Electronic Supplementary Material (ESI) for Biomaterials Science.

Supporting Information

Preparation of Magnetic Liposomal Emodin Composite with Enhanced Killing Efficiency against Breast Cancer

Yonghong Song,†[a, b] Zhujun Sheng,†[a, c] Yunjun Xu,†[a] Liang Dong,[a, b] Weiping Xu,*[a] Fangyuan Li,[d] Jing Wang,[e] Zeyu Wu,[b] Yi Yang,[b] Yang Su,[b] Xiaolian Sun,[f] Daishun Ling,*[d] Yang Lu,*[b]

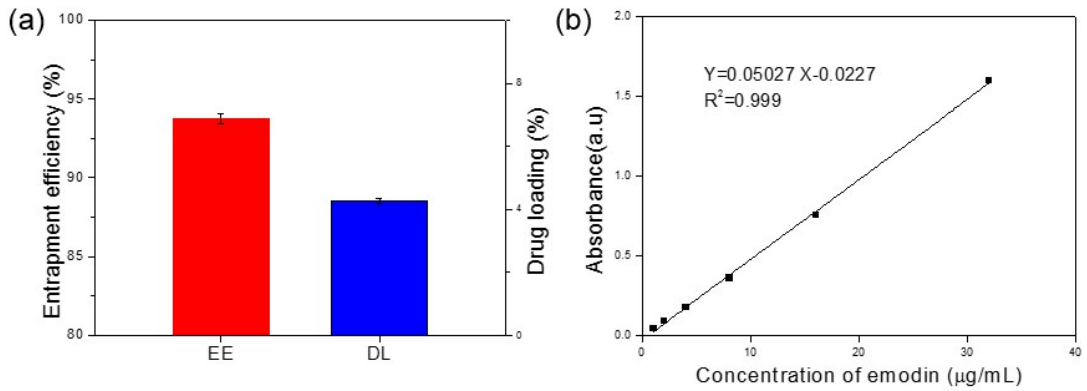

Fig. S1. (a) The entrapment efficiency (EE) and drug loading (DL) of emodin in liposomal emodin. (b) Standard curves of emodin in methanol. To detect the concentration of emodin quickly and effectively, a calibration curve of UV/Vis absorbance at the wavelength of 449 nm was obtained as following: c_{emodin}=0.05027*OD - 0.0227, R^2=0.999.

