

# Supporting Information

for

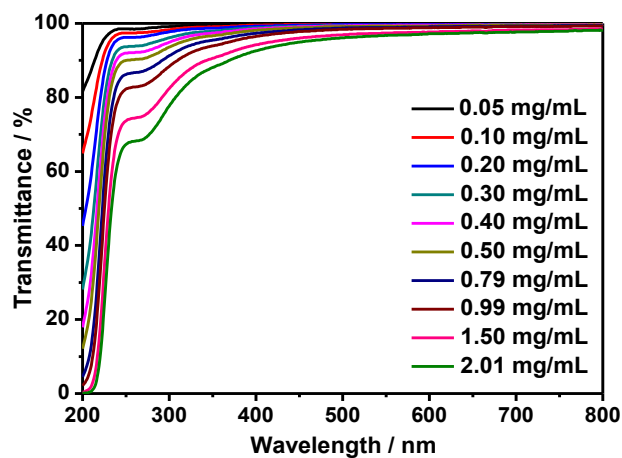
## Comparative Study on the Supramolecular Assemblies Formed by Calixpyridinium and Two Alginates with Different Viscosities

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Jian-Hua Cui<sup>a</sup>*

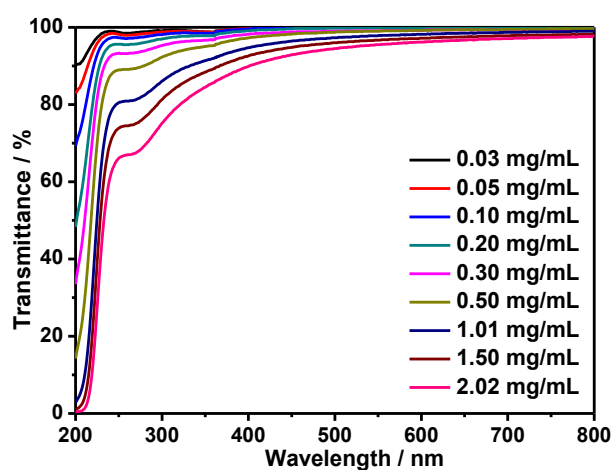
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[hxyzbl@gmail.com](mailto:hxyzbl@gmail.com) (Bo-Lin Zhu)*

