Supplementary Information

Surfactant-stripped Frozen Pheophytin Micelles for Multimodal Gut Imaging

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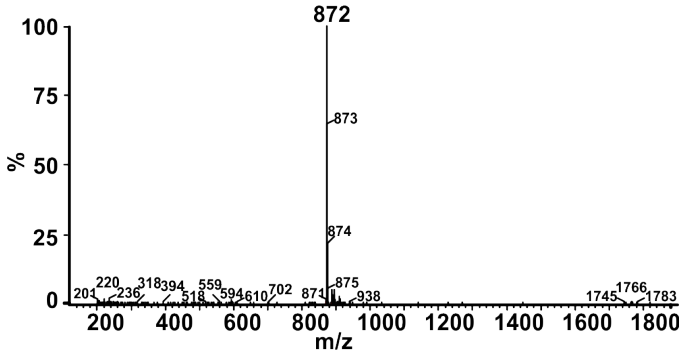
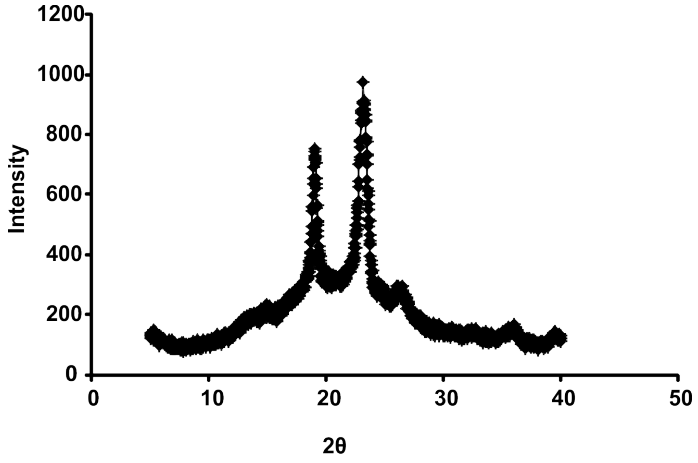
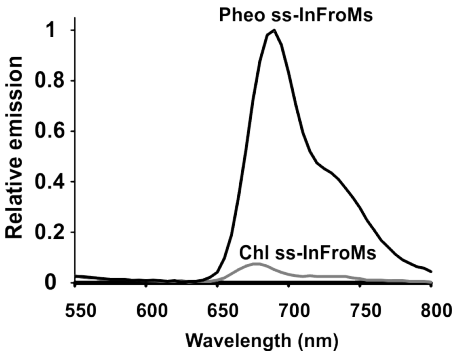


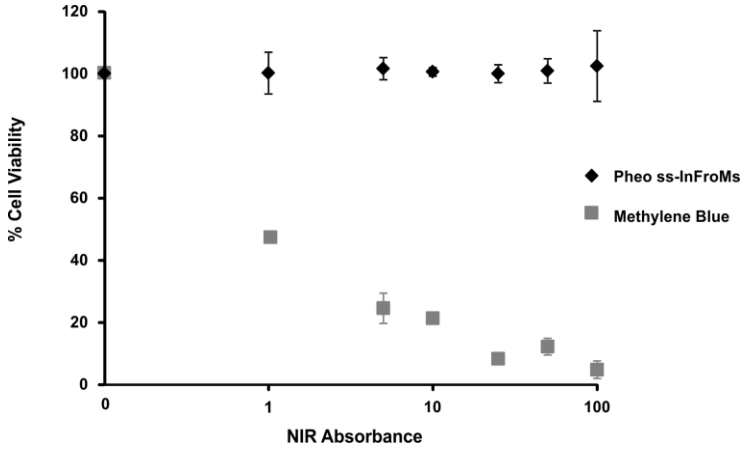
Supplementary Figure 1: Mass spectrum of Pheo after acidification showing one single peak (molecular weight of pheophytin-a: 871.2 g mol^{-1})



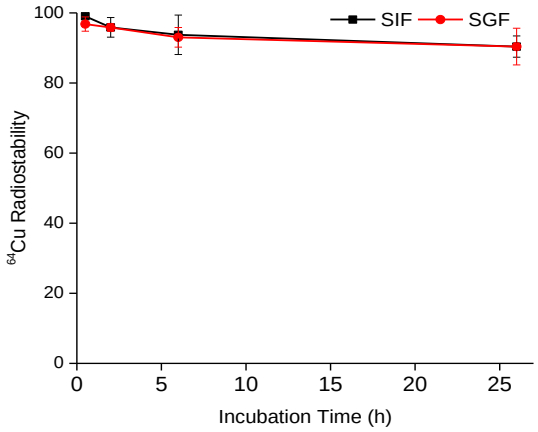
Supplementary Figure 2: X-ray powder diffraction spectrum of freeze-dried Pheo ss-InFroMs. The two high peaks observed are from Pluronic F127.



