Electronic Supplementary Material (ESI) for Nanoscale.
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Electronic Supplementary Information (ESI)

for

Layer-by-Layer Coated Nanoliposome for Oral Delivery of Insulin

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Keywords: Layer-by-Layer nanoparticles, nanoliposomes, oral insulin delivery, diabetes mellitus, chitosan

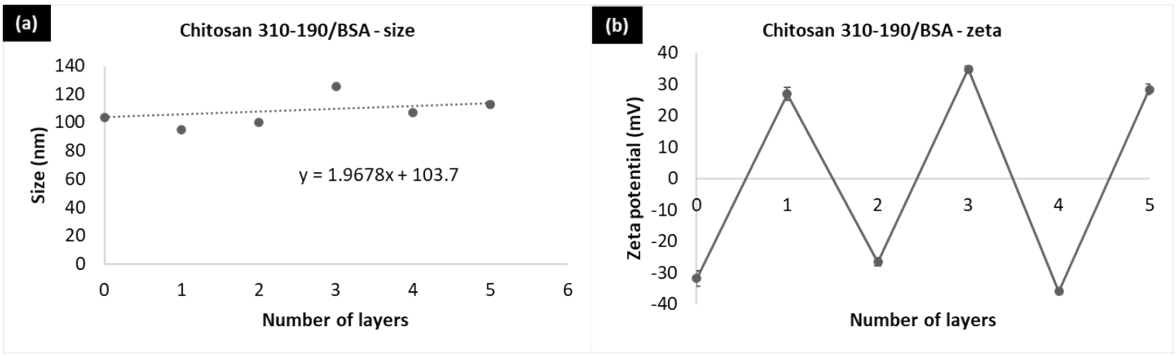

Figure 1. Extended application of the LbL coating technique on another model protein Bovine Serum Albumin (BSA). Effect of increasing coating layers of chitosan 310-190/BSA on (a) hydrodynamic size and (b) zeta potential

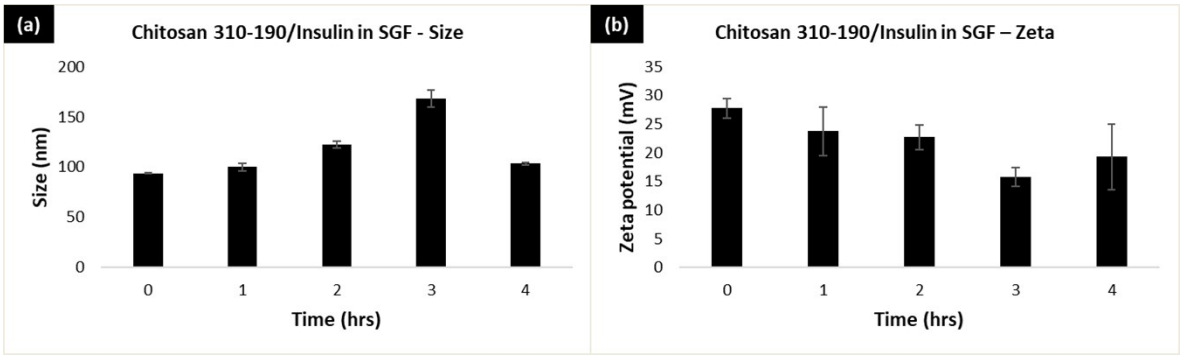

Figure 2. (a) hydrodynamic size and (b) zeta potential of 11 layers LbL coated liposome in SGF pH 1.2.