## RESULTS AND DISCUSSION

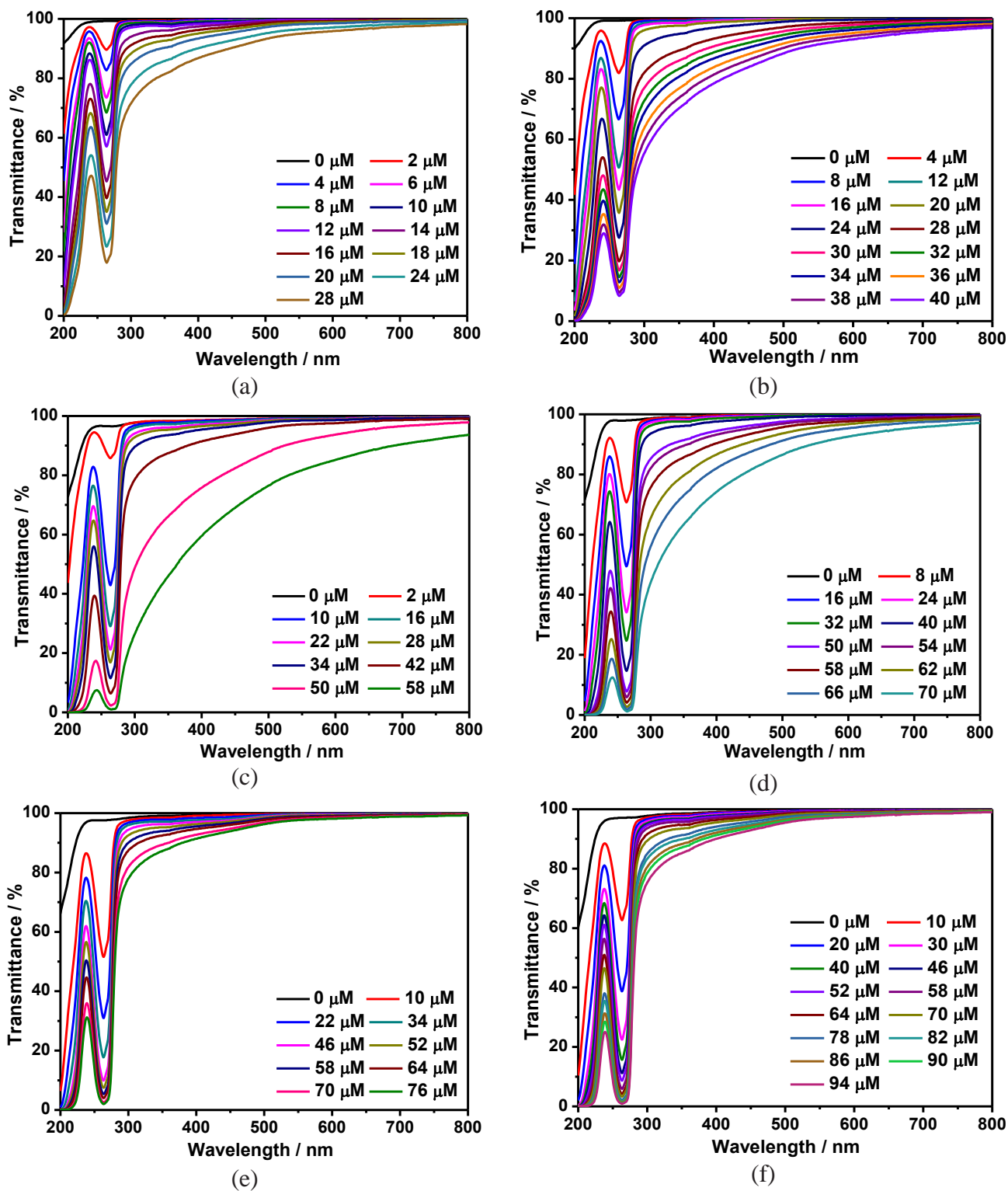


(a)

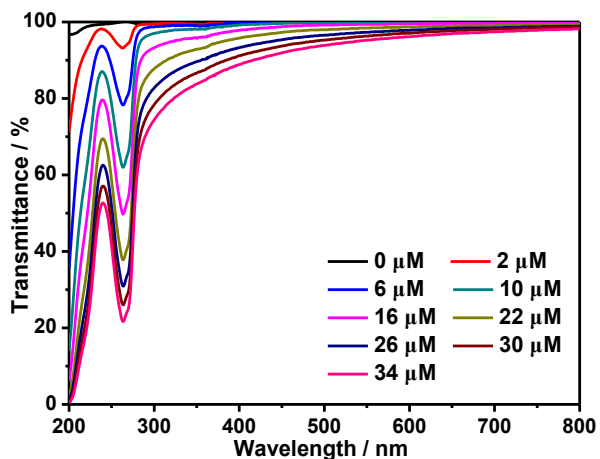


(b)

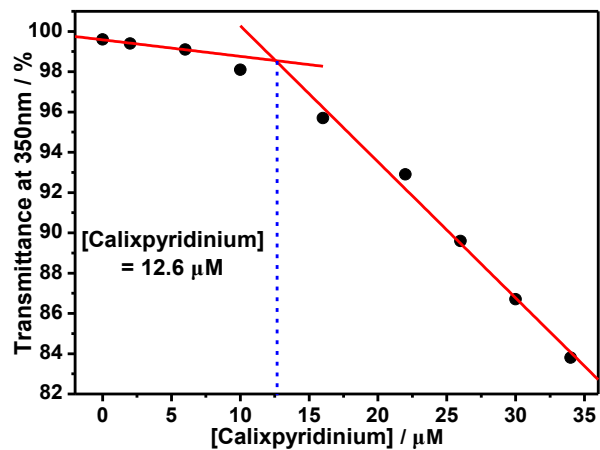
**Figure S1.** (a) Optical transmittance of aqueous solutions of SA-L at different concentrations from 0.05 to 2.01 mg/mL at room temperature. (b) Optical transmittance of aqueous solutions of SA-M at different concentrations from 0.03 to 2.02 mg/mL at room temperature.



