Supplementary Information

Interaction of fibrinogen-magnetic nanoparticle bioconjugates with integrin reconstituted into artificial membranes

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Figure S1: Representative QCM-D graph showing the different injection steps of the experiments.

Figure S2: Circular dichroism data of the NPs and bioconjugates made of Fb and NPs modified with citrate, dextran and PEG.

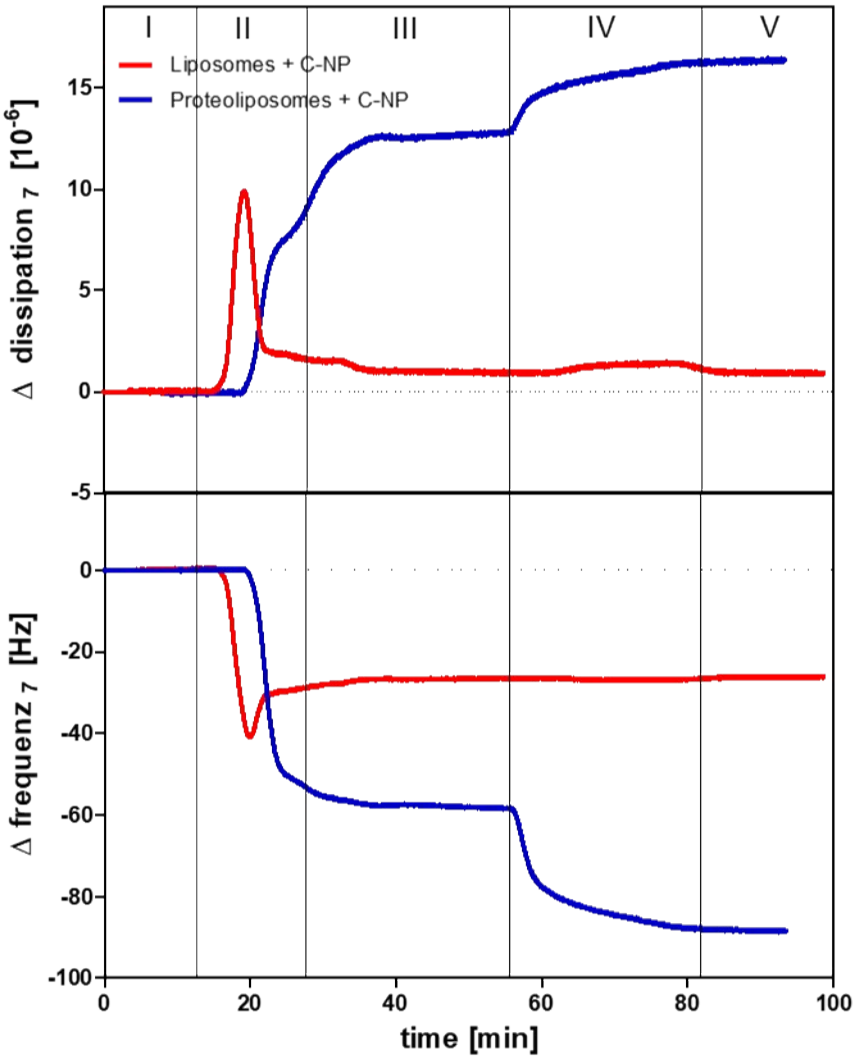

Figure S1. Representative QCM-D experimental profile - Changes in dissipation (D-top) and frequency f (bottom) of the seventh overtone at 37 °C. PBS buffer was pumped over the SiO_2 sensors (phase I) and after reaching a baseline, liposomes or proteoliposomes were injected and the formation of a bilayer was observed (phase II). After a washing step with either PBS or PBS containing 1 mM Mn^{2+}, 1 mM Ca^{2+}, 1 mM Mg^{2+} (phase III), NP or bioconjugates in PBS buffer were injected (phase IV). Rinsing with PBS buffer followed (phase V).

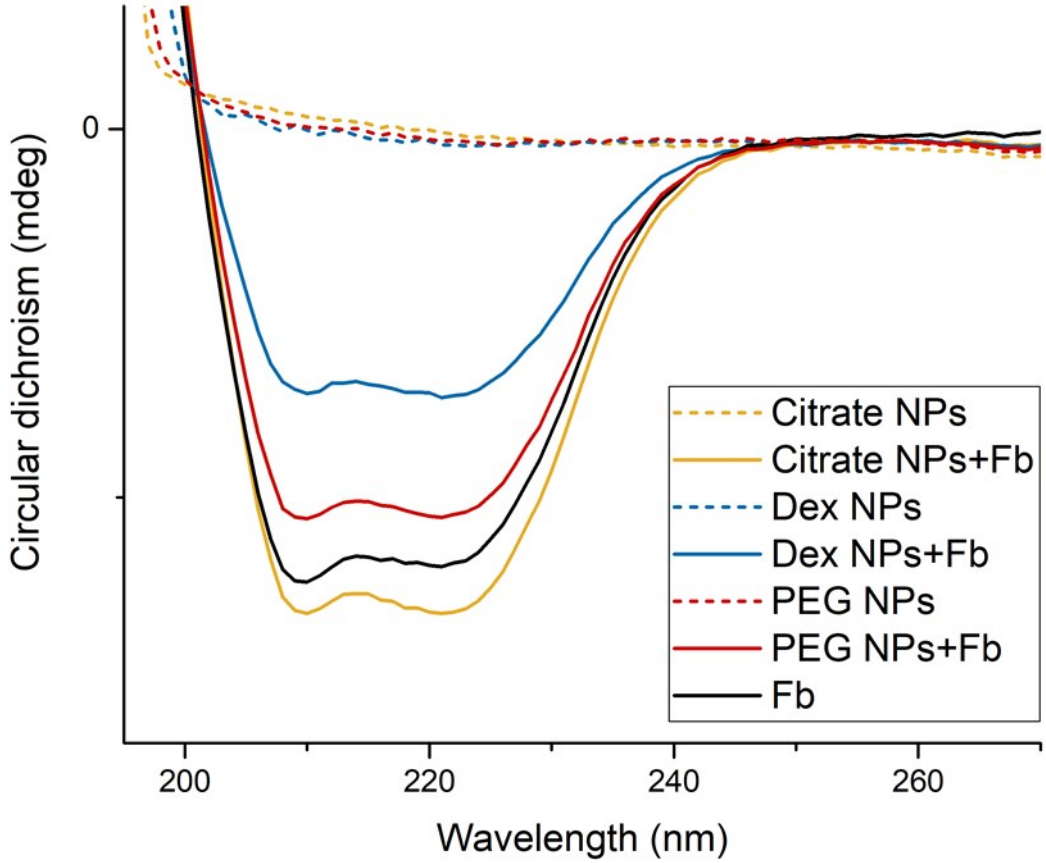

Figure S2. Circular dichroism spectra of citrate-capped NPs (yellow dotted line), dextran modified NPs (blue dotted line) and PEGylated NPs (red dotted line) together with the spectra of the corresponding bioconjugates with fibrinogen (solid line). As positive control fibrinogen (black solid line) is measured. Below 215 nm a strong absorbance is detectable which results in an increased CD signal in this range. This is also observable for the spectra of the conjugated fibrinogen where in comparison to pure fibrinogen (dissolved in PBS) a decreased CD signal is visible in the range below 215 nm. Those changes in the spectra of fibrinogen are attributed to the background signal of the nanoparticles and are not caused by structural changes of the protein due to bioconjugation. It has to be noted that it is not possible to simply subtract the signal of the nanoparticles without corona because the nanoparticle concentrations of the single samples are not comparable.