ) data of Fluorescein, DED-F. Compared with the quantum yied of complex fluorescein (ϕ_F = 0.790), complex DED-F had a lower quantum yield (ϕ_F = 0.33)

sample	**Medium (T/K)**	**A(425nm)**	**λ_{ex}=425nm λ_{em}(nm)**	**ϕ_F**
Fluorescein (F)	Ethanol(298)	0.022	541	0.790*
DED-F	PBS(298)	0.002	528	0.33

'*' Indicates that the quantum yield of fluorescein has been measured by R. E. Kellogg and R. G. Bennett[32]

Table S2 The fluorescence emission peaks of DED-F NPs in PBS, tank water and 10% serum.

Complex	Medium	λ_{em}/nm
DED-F	PBS	527.4
DED-F in tank water	tank water	528.0
DED-F in 10% serum	10% serum	531.8

Table S3 The time during which all the zebrafish excreted DED-F NPs or fluorescein in each group. '*' 11 or 13 days after injection, all the 1.5 mg/mL DED-F and 100 μg/mL fluorescein injected zebrafish has dead due to the use up of yolk and lack of food. However, the fluorescence emission in zebrafish has not yet been observed completely disappeared.

Group	1	2	3
c(DED-F) / (mg·mL^{-1})	0.5	1.0	1.5
Time/day(s)	8	9	Dead(11)*
c(F) / (μg·mL^{-1})	33.3	66.7	100
Time/day(s)	12	11	Dead(13)*