Supporting Information

Electrochemical Detection of Single Phospholipid Vesicle Collisions at a Pt Ultramicroelectrode

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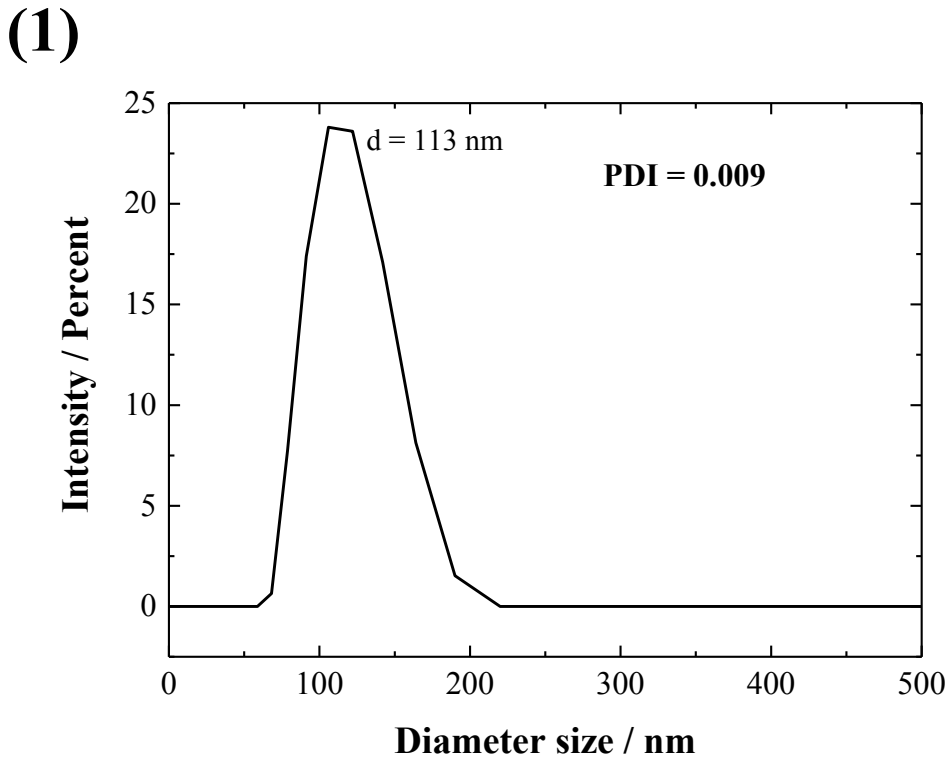