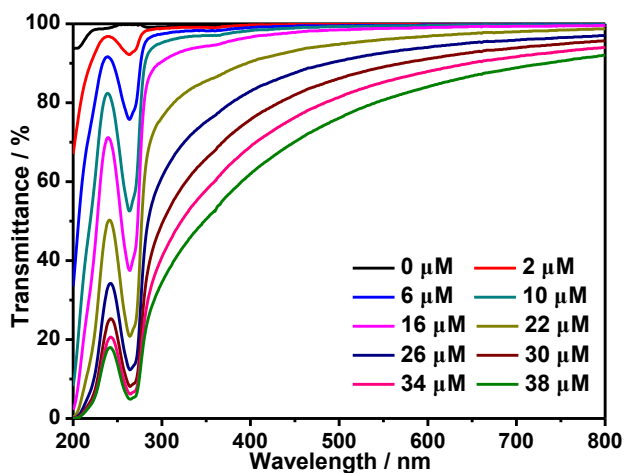
**Figure S2.** Optical transmittance of aqueous solutions of calixpyridinium at different concentrations in the presence of 13  $\mu\text{g/mL}$  (a), 24  $\mu\text{g/mL}$  (b), 50  $\mu\text{g/mL}$  (c), 70  $\mu\text{g/mL}$  (d), 96  $\mu\text{g/mL}$  (e), and 120  $\mu\text{g/mL}$  (f) SA-L at room temperature.



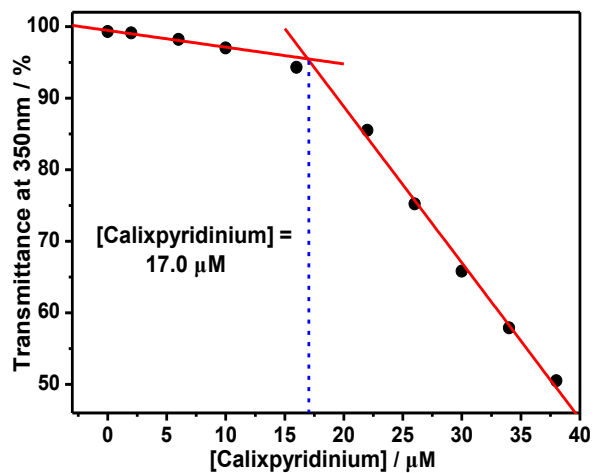
(a)