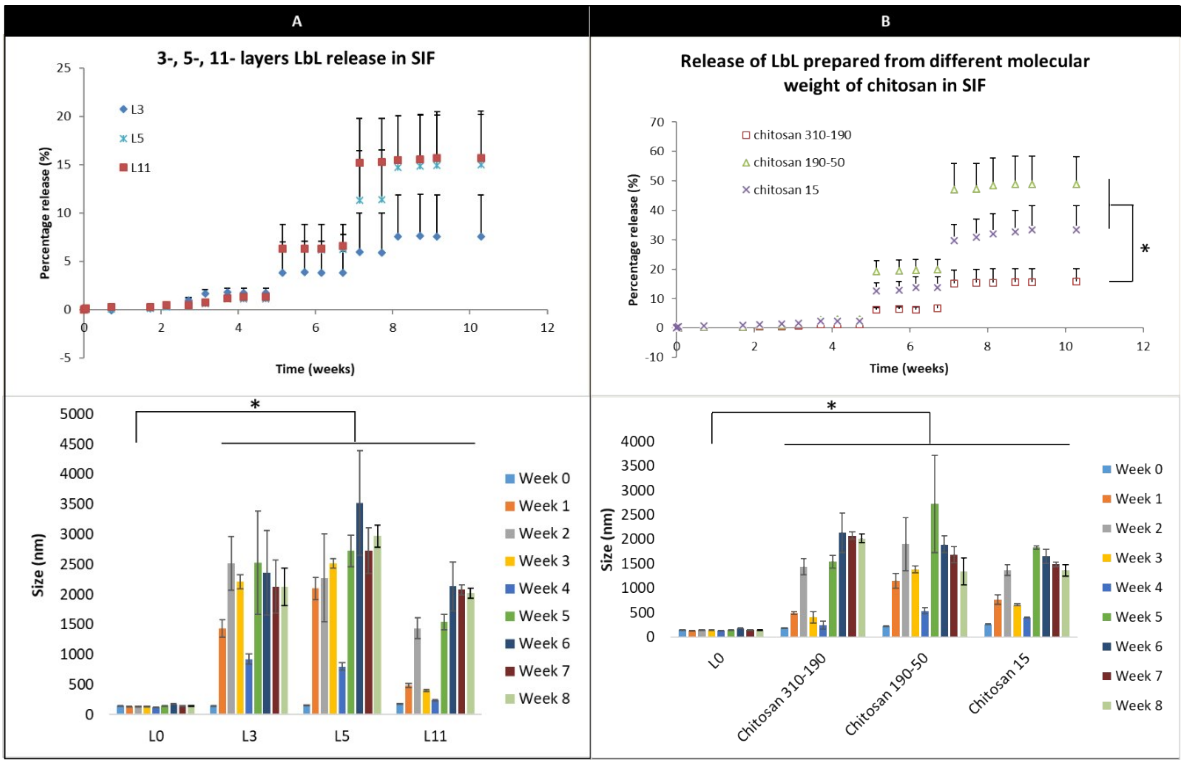

Figure 3. Effect of increasing coating layers and polymer length on LbL release and stability in SIF pH 6.8 at 37˚C. (A) comparison of release and stability of 3, 5, and 11 layers of chitosan 310-190/insulin coated LbL liposome in SIF pH 6.8 at

37˚C. (B) Release and stability of 11 layers of LbL fabricated with different molecular weight of chitosan/insulin in SIF pH 6.8 at 37˚C. DLS was used to measure the particle size. The data is represented by mean ± standard deviation (n = 3, *P < 0.05).

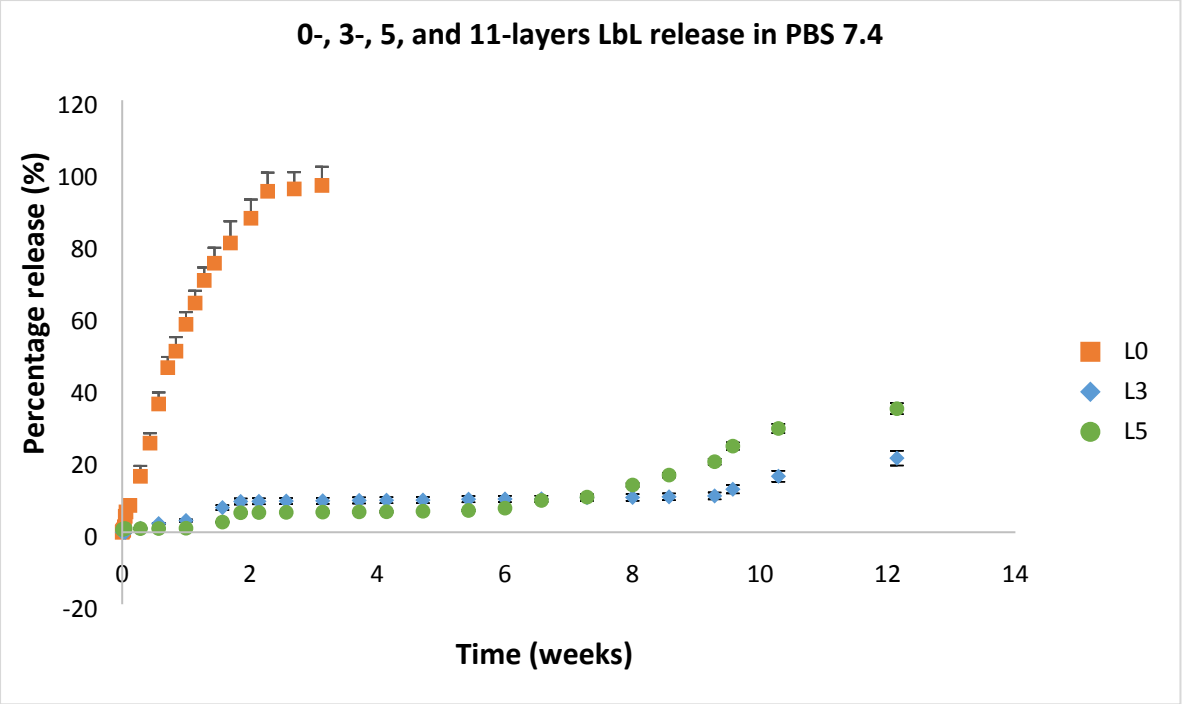

Figure 4. Release profile of LbL in PBS pH 7.4 at 37˚C over 12 weeks. Comparison between release of 3 and 5 layers of chitosan 310-190/insulin coated LbL liposome and insulin loaded HSPC/DPPG liposome core (L0).