Supporting Information for

One Step Synthesis of Efficient Red Emissive Carbon Dots and Their Bovine Serum Albumin Composites with Enhanced Multi-Photon Fluorescence for *in vivo* Bioimaging

Huiqi Zhang[1], Gang Wang[1], Zhiming Zhang[2], Josh Haipeng Lei[3], Tzu-Ming Liu[2], Guichuan Xing[1], Chu-Xia Deng[3], Zikang Tang[1], and Songnan Qu [1,]*

[1] Joint Key Laboratory of the Ministry of Education, Institute of Applied Physics and Materials Engineering, University of Macau, Taipa, Macau SAR, 999078, China.
[2] Institute of Translational Medicine, Faculty of Health Sciences, University of Macau, Taipa, Macau SAR, 999078, China; MoE Frontiers Science Center for Precision Oncology, University of Macau, Taipa, Macau SAR, 999078, China.
[3] Cancer Center, Faculty of Health Sciences, University of Macau, Taipa, Macau SAR, 999078, China; MoE Frontier Science Centre for Precision Oncology, University of Macau, Taipa, Macau SAR, 999078, China.

Email: songnanqu@um.edu.mo

Table of Content

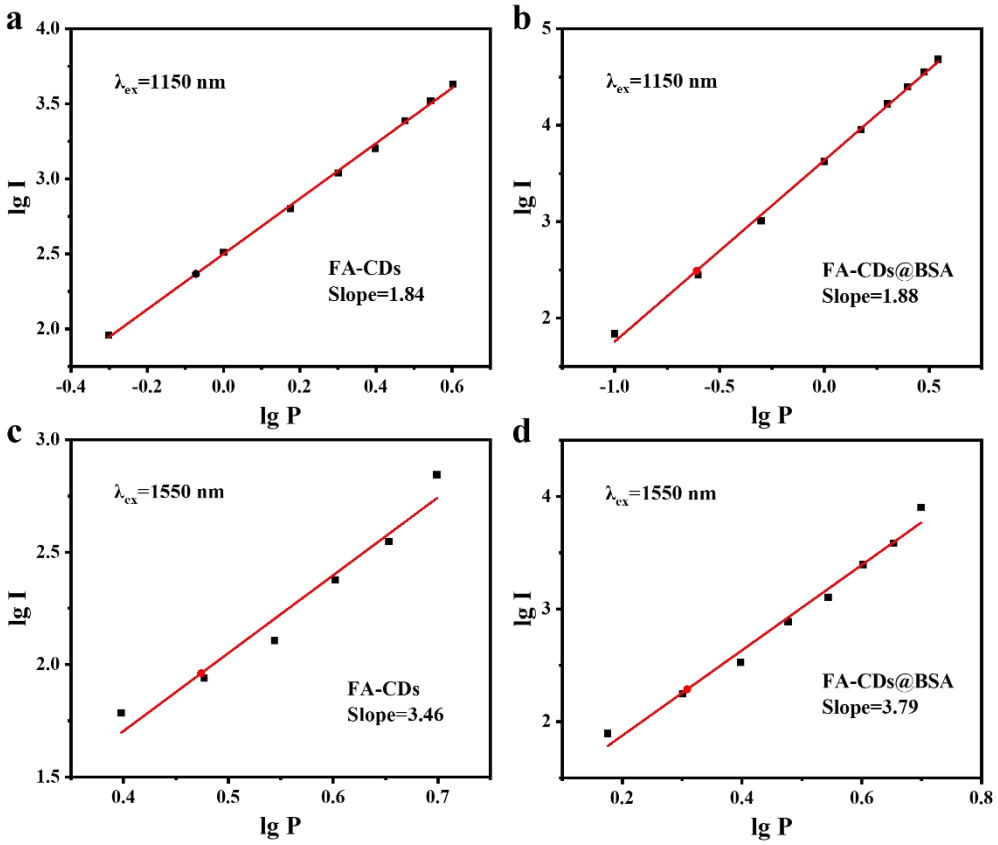

Figure S1. Plot of logarithm (**a**)(**b**) two-photon/(**c**)(**d**) three-photon emission intensities versus logarithm the laser power of FA-CDs (0.5 mg mL^{-1}) and FA-CDs@BSA (FA-CDs: 0.5 mg mL^{-1}, BSA: 50 mg mL^{-1}).

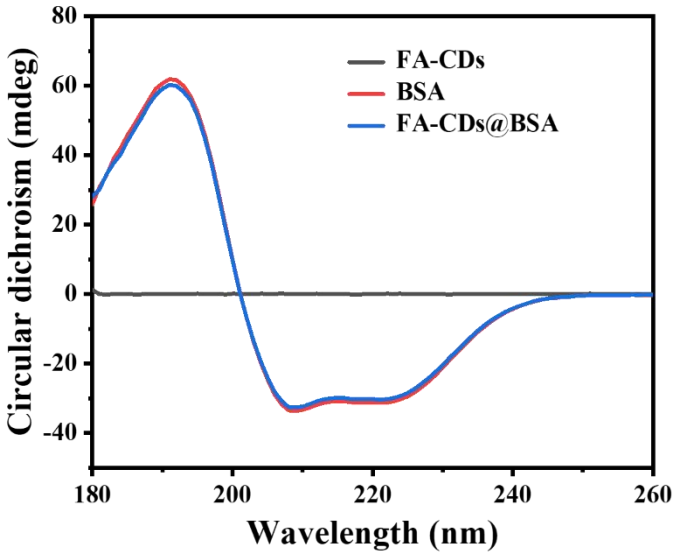

Figure S2. The circular dichroism spectra of FA-CDs (0.002 mg mL^{-1}), BSA (0.2 mg mL^{-1}) and FA-CDs@BSA (FA-CDs: 0.002 mg mL^{-1}, BSA:0.2 mg mL^{-1}) in aqueous solutions.

