Supplementary information.

Synthesis of poly(2-methacryloyloxyethyl phosphorylcholine)-conjugated lipids; its characterization and surface properties of modified liposomes for protein interactions

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**Figure S1.** QCM-D analysis of interaction between PMPC-lipids. (A) MPC10-lipid and (B) MPC50-lipid, and BSA and human complement protein C3. Representative QCM-D sensorgrams of  $\Delta f$  and  $\Delta D$  over time after the interaction of PMPC-lipids(C18) followed by the flowing of 1 mg/mL BSA and 50 µg/mL C3 for 30 min each (n=3). The sensors were rinsed with PBS for 5 min before, between, and after the addition of each sample.



**Figure S2.** QCM-D analysis of interaction between PMPC-lipids. (A) MPC10-lipid and (B) MPC50-lipid, and human fibrinogen. Representative QCM-D sensorgrams of  $\Delta f$  and  $\Delta D$  over time after the interaction of PMPC-lipids(C18) followed by the flowing of 1 mg/mL BSA and 1 mg/mL fibrinogen for 30 min each (n=3). The sensors were rinsed with PBS for 5 min before, between, and after the addition of each sample



**Figure S3.** QCM-D analysis of interaction between anti-PEG IgM antibody and PMPClipids. (A) MPC10-lipid and (B) MPC50-lipid, by QCM-D. Representative QCM-D sensorgrams of  $\Delta f$  and  $\Delta D$  after the interaction of PMPC-lipids(C18) followed by the flowing of 1 mg/mL BSA and 10 µg/mL rat anti-PEG-IgM for 30 min each (n=3). The sensors were rinsed with PBS for 5 min before, between, and after the addition of each sample



**Figure S4.** Representative TEM images of negatively stained liposome preparations, using 1% uranyl acetate, and their interaction with a carbon film. The images are taken at 16500x magnification. Modified liposomes with PMPC-lipids formed the uniform size without aggregation.