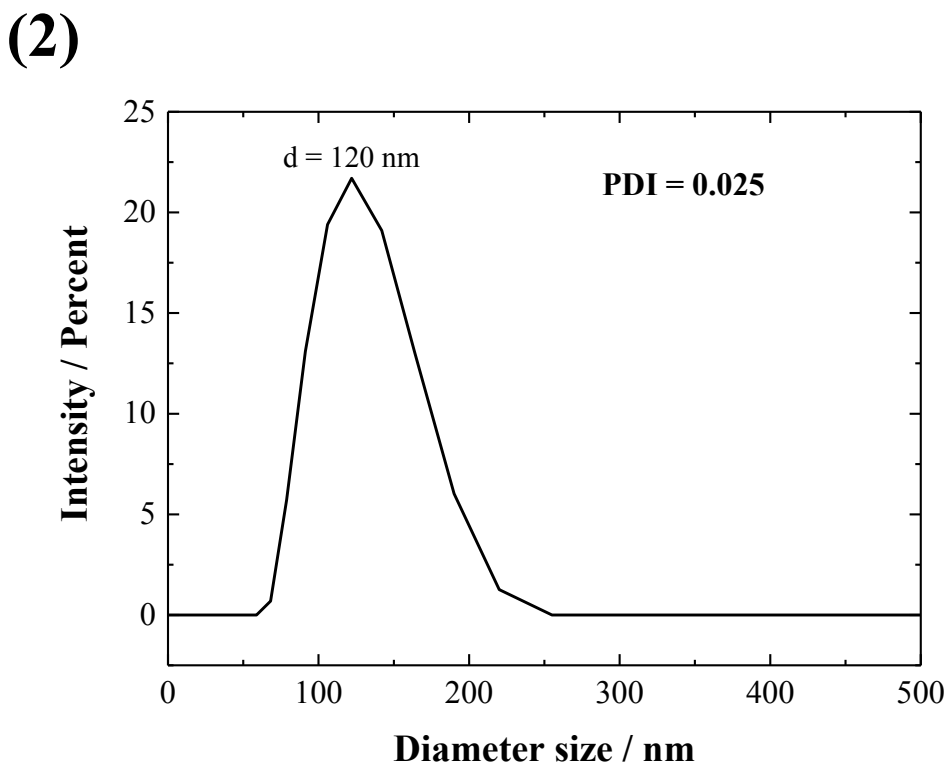
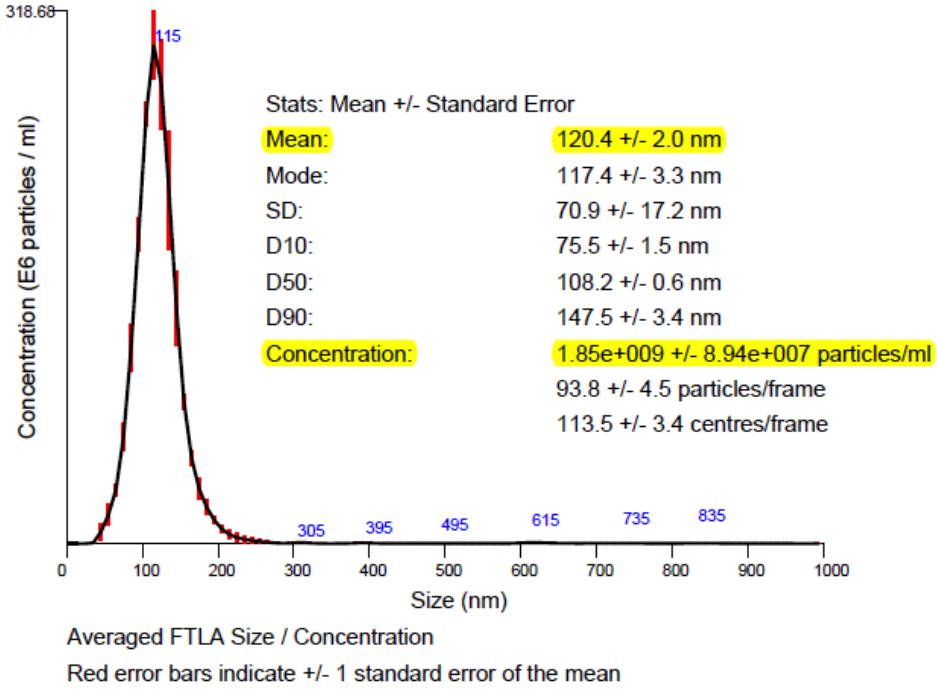


Figure S1. Size distribution of DMPC vesicle solution prepared in pure water (1) and redox DMPC vesicles solution prepared in 0.5 M $K_4Fe(CN)_6$ aqueous solution (2) from DLS measurement.

(1)



(2)

