Supplementary Information

Micelles Consisting of Choline Phosphate-Bearing

Calix[4]arene Lipid

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¹H-NMR spectrum of compound I



 $^1\mathrm{H}\text{-}\mathrm{NMR}$ spectrum of compound II



¹H-NMR spectrum of compound III



 $^1\mathrm{H}\text{-}\mathrm{NMR}$ spectrum of compound \mathbf{IV}



¹³C-NMR spectrum of compound IV



 $^1\text{H-NMR}$ spectrum of compound $\mathbf V$



 $^{13}\text{C-NMR}$ spectrum of compound V



Fig. S1 (a) UV spectra of CPCaLn micelles in 150 mM aqueous NaCl. (b) Concentraton dependence of refractive index increment for CPCaLn micelles in 150 mM aqueous NaCl.



Fig. S2 Guinier plots of CPCaLn micelles in 150 mM aqueous NaCl.



Fig. S3 SAXS profiles of CPCaL*n* micelle in aqueous solution at different NaCl concentration. The solid line was calculated from the core-shell spherical model in Eq. 1, and the fitting parameters are same with ones shown in Figure 3a. The samples were as follows: (a) CPCaL3; (b) CPCaL6.



Fig. S4 The Zimm plots for CPCaL*n* micelles at the top of the UV peaks.



Fig. S5 Size distribution of DOPC and DOCPe liposomes in 150mM aqueous NaCl.



Fig. S6 (a) The fluorescence intensity of the ANS spectra at 470 nm plotted against the concentration of CPCaLn micelles with FITC-LP in 150mM aqueous NaCl. (b) Size distribution of CPCaLn micelles with or without FITC-LP in 150mM aqueous NaCl.