

Figure S1. Chemical formula of pristine and glucosylated copolymers proposed in this work: **(A)** lineal poloxamer F127 and F127-Glu and **(B)** branched poloxamine T1307 and T1307-Glu, respectively.

Differences between F127 and T1307 copolymers: molecular weight, number of branched arms and ethylenediamine central core. Differences in the lactone-incorporation processes: number of incorporated-Glu during the conjugation (% substitution).

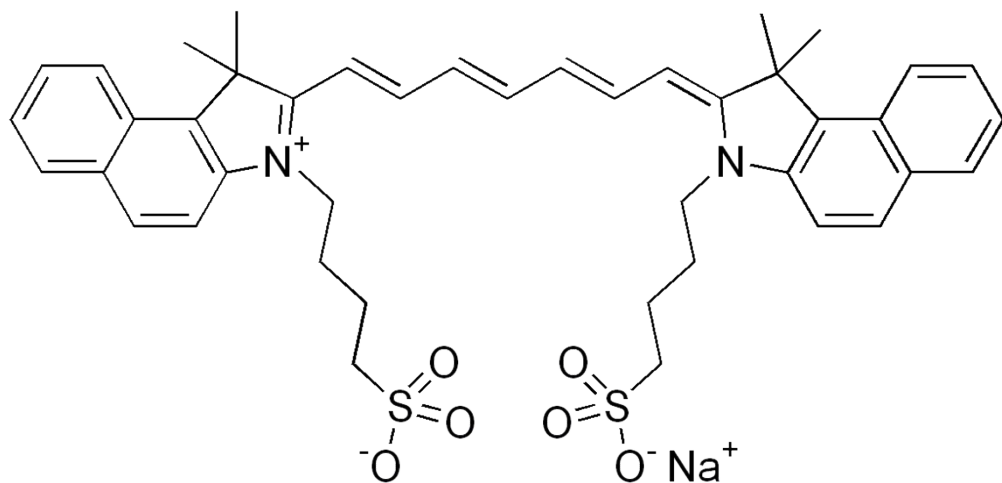


Figure S2. Chemical structure of Indocyanine Green (ICG), a FDA-approved poor water-soluble NIR fluorescent dye used in the present work.

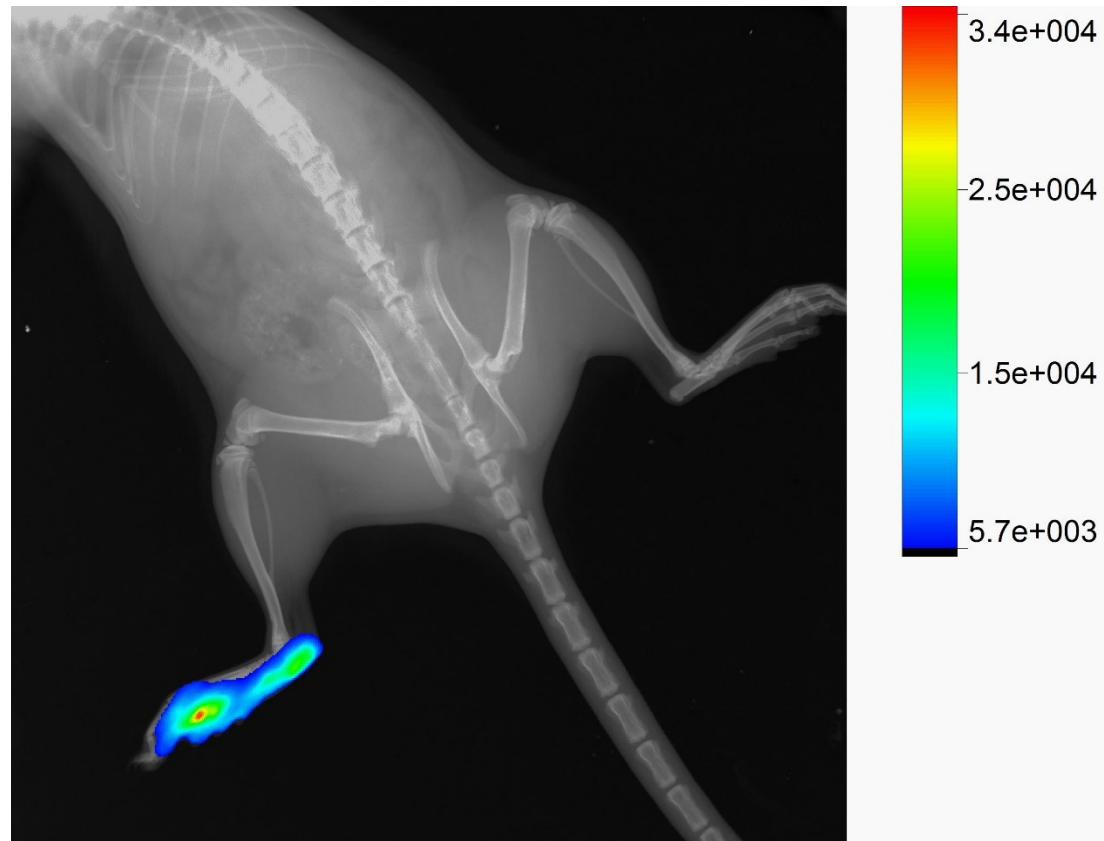


Figure S3. Representative *in vivo* image of free-ICG uptake after ID injection (dose 37.5 μ g) on Wistar healthy rats by FX-MX-Pro camera fluorescence (in arbitrary units) 120 min post-injection.