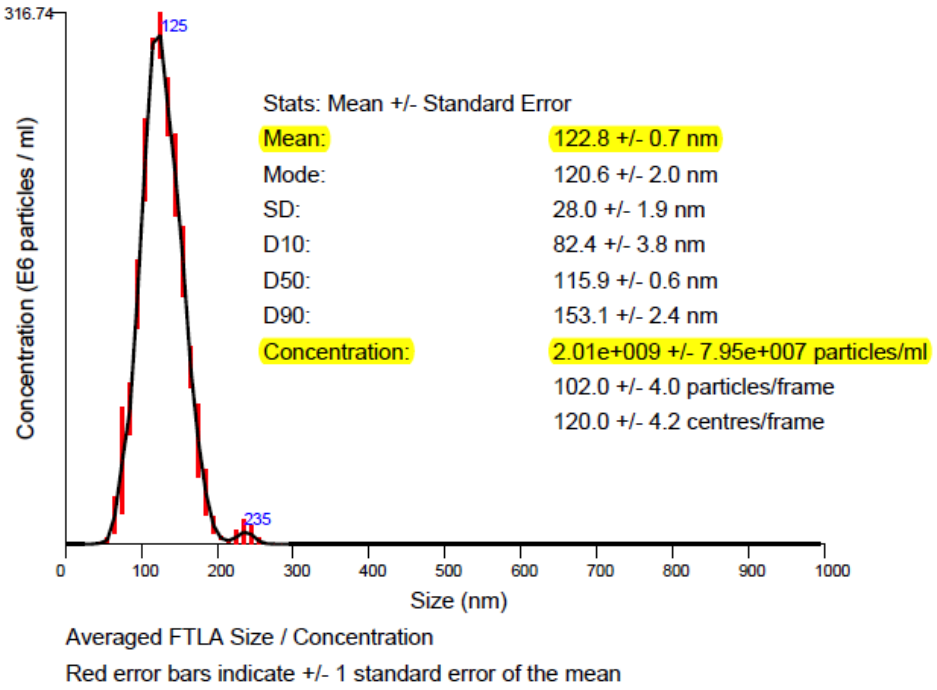


Figure S2. Size distribution and vesicle concentration of DMPC vesicle solution prepared in pure water (1) and redox DMPC vesicle solution prepared in 0.5 M $K_4Fe(CN)_6$ aqueous solution (2) diluted by 1000 from NTA measurement.

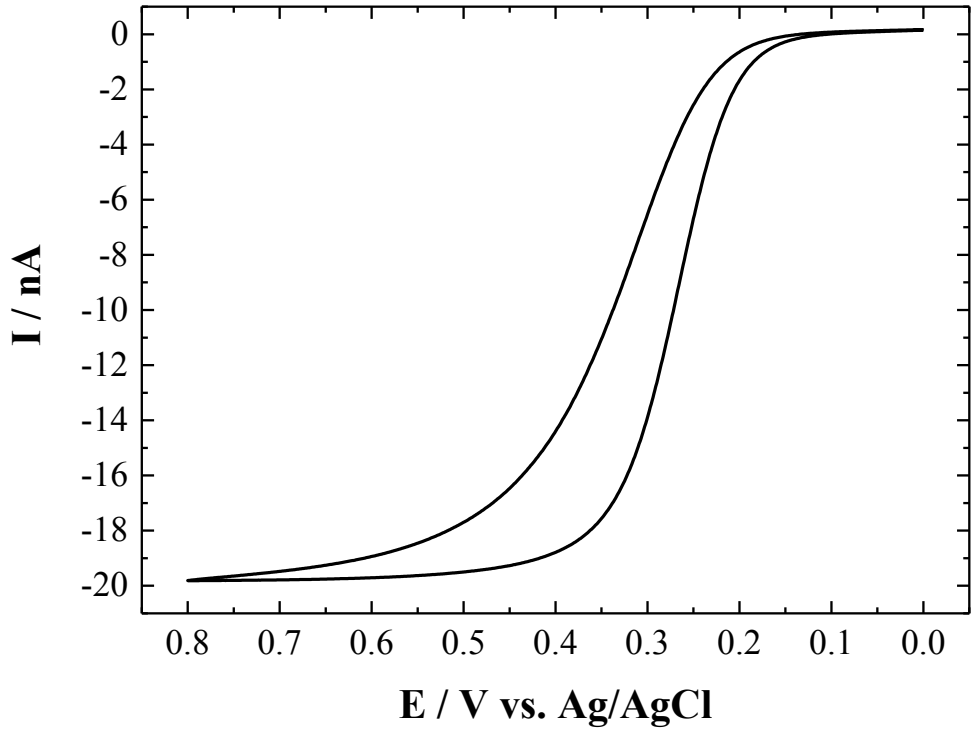


Figure S3. Cyclic voltammogram recorded at 0.1 V s^{-1} on 1.7 μm Pt UME in 0.2 M $K_4Fe(CN)_6$ aqueous solution.