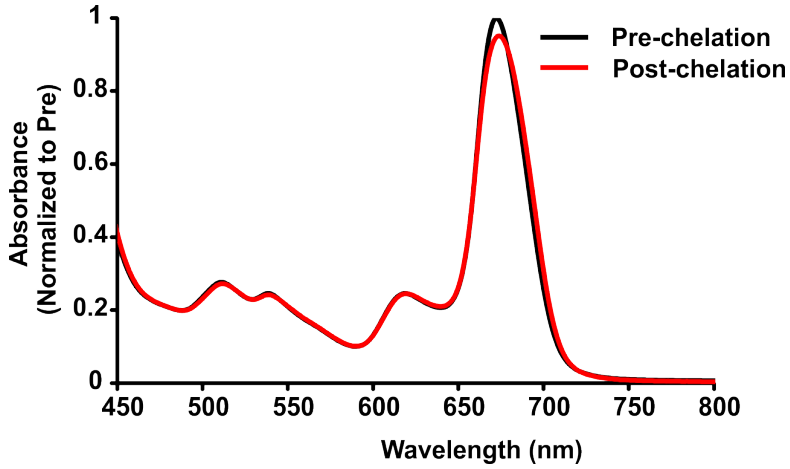
Supplementary Figure 3: Normalized fluorescence emission spectra of aqueous Pheo and Chl ss-InFroMs



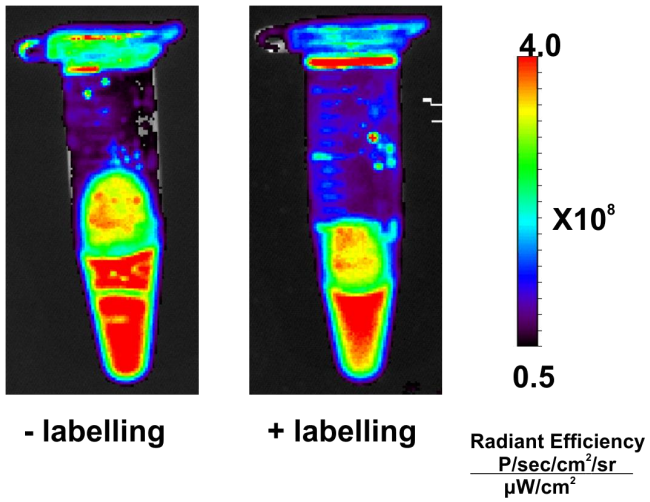
Supplementary Figure 4: Caco-2 cellular viability after incubation with pheo ss-InFroMs or methylene blue.



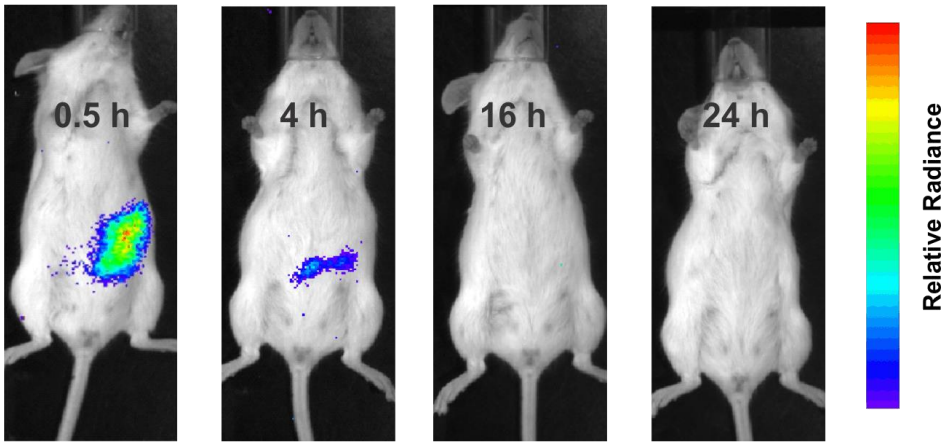
Supplementary Figure 5: Stability of ^{64}Cu chelated ss-InFroMs in simulated gastric fluid and simulated intestinal fluid incubated at 37 °C. (mean+/- std, n=3)



Supplementary Figure 6: ^{64}Cu labeling did not change absorption of Pheo ss-InFroMs.



Supplementary Figure 7: After ^{64}Cu labeling, no significant fluorescence decrease was observed.



Supplementary Figure 8: Representative Cerenkov images of intestine at different time points as indicated. (n=3)

Supplementary Table 1: Pheo ss-InFroM optical parameters*

Peak absorption of Pheo in acetone	666 nm
Extinction coefficient of Pheo in acetone	52.8 mM^{-1}• cm^{-1} 60.72 ml•mg^{-1}•cm^{-1}
Peak absorption of Pheo Ss-InFroMs	662 nm
Extinction coefficient of Pheo in ss-InFroM	43.6 mM^{-1}• cm^{-1} 50.13 ml•mg^{-1}•cm^{-1}
Pheo to F127 molar ratio	4.97
Pheo to F127 mass ratio	0.344
Pheo ss-InFroM extinction coefficient	6.7 x10^{5} mM^{-1}• cm^{-1}
Pheo ss-InFroM sbsorption cross section	2.5 x10^{-12} m^{2}

*Average from n=3 preparations. Parameters calculated based on assumptions described in Zhang et al.,Nature Nano, 9, 631–638 (2014)