Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Electronic Supplementary Information

Exploring the relation between the oligomeric structure and membrane damage by a study on rat islet amyloid polypeptide

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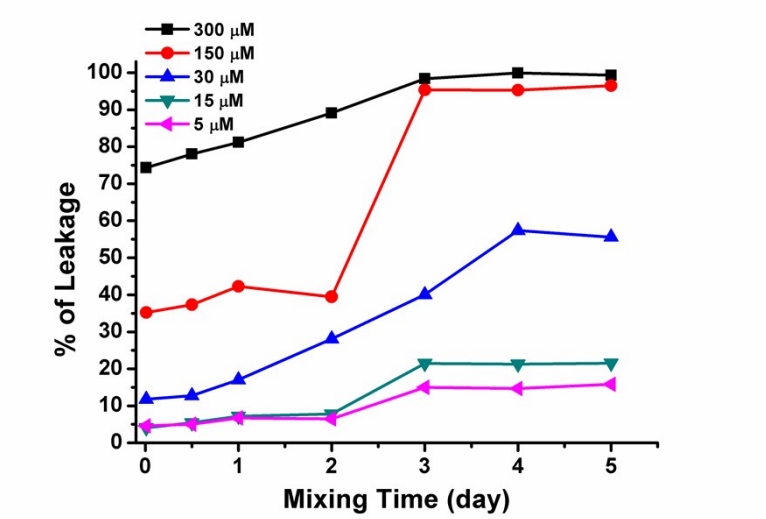

Fig. S1 Dependences of calcein leakage of POPC:POPG 4:1 LUVs (total lipid concentration was 3 mM) in 20 mM Tris-HCl buffer containing 100 mM NaCl at pH 7.4 in the presence of one-hour-sonication rIAPP sample $O_{1h\text{-}s}$ at various concentrations of rIAPP.

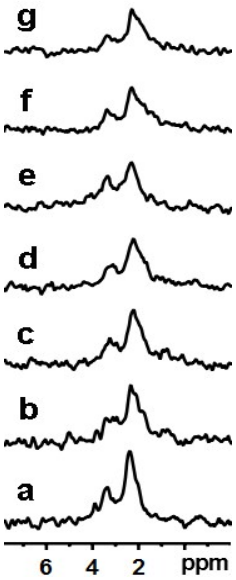

Fig. S2 ^{31}P-NMR spectra of POPC:POPG 4:1 SUVs obtained before and after the addition of one-hour-sonication rIAPP sample $O_{1h\text{-}s}$ at a L:P of 300:1 (3 mM lipid: 10 μM peptide): (a) SUVs alone; (b-g) SUVs mixed with $O_{1h\text{-}s}$ at mixing time of 0, 1, 2, 3, 4 and 5 days, respectively. The spectra were recorded in 20 mM Tris-HCl buffer containing 100 mM NaCl at pH 7.4, 25℃.

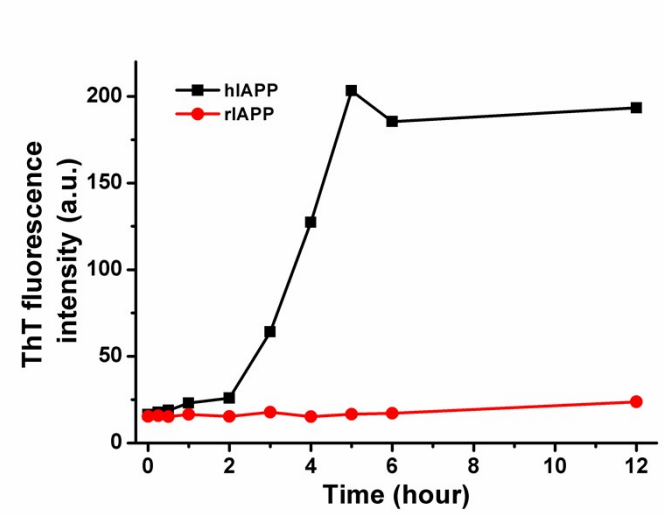

Fig. S3 Time-dependent ThT fluorescence curves for hIAPP (30 μM) and rIAPP (30 μM) in 25 mM phosphate buffer at pH 7.4 with 25 mM NaCl.

