Supporting Information for:

Cholesterol moieties as building blocks for assembling nanoparticles to achieve effective oral delivery of insulin

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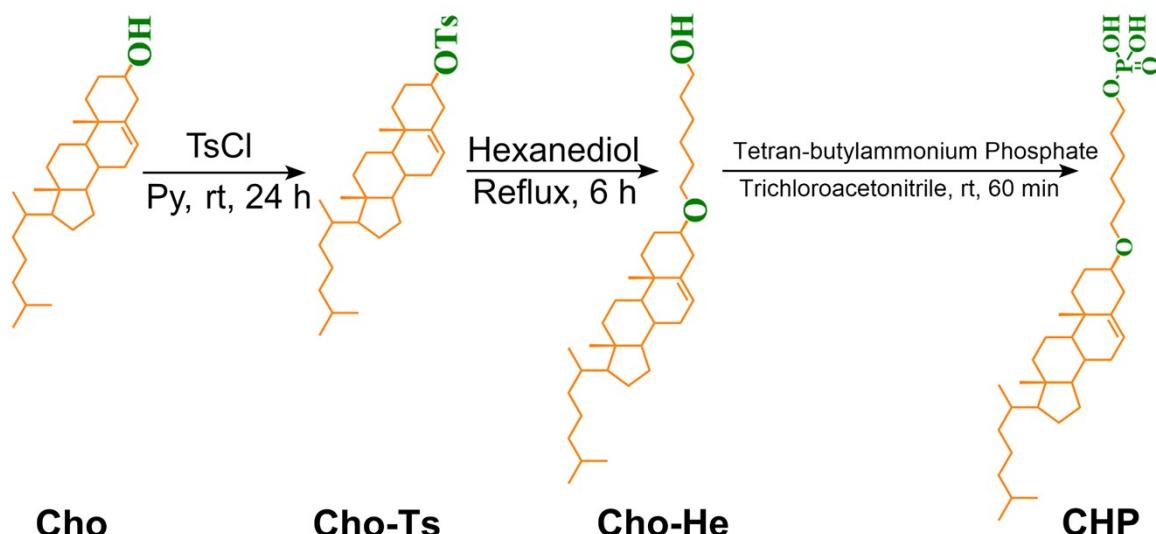
Figure S1. Synthetic route and structure of CHP.
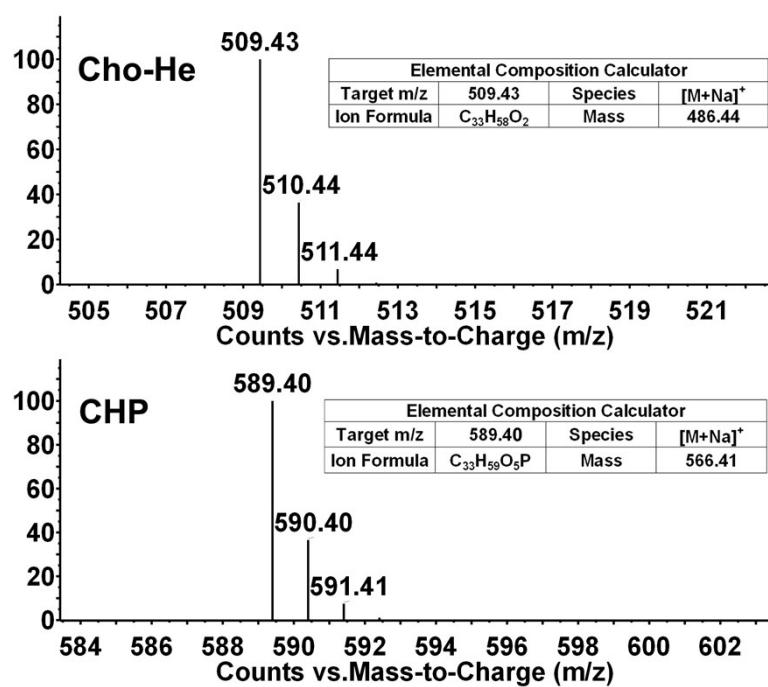
Figure S2. HRMS spectrums of Cho-He and CHP.
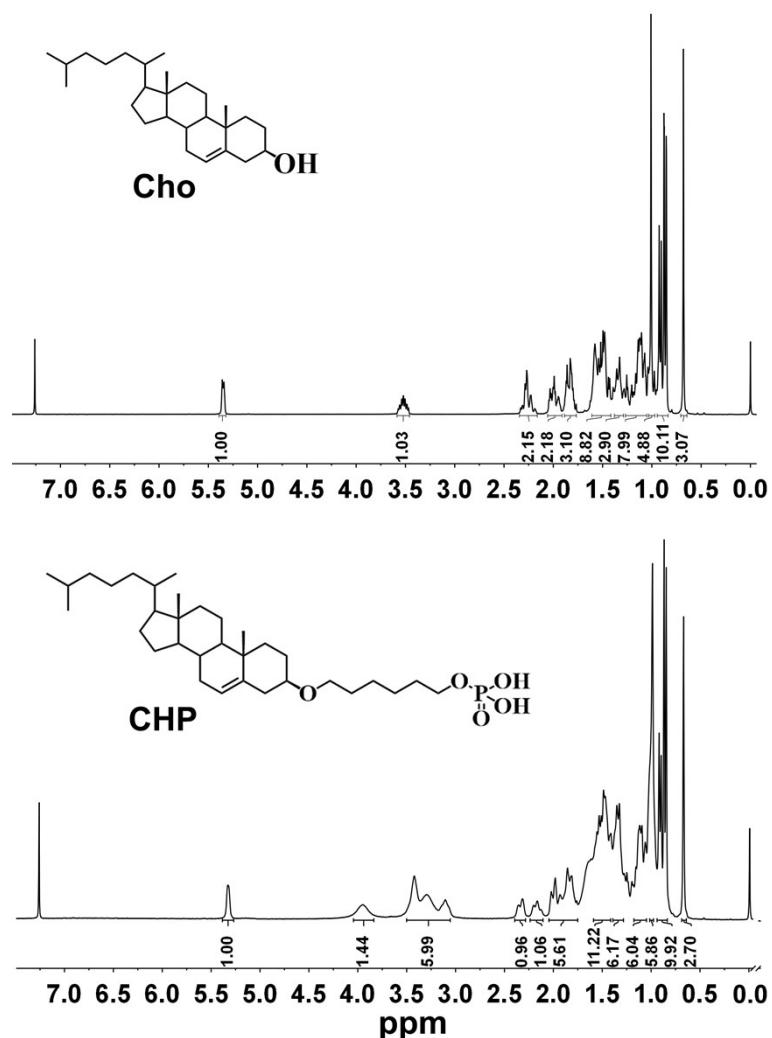
**Figure S3.** ^{1}H NMR spectrums of Cho and CHP.
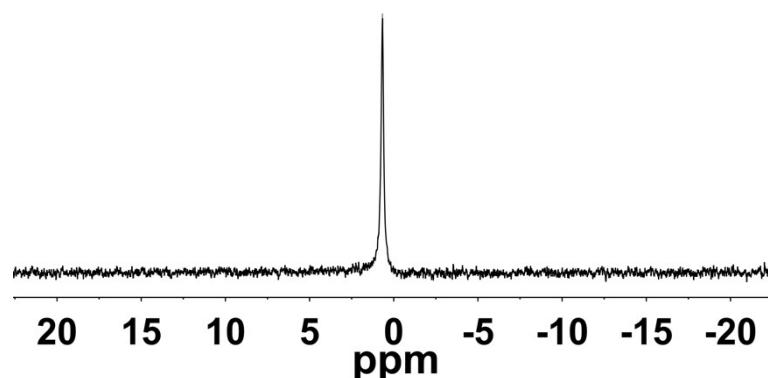


