Supporting Information for

Phosphatase-Responsive Amphiphilic Calixarene Assembly

Yi-Xuan Wang, Dong-Sheng Guo, Yu Cao, and Yu Liu*

Department of Chemistry, State Key Laboratory of Elemento-Organic Chemistry,

Nankai University, Tianjin, 300071, P. R. China

E-mail: yuliu@nankai.edu.cn Fax: (+86)22-2350-3625

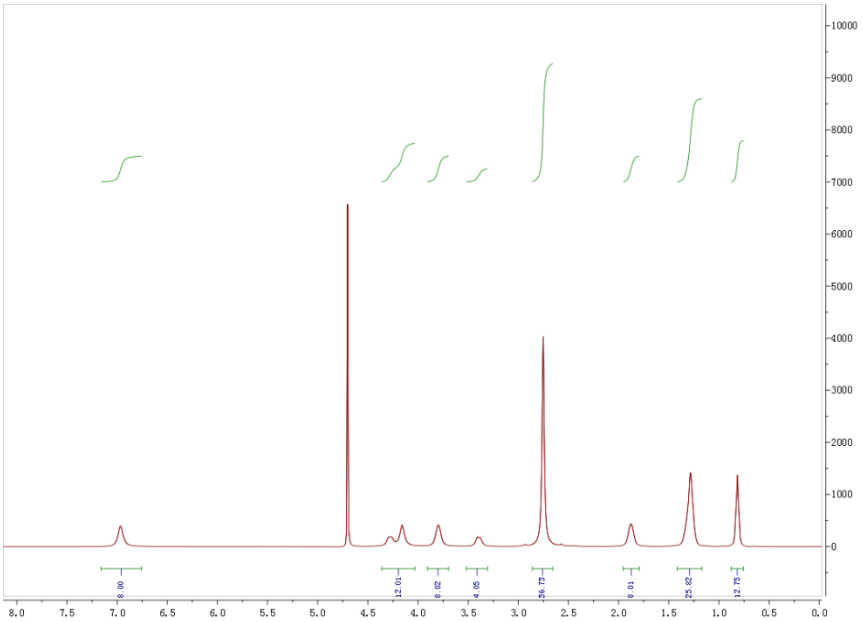


Figure S1. ^{1}H NMR spectrum (400 MHz, D_2O, 298.15K) of AC4AH.

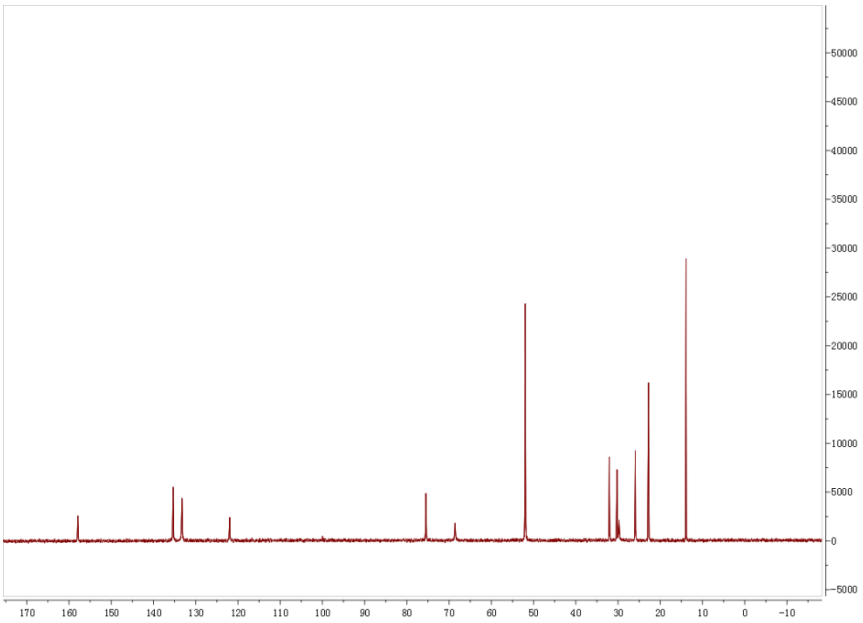


Figure S2. ^{13}C NMR spectrum (400 MHz, D_2O, 298.15K) of AC4AH.