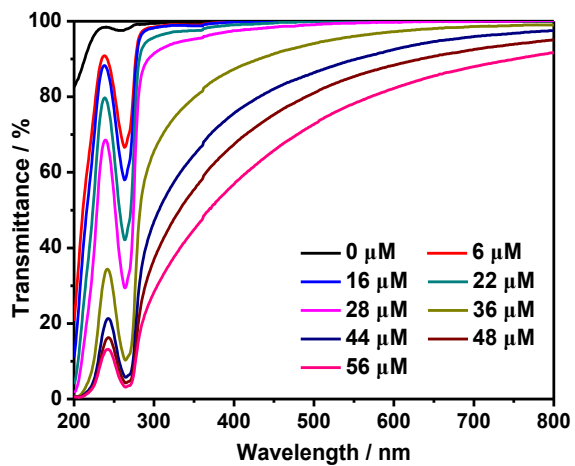
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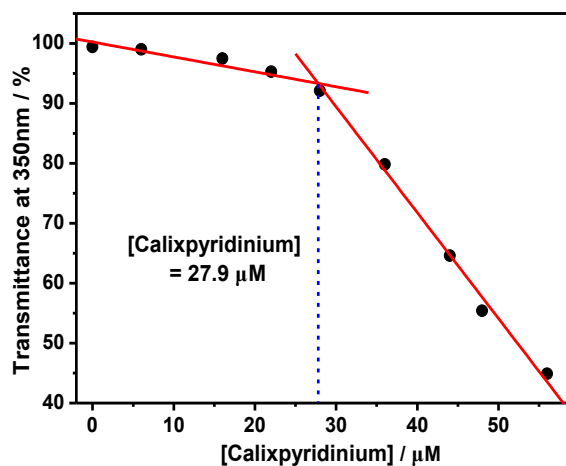
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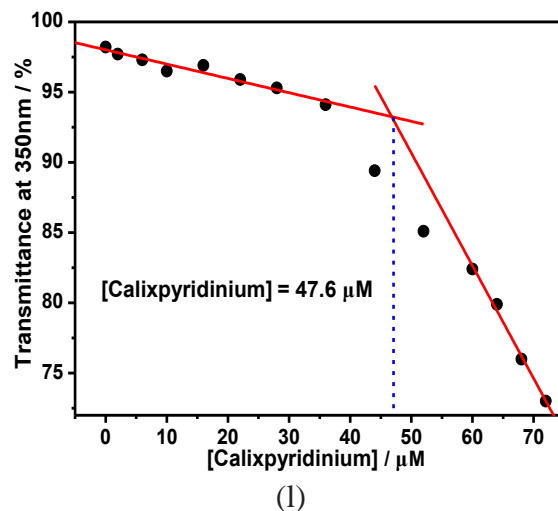
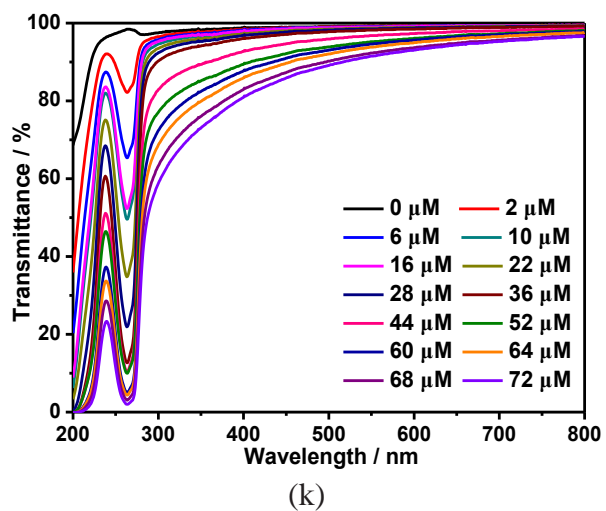
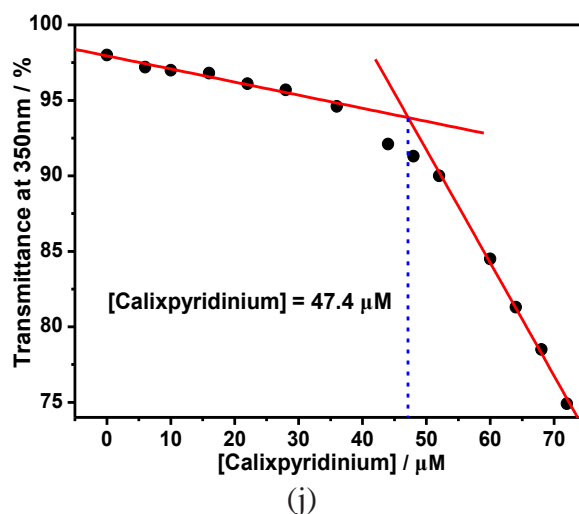
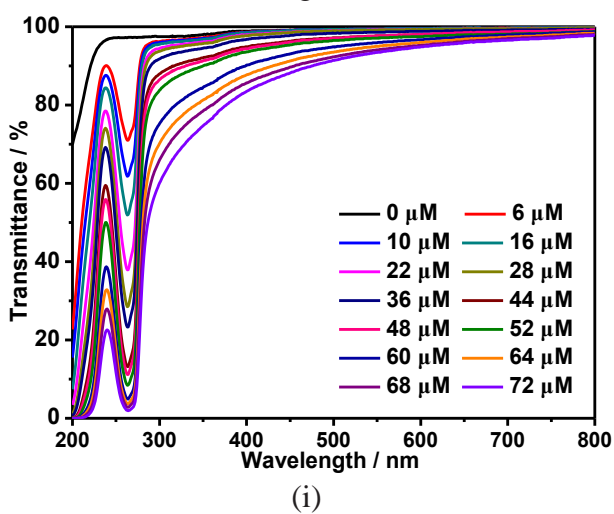
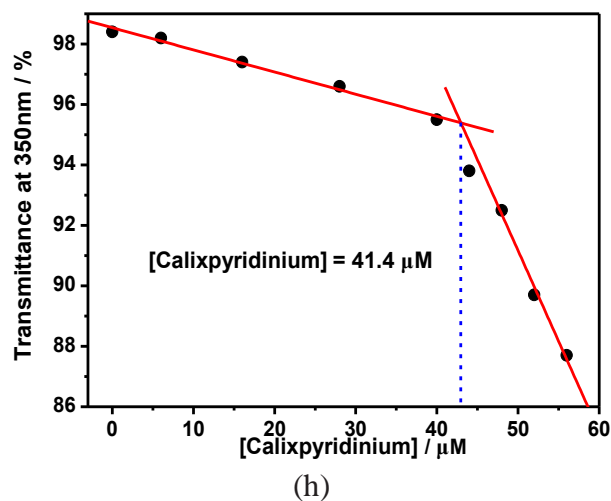
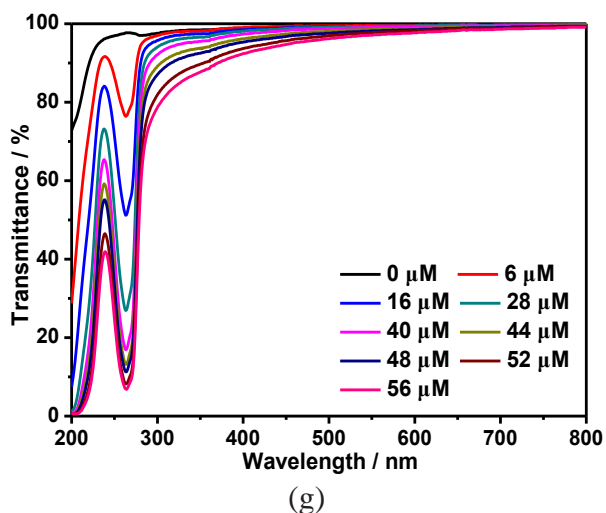
(d)



