Supplementary Information

Incorporation of a calixarene-based glucose functionalised bolaamphiphile in lipid bilayers for multivalent lectin recognition

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Contents	Page
Determination of the critical micellar concentration cmc	S 2
Addition of D-Glucose to fluorescence labeled Concanavalin A/ glycogen complex	S 3
NMR spectra of compound 1	S 4 - S 5

Determination of the critical micellar concentration (*cmc*)

The *cmc* of bolaamphiphile **1** was measured by steady-state fluorescence experiments according to a reported procedure¹. Briefly, 3 mL of aqueous solutions of **1** at concentrations between 1.0 μ M and 0.10 mM were added to the proper amount of pyrene (prepared from 50 μ L of a 67.4 μ M ethanol solution of pyrene dried by a nitrogen flux) to obtain a 1.12 μ M concentration of pyrene. The aqueous solutions were kept above the