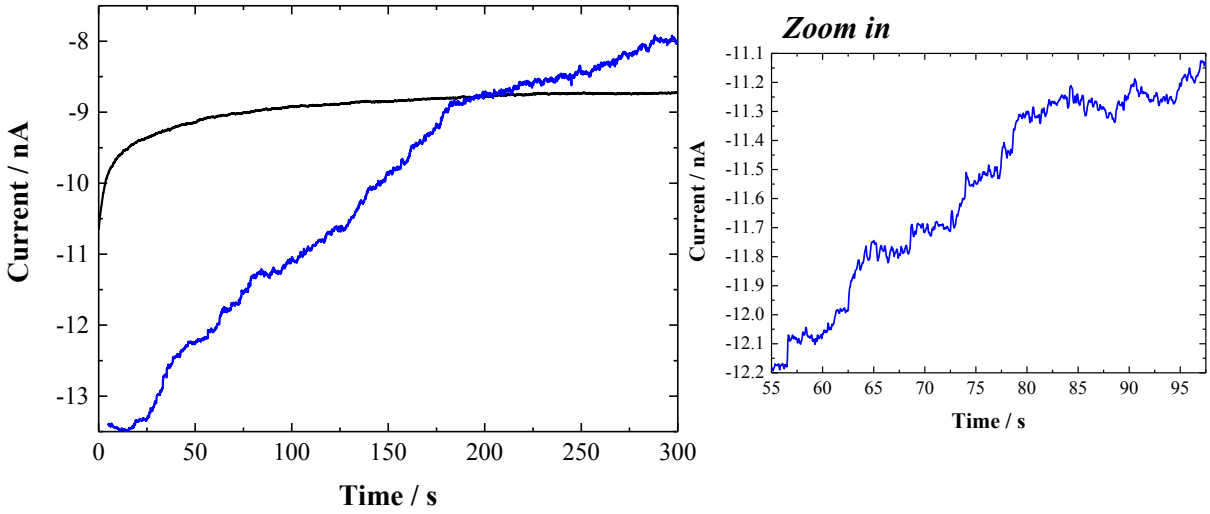


Figure S4. The i-t curve for collision experiments by vesicles blocking method recorded at +0.6 V vs. Ag/AgCl on 2.0 μm Pt UME in 2 mL of 0.2 M $K_4Fe(CN)_6$ aqueous solution in the absence (black) and in the presence (blue) of 5 μL redox DMPC vesicles aqueous solution.

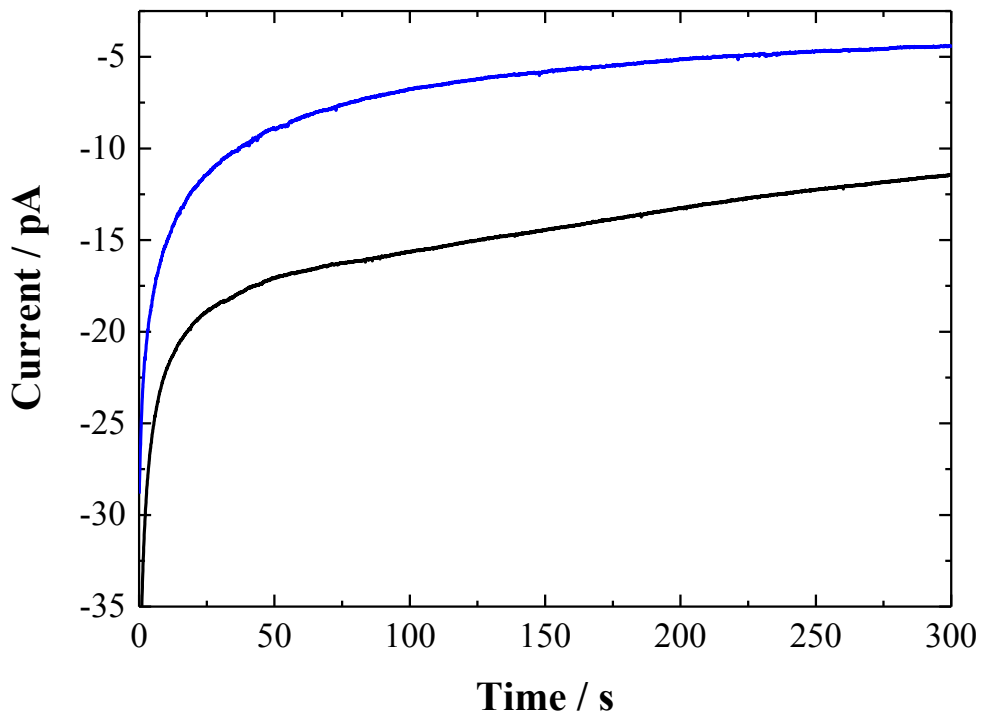


Figure S5. The i-t curve for collision experiments by vesicle reactor method recorded at +0.6 V vs. Ag/AgCl on 2.0 μm Pt UME in 2 mL of 0.1 M KPB aqueous solution at pH 7 in the absence (black) and in the presence (blue) of 5 μL DMPC vesicles aqueous solution and 0.23 mM TX-100 surfactant.