(e)

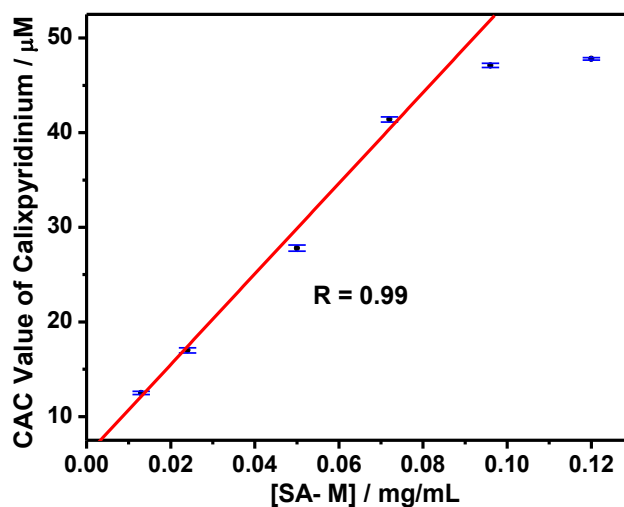


(f)

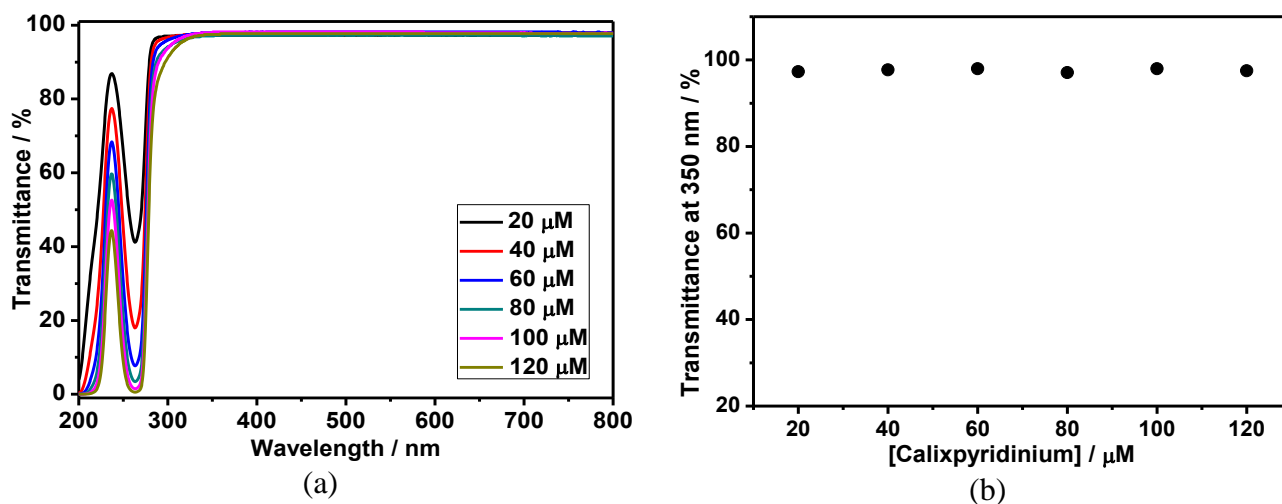


**Figure S3.** Optical transmittance of aqueous solutions of calixpyridinium at different concentrations in the presence of 13  $\mu\text{g/mL}$  (a), 24  $\mu\text{g/mL}$  (c), 50  $\mu\text{g/mL}$  (e), 70  $\mu\text{g/mL}$  (g), 96  $\mu\text{g/mL}$  (i), and 120  $\mu\text{g/mL}$  (k) SA-M at room temperature. Dependence of the optical transmittance (at 350 nm) of calixpyridinium in water *versus* their