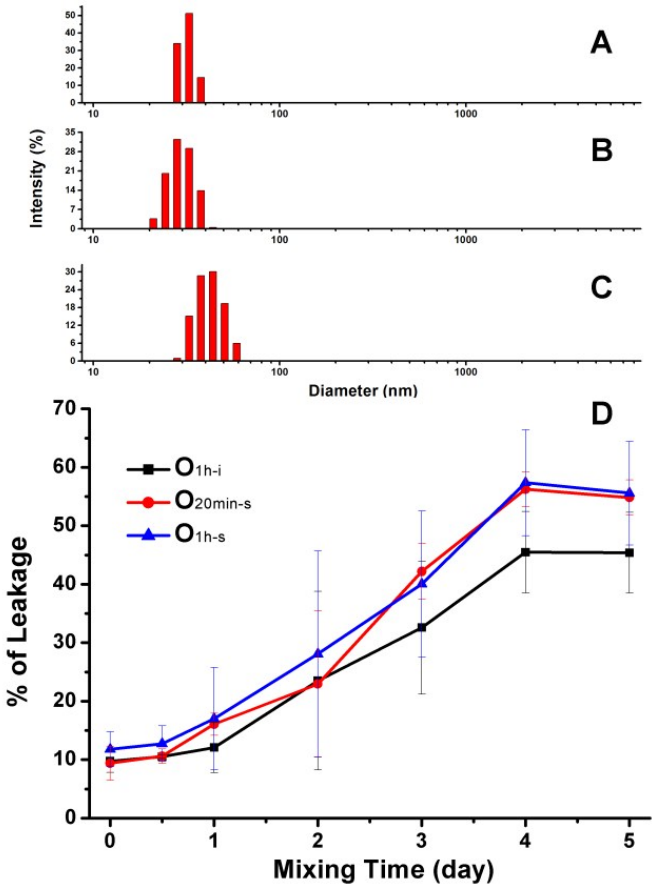

Fig. S4 The DLS results of rIAPP samples treated via one-hour-incubation $O_{1h\text{-}i}$ (A), twenty-minute-sonication $O_{20min\text{-}s}$ (B) and one-hour-sonication $O_{1h\text{-}s}$ (C) in Milli-Q water at pH 4.6 as well as the leaking results of POPC/POPG 4:1 LUVs incubated with the three peptide samples (D) in 20 mM Tris-HCl buffer with 100 mM NaCl at pH 7.4.

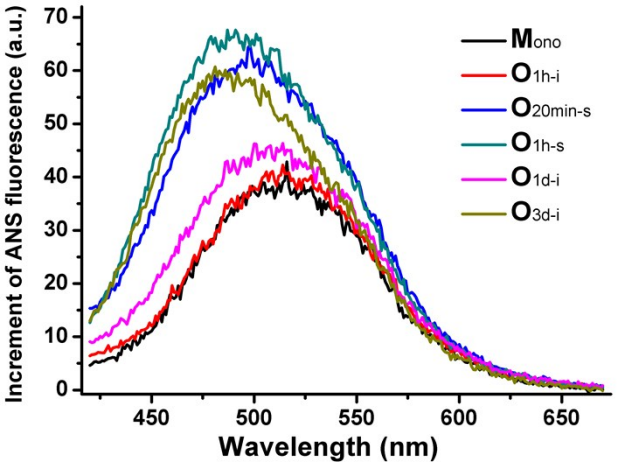

Fig. S5 Increment of ANS fluorescence upon binding with various rIAPP samples recorded in 25 mM phosphate buffer containing 25 mM NaCl at pH 7.4.