Supporting Information for

Near-infrared light-sensitive liposomes for enhanced plasmid DNA transfection

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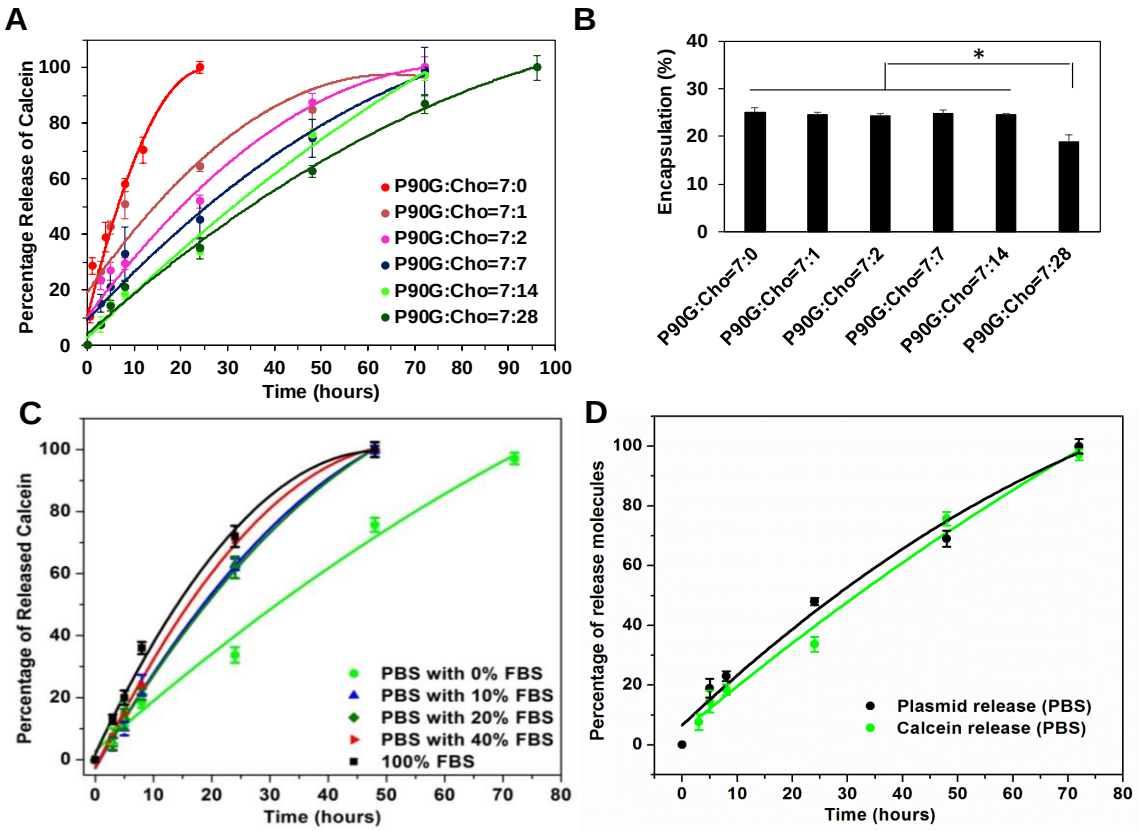

Figure.S1: Optimization of the liposome composition; A) influence of composition to calcein release profile. B) Encapsulation efficiency of calcein on liposomes with different compositions. C) The influence of serum concentration towards calcein release profile from optimized liposome. D) Release profile of plasmid and calcein from optimized liposome in PBS. * represents P<0.05.

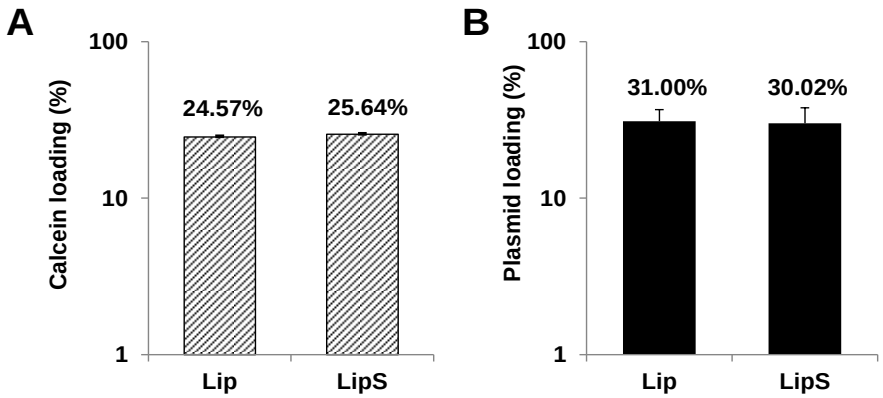

Figure.S2: Lip and Lip+SPACE (LipS) loading efficiency comparison for calcein (A) & GFP plasmid (B).