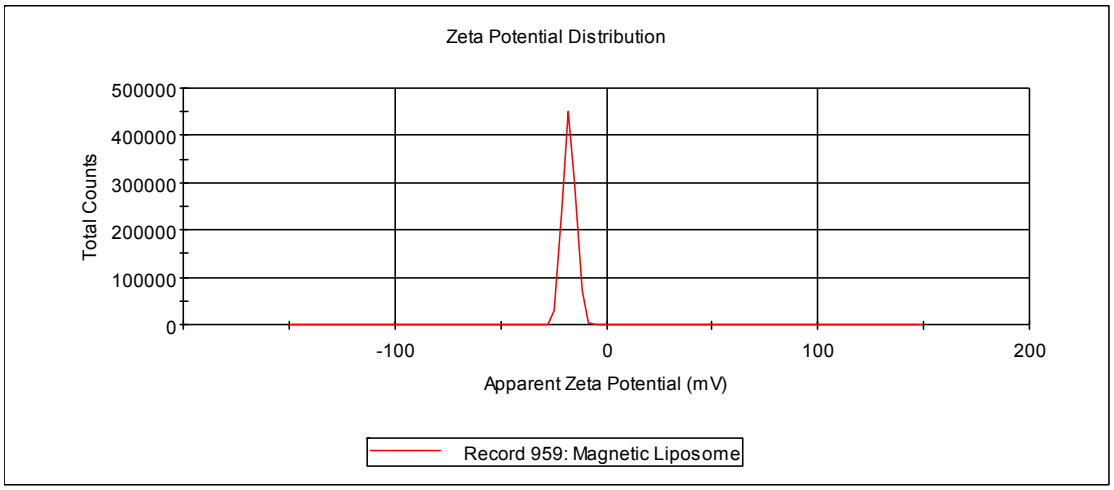

Fig. S2. The zeta potential of MLE nanocomposites

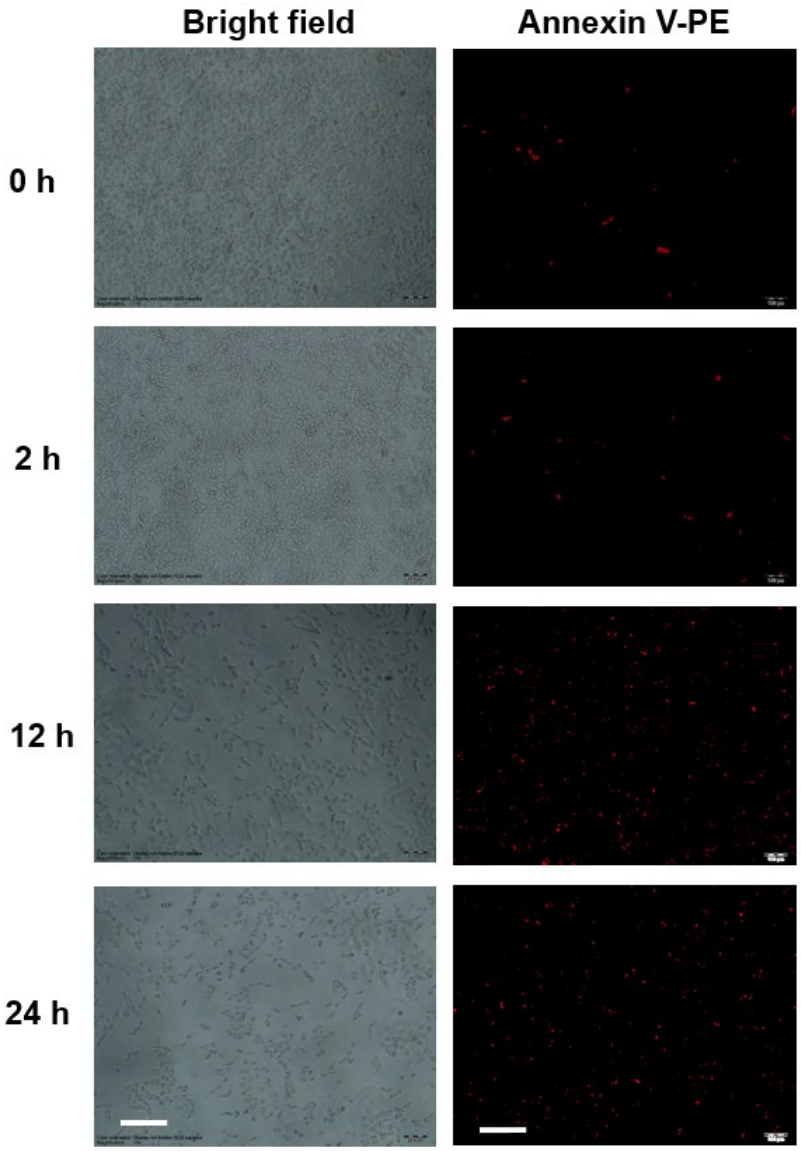

Fig. S3. Annevin V-PE staining of MCF-7 cells exposed to MLE at different time points. All bars are 200 μm.

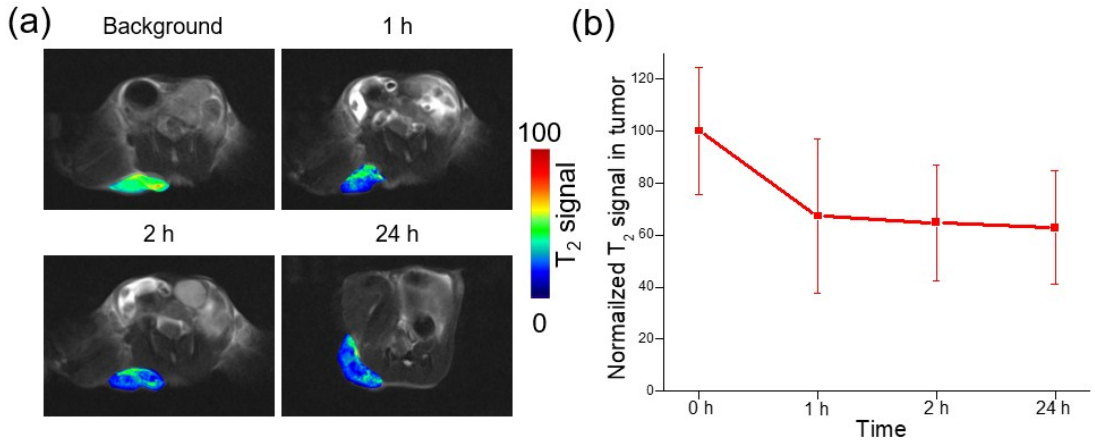

Figure S4. (a) *In vivo* T_2w MR images and (b) normalized T_2 signal in tumor region of 4T1 tumor bearing balb/c mouse before (0 h) and 1, 2 and 24h after the intravenous injection of pure iron oxide nanocubes in the presence of external magnetic field. As shown in (a), the signal of tumor region is obviously reduced after the administration of iron oxide nanocubes, indicating the effective decrease of T_2 time due to the accumulation of these magnetic nanocrystals under magnetic guidance in 24h.

Table S1. The EE and LC of magnetic nanoparticles in preparation of magnetic liposome.

$FION_{initial}$(mg)	$FION_{final}$(mg)	EE (%)	Lipid(mg)	LC (%)
1	0.388	38.8	45	0.86
1	0.464	46.4	45	1.03
1	0.431	43.1	45	0.96