Supporting Information

Fluorescent Polymeric Micelles for Imaging-Guided Cancer Therapy

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Fig. S1 Cell viabilities of (a) FSMs SP2 and (b) FSMs SP3 nanomicelles with different concentrations after cultured for 24 h with HeLa cells.



Fig. S2 Variation in body weights obtained from mice injected with FSMs (n=4, 10 mg/kg, Test) and without any injection (n=4, Control) within 16 days.



Fig. S3 Blood biochemical assay of mice after administrated with FSMs. (ALT: alanine aminotransferase, AST: aspartate aminotransferase, CREA-J: Creatinine, UREA: Urea, CK: Creatine kinase)



Fig. S4 Routine blood test analysis of mice after administrated with FSMs.



Fig. S5 (a) Photograph of the tumor-bearing mice. (Left: control group; Right: experimental group). (b-d) The *in vivo* fluorescence imaging of tumor-bearing nude mice collected at the time point of (b) 0 h, (c) 1 h, and (d) 4 h after *i.v.* injected with FSMs@CPT SP1 nanomicelles.



Fig. S6 H&E stained tissue sections from the tumor-bearing mice injected with saline and FSMs@CPT nanomicelles, respectively.

We measured the dynamic light scattering (DLS) of the FSMs@CPT in different suspension, considering that DLS is an effective tool to determine the hydrodynamic diameter of nanoparticles. In the saline suspension, DLS result shows that the hydrodynamic diameter of FSMs@CPT SP1 at concentration of 30 µg/mL is mainly in the range of 150-250 nm and part is in the range of 15-45 nm as shown in Fig. S7a. Furthermore, the DLS of the FSMs@CPT SP1 in the cell medium DMEM supplied with 10% of FBS were detected due to that the nanosized micelles are easily bound to common blood proteins such as fetal bovine serum (FBS). While, it was observed that the hydrodynamic diameter of the FSMs@CPT SP1 in the DMEM/FBS (10% FBS) increased obviously and part of them can reach up to 610 nm (Fig. S7b), which indicated a small amount of the sample aggregated in DMEM/FBS solution. The aggregation of the nanomicelles could be the main reason for the explication of high uptake in the liver of the mice within 4 h of short term metabolism.



Fig. S7 (a) Distribution of the hydrodynamic diameters expressed as a function of the number percentage of FSMs@CPT SP1 in (a) distilled water and (b) DMEM/FBS (10%) medium.



Fig. S8 Tumor growth inhibition ratio of the four groups with different treatments.