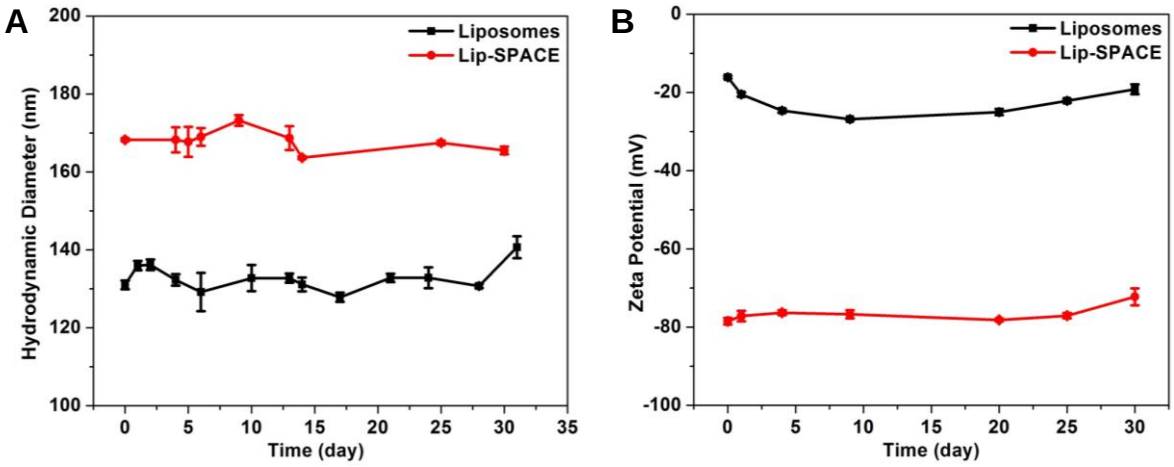

Figure.S3: Lip and LipS stability characterization. A) Hydrodynamic diameter and B) zeta potential changes of liposomes over a month.