CAC of AC4AH. Vibronic band intensities in pyrene monomer fluorescence are a convenient probe to accurately determine CAC values. As shown in Figure S3, the ratio (band III:bandI) increased in the presence of AC4AH, indicating that AC4AHs constitute micellelike aggregates presenting hydrophobic domains formed by alkyl chains that serve as a binding site for pyrene molecules. The CAC is approximated to

be 0.6 mM.[1]

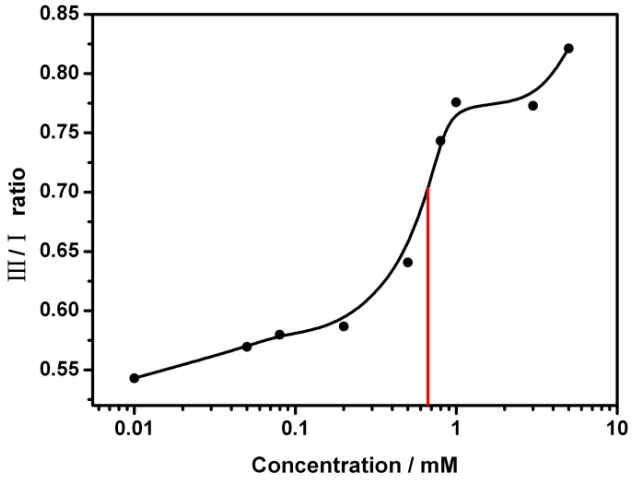
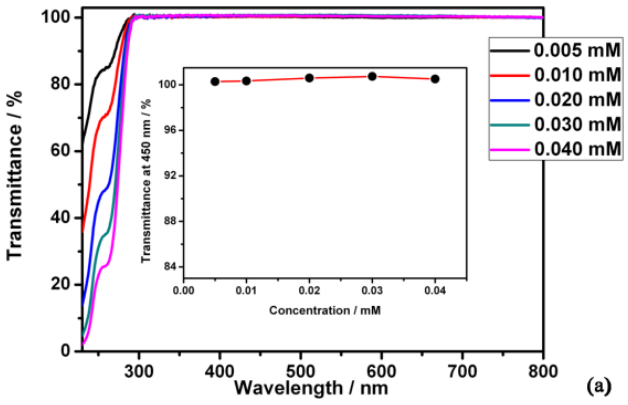


Figure S3. Plots of bands III:I ratio versus [AC4AH] in pyrene fluorescence at 25 °C: [pyrene] = 0.001 mM, excitation 335 nm.



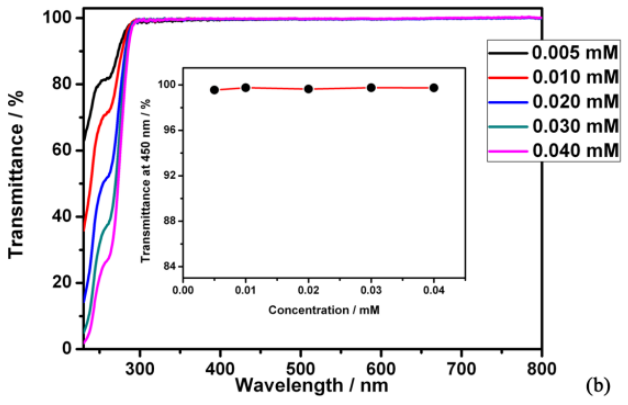
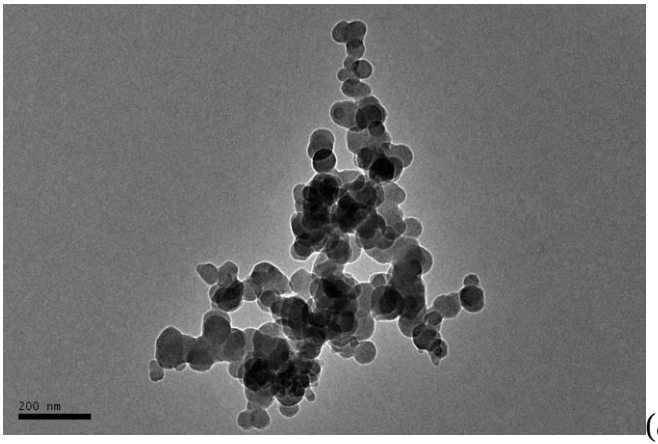
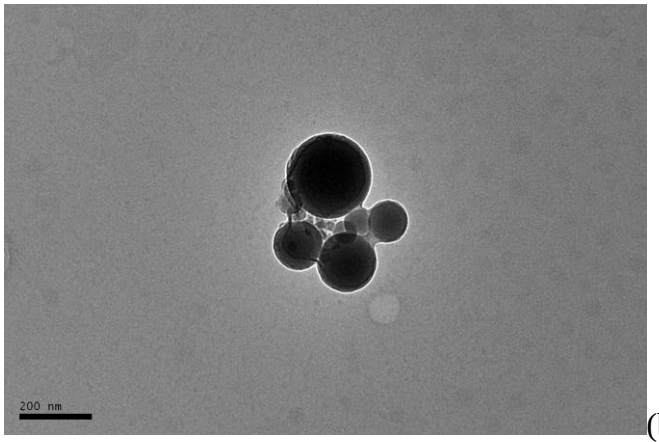