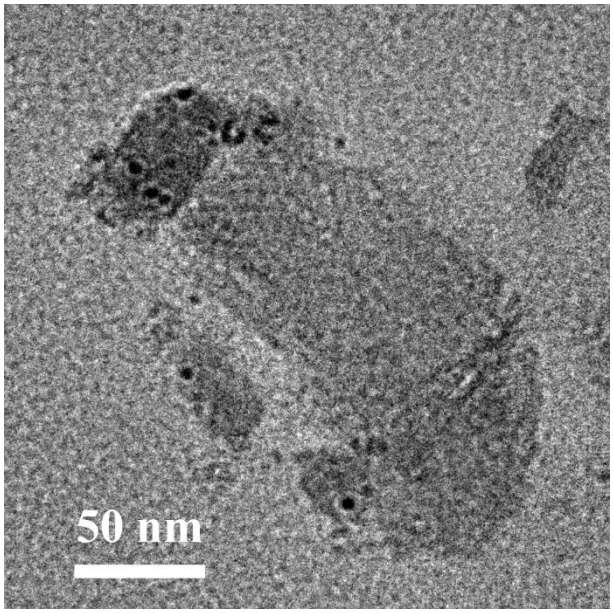

Figure S3. TEM image of FA-CDs@BSA (mass ratio of FA-CDs and BSA: 1:100).

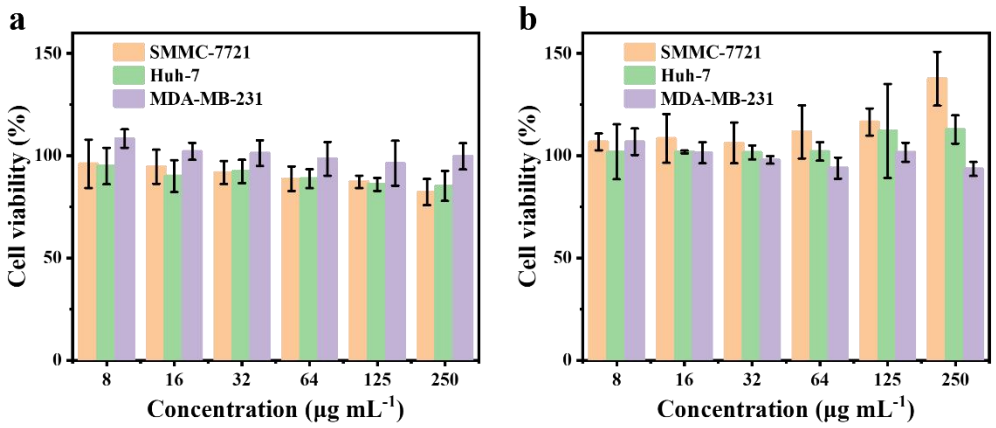

Figure S4. Cell viabilities of SMMC-7721, Huh-7 and MDA-MB-231 cells after incubation with various containing FA-CDs concentrations in (**a**) FA-CDs and (**b**) FA-CDs@BSA (mass ratio of FA-CDs and BSA: 1:100) for 48 h, respectively. Data are represented as means ± standard deviation (SD) from three experiments.

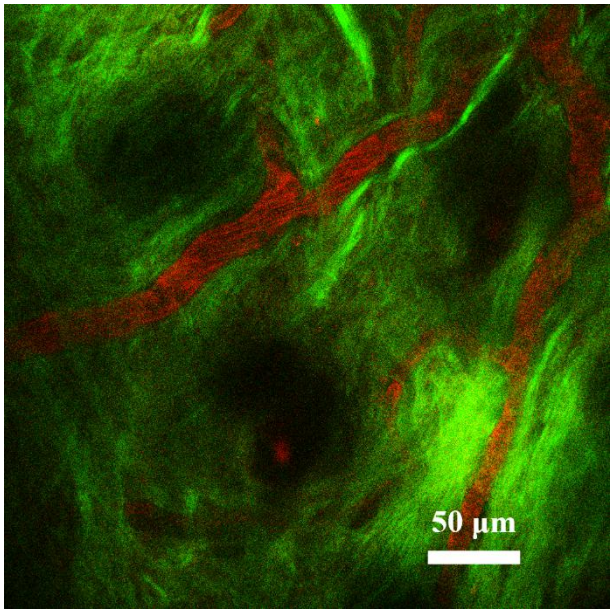

Figure S5. Two-photon fluorescence image of blood vessels of mouse ear after 40 min intravenous injection of FA-CDs@BSA aqueous solutions.