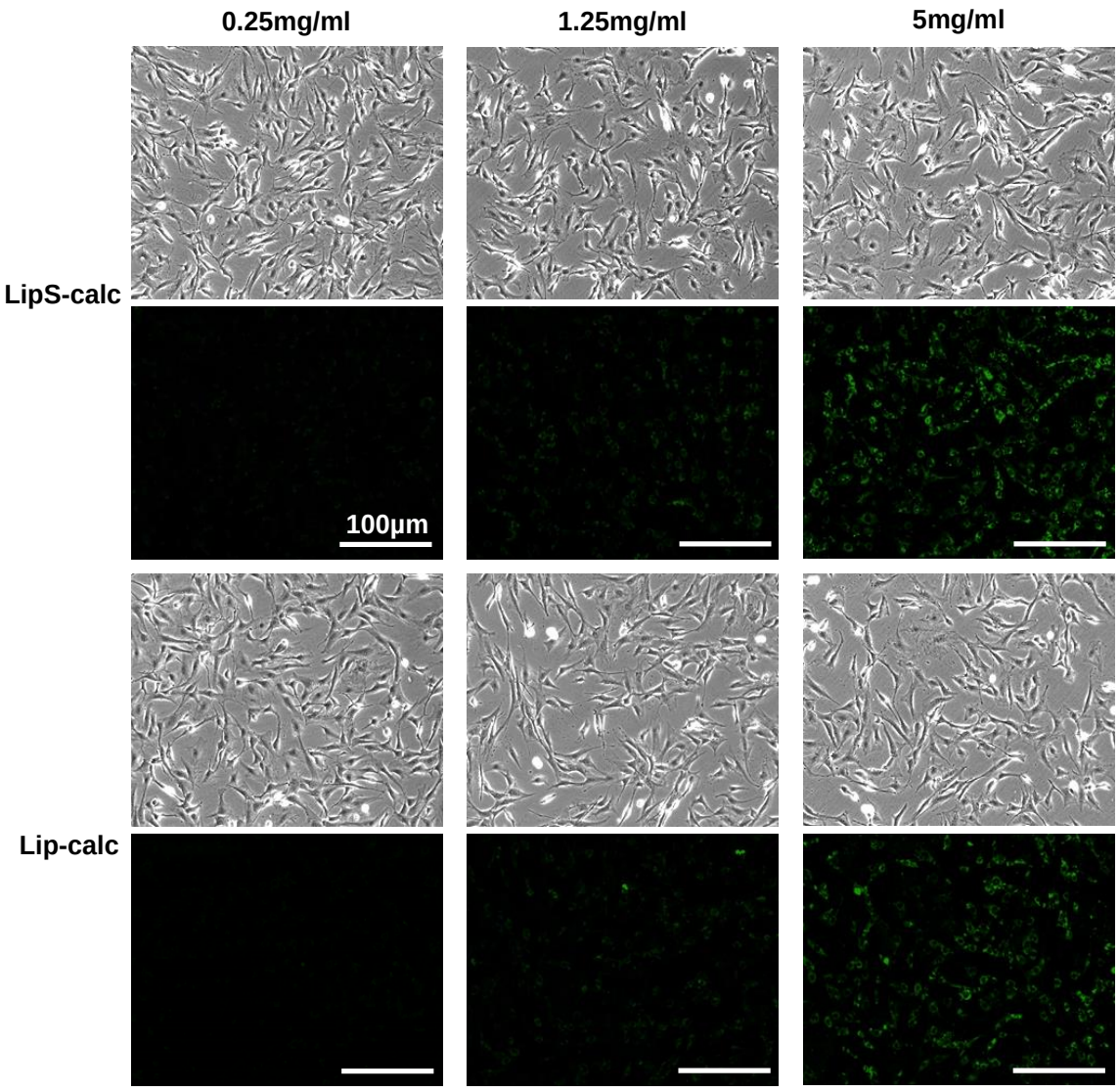

Figure.S4: Representative fluorescence images showing calcein delivery by Lip and LipS at various concentration (0.25, 1.25 & 5 mg/ml). Scale bar=100 µm.

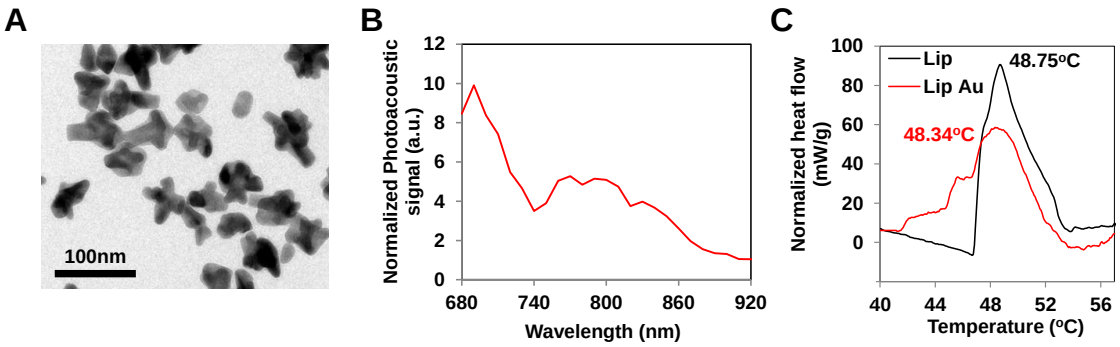

Figure.S5: Characterization of AuNS and AuNS-loaded liposomes. A) TEM images of synthesized AuNS for liposomes incorporation. B) Photoacoustic spectra of AuNS showing signal peak at 690 nm. C) DSC analysis showing glass transition temperature of Lip and AuNS-incorporated Lip. Scale bar=100 nm.

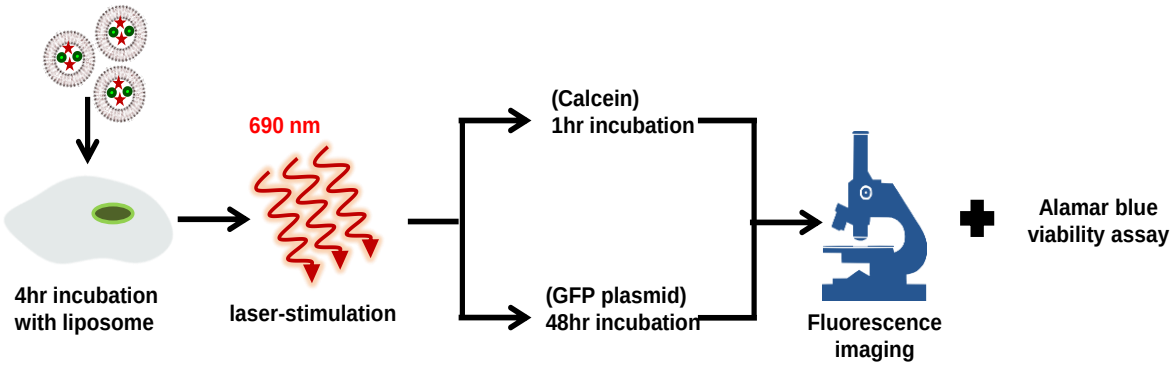

Figure.S6: Schematic showing procedures involved in near infrared-stimulated Lip/LipS-AuNS delivery.

