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Supporting Information for

Metal Complexes Based Multi-Stimuli Responsive Amphiphile: Development into Monolayers and Giant Vesicles

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Figure S1. (A) Top and (B) side views of *p*-1 and *d*-1. The geometry of complexes were optimized DFT calculation (B3LYP, LANL2DZ).



Figure S2. UV-Vis absorption spectral change of a vesicle dispersion containing *p*-1 (40 nmol), DOPC (200 nmol), and water (0.4 mL) under light irradiation with a 100 W halogen lamp ($\lambda > 380$ nm, 70 mW cm⁻²).



Figure S3. UV-Vis absorption spectral change of a *p*-1 in mixed aqueous solution (MeOH:H₂O = 2:3) under light irradiation with a 100 W halogen lamp ($\lambda > 380$ nm, 70 mW cm⁻²).



Figure S4. ¹H NMR spectra of *p*-1 (1.1 mM) in a mixed aqueous solution (D₂O/CD₃OD/*d*-acetone = 4:2:1) under light irradiation with a 100 W halogen lamp ($\lambda > 380$ nm, 70 mW cm⁻²).



Figure S5. ¹H NMR spectra during thermal back isomerization from *d*-1 to *p*-1 at 293 K. The sample solution was prepared by light irradiation to an aqueous solution of *p*-1 (1.5 mM) in mixed aqueous solution ($D_2O : CD_3OD : TFE = 70 : 50 : 2$).



Figure S6. Time laps of distortion and fission of MLVs of p-1/DOPC under visible light irradiation and heating in the dark.



Figure S7. DSC and DDSC plots for *p*-1/DOPC.



Figure S8. DSC and DDSC plots for *p*-1/DOPC/DMPC (DOPC:DMPC = 1:3).



Figure S9. DSC and DDSC plots for DOPC vesicles (1 mM).



Figure S10. DSC and DDSC plots for DMPC vesicles (1 mM).