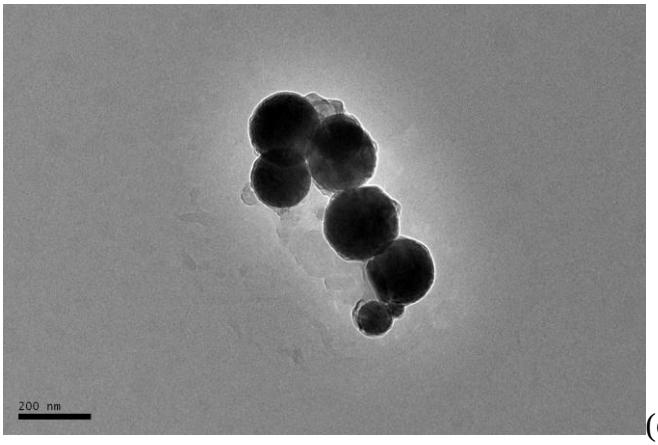
Figure S4. (a) Optical transmittance of AC4AH–ADP complex at different concentrations at 25 °C. Inset: dependence of the optical transmittance at 450 nm on ADP concentration. (b) Optical transmittance of AC4AH–AMP complex. Inset: dependence of the optical transmittance at 450 nm on AMP concentration.



(a)

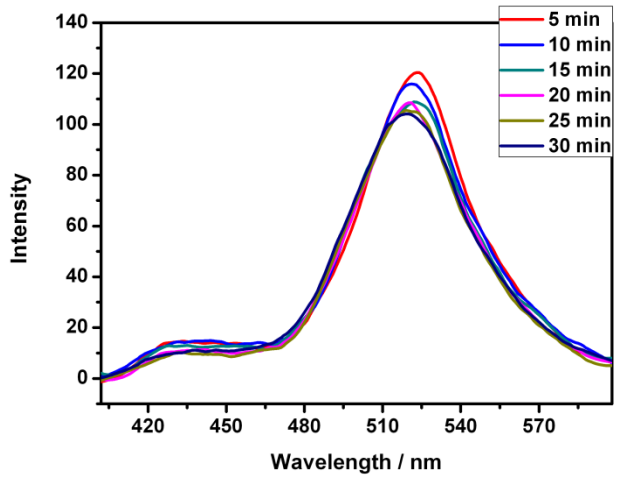


(b)

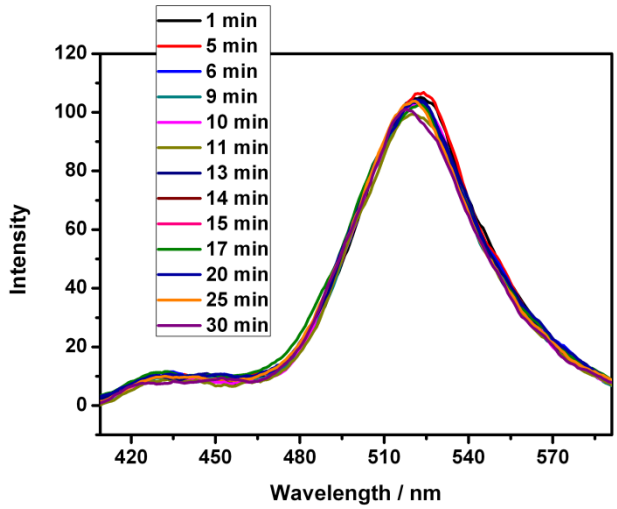


(c)

Figure S5. High-resolution TEM images of AC4AH–ATP particles.



(a)



(b)

Figure S6. Fluorescence emission spectra of HPTS with AC4AH–ATP complex in the absence of CIAP (a) and in the presence of denatured CIAP (b) at different time within 30 minutes.

References

[1] S. Shinkai, S. Mori, H. Koreishi, T. Tsubaki and O. Manabe, *J. Am. Chem. Soc.*, 1986, **108**, 2409.