Figure S4. The ^{31}P NMR spectrum of CHP.
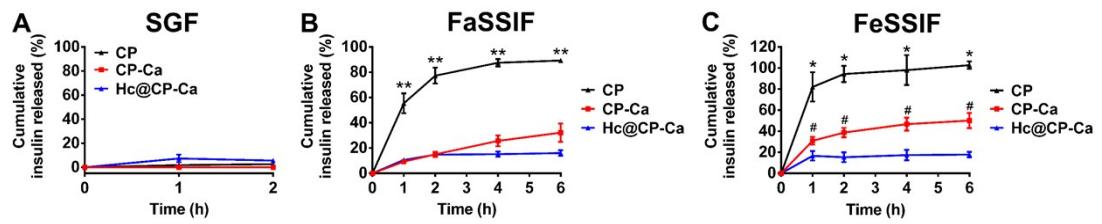
Figure S5. (A)The release profiles of insulin from CP NPs, CP-Ca NPs and Hc@CP-Ca NPs in SGF; (B) The release profiles of insulin from CP NPs, CP-Ca NPs and Hc@CP-Ca NPs in FaSSIF (**$p < 0.01$, versus CP-Ca NPs); (C) The release profiles of insulin from CP NPs, CP-Ca NPs and Hc@CP-Ca NPs in FeSSIF (*$p < 0.05$, versus CP-Ca NPs, #$p < 0.05$, versus Hc@CP-Ca NPs). (mean ± SD, $n = 3$)