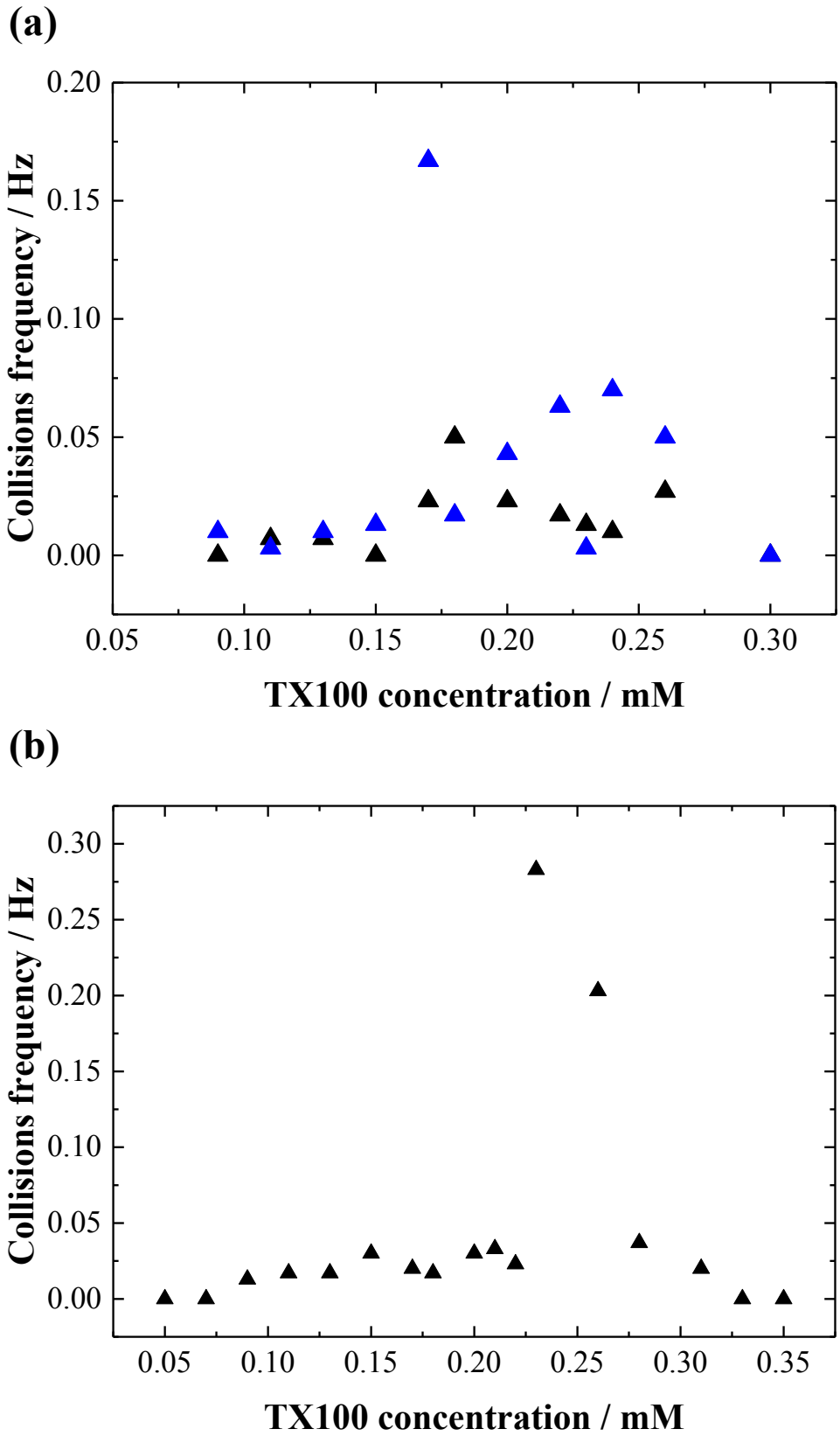


Figure S6. (a) The collisions frequency determined from i-t curves of collision experiments by vesicles reactor method recorded at +0.6 V vs. Ag/AgCl on 2.0 μm Pt UME in 2 mL of 0.1 M KPB aqueous solution at pH 7 in the presence of 5 μL redox DMPC vesicles aqueous

solution at t = 1 min (black) and t = 15 min (blue) after addition of small TX100 concentrations every 20 minutes. (b) The collisions frequency determined from i-t curves of collision experiments by vesicles reactor method recorded at +0.6 V vs. Ag/AgCl on 1.7 μm Pt UME in 2 mL of 0.1 M KPB aqueous solution at pH 7 in the presence of 20 μL redox DMPC vesicles aqueous solution after addition of small TX100 concentrations every 5 minutes.