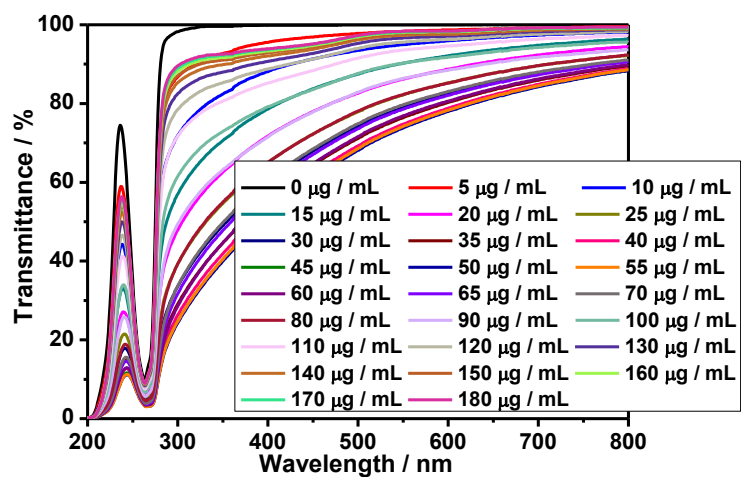
concentrations in the presence of 13  $\mu\text{g/mL}$  (b), 24  $\mu\text{g/mL}$  (d), 50  $\mu\text{g/mL}$  (f), 70  $\mu\text{g/mL}$  (h), 96  $\mu\text{g/mL}$  (j), and 120  $\mu\text{g/mL}$  (l) SA-M.



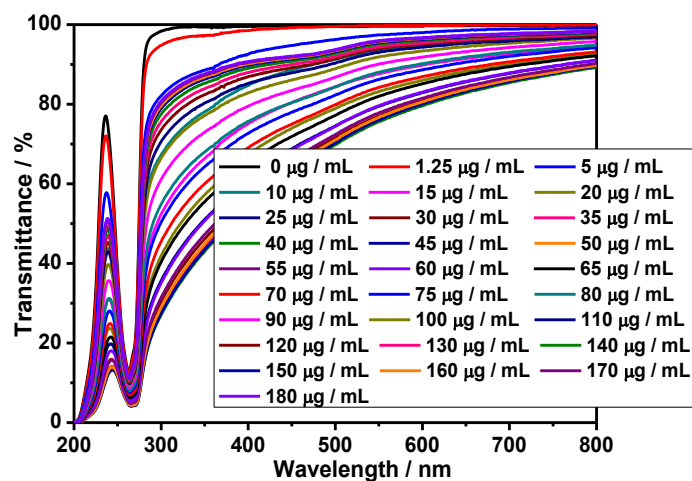
**Figure S4.** Linear relationship between the CAC values of calixpyridinium and the concentrations of SA-M in water.



**Figure S5.** (a) Optical transmittance of aqueous solutions of calixpyridinium at different concentrations from 20 to 120  $\mu\text{M}$  at room temperature. (b) Dependence of the optical transmittance (at 350 nm) of calixpyridinium in water *versus* their concentrations.

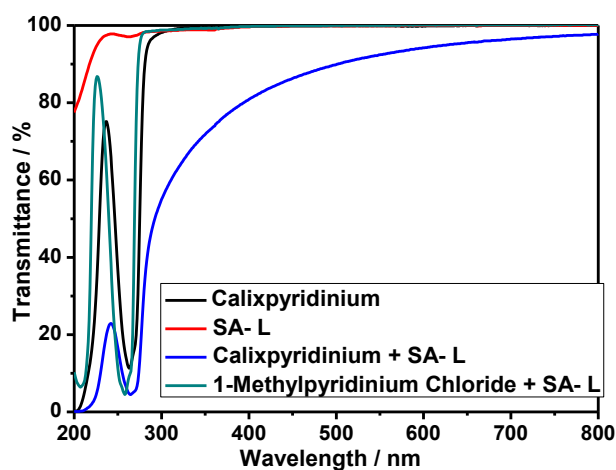


(a)