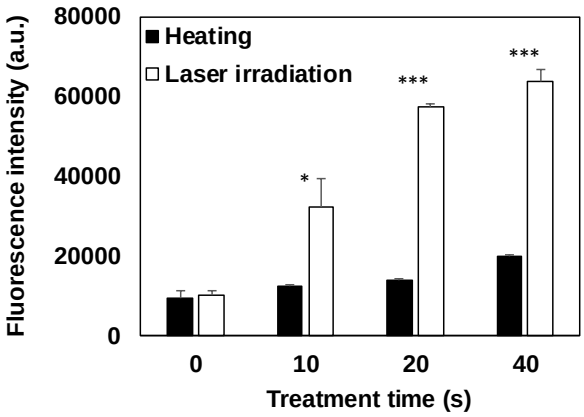

Figure.S7: Calcein release from Lip-calc Au post 60 ºC heating or laser irradiation (10 mJ/pulse) at different treatment periods. * represents P<0.05, * represents P<0.001.

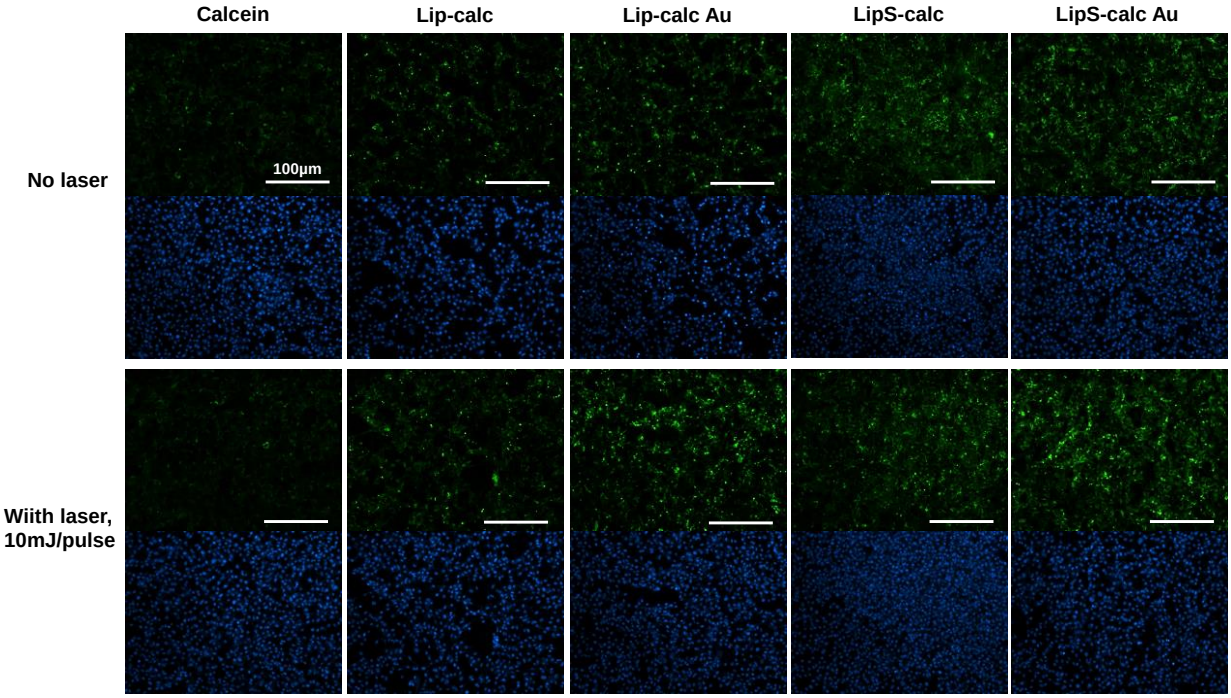

Figure.S8: Representative images showing NIR laser-stimulated calcein delivery with AuNS-containing Lip and LipS. Scale bar = 100 µm.