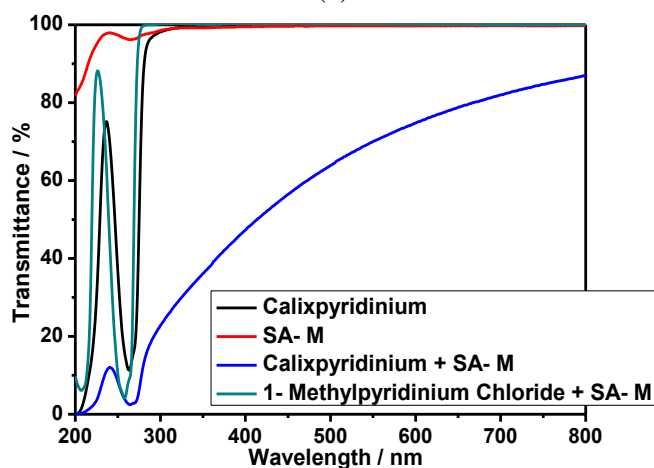


(b)

**Figure S6.** Optical transmittance of calixpyridinium ( $55 \mu\text{M}$ ) by increasing the concentration of SA-L (a) and SA-M (b) from 0 to  $180 \mu\text{g/mL}$  at room temperature in water.



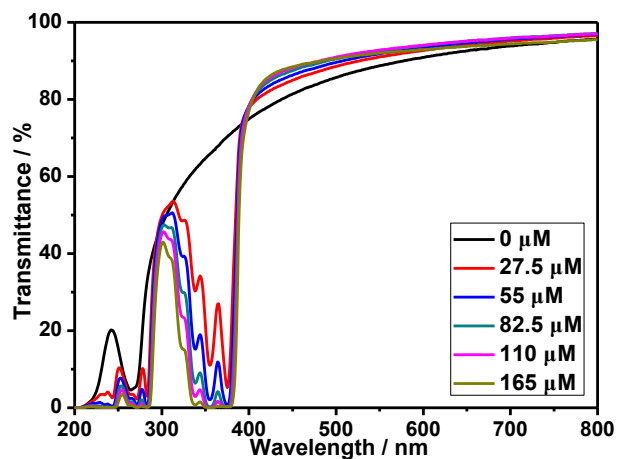
(a)



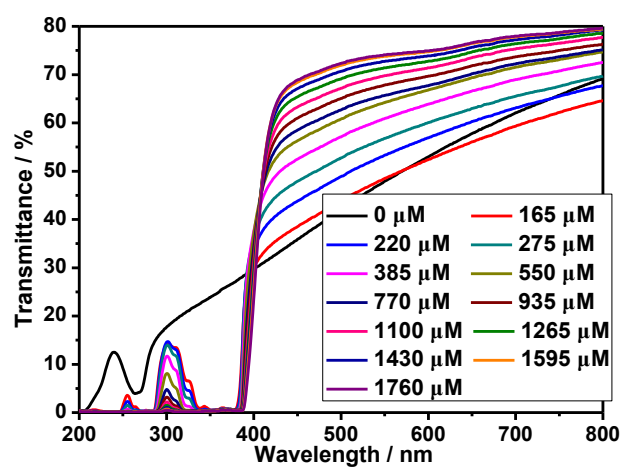
(b)

**Figure S7.** (a) Optical transmittance of calixpyridinium, SA-L, calixpyridinium+SA-L, and 1-methylpyridinium+SA-L at room temperature in water; [calixpyridinium] = 55  $\mu\text{M}$ , [SA-L] = 50  $\mu\text{g/mL}$ , [1-methylpyridinium chloride] = 0.22 mM. (b) Optical transmittance of calixpyridinium, SA-M, calixpyridinium+SA-M, and 1-methylpyridinium+SA-M at room temperature in water; [calixpyridinium] = 55  $\mu\text{M}$ , [SA-M] = 40  $\mu\text{g/mL}$ , [1-methylpyridinium chloride] = 0.22 mM.



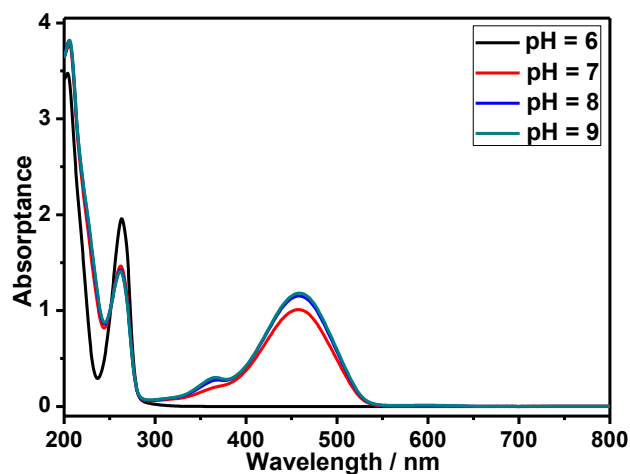


(a)

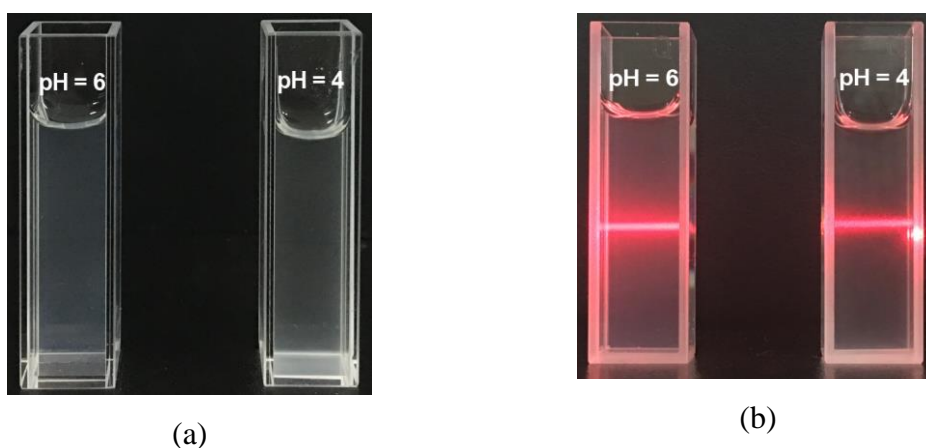


(b)

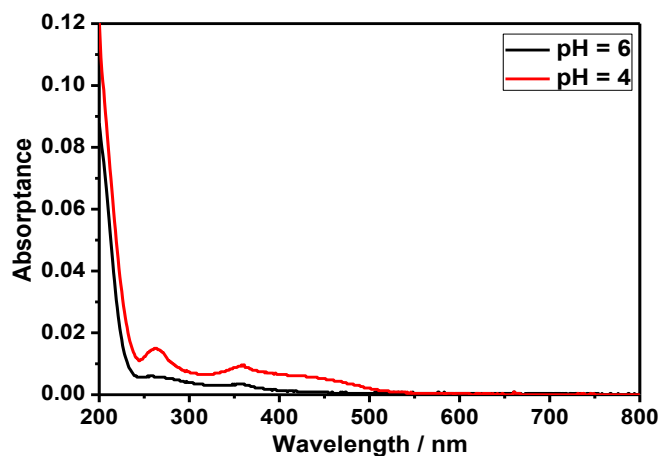
**Figure S8.** (a) Optical transmittance of the aqueous solutions of the calixpyridinium–SA-L assembly by increasing the concentration of PyTS from 0 to 165  $\mu\text{M}$  at room temperature. (b) Optical transmittance of the aqueous solutions of the calixpyridinium–SA-M assembly by increasing the concentration of PyTS from 0 to 1760  $\mu\text{M}$  at room temperature. [calixpyridinium] = 55  $\mu\text{M}$ , [SA-L] = 50  $\mu\text{g/mL}$ , [SA-M] = 40  $\mu\text{g/mL}$ .



**Figure S9.** UV-vis absorption spectra of aqueous solutions of calixpyridinium at different pH values; [calixpyridinium] = 55  $\mu$ M. The UV-vis absorption spectra of aqueous solutions of calixpyridinium were changed dramatically with increasing pH from 6 to 9 due to the deprotonation of the acidic methylene bridges in calixpyridinium under alkaline condition.



**Figure S10.** Photos showing the turbidity (a) and Tyndall effect (b) of the calixpyridinium-SA-L solution at pH = 6 and pH = 4 at room temperature in water. [calixpyridinium] = 55  $\mu$ M, [SA-L] = 50  $\mu$ g/mL.



**Figure S11.** UV-vis absorption spectra of aqueous solutions of SA-L at different pH values; [SA-L] = 50  $\mu\text{g/mL}$ . The UV-vis absorption spectra of aqueous solutions of SA-L was changed with decreasing pH from 6 to 4 due to the partial protonation of the acid radical ions in SA-L under acidic condition.



**Figure S12.** Photos showing the Tyndall effect (a) and turbidity (b) of free calixpyridinium (I), free SA-M (II), and calixpyridinium–SA-M complex (III) in water, [calixpyridinium] = 55  $\mu\text{M}$ , and [SA-M] = 40  $\mu\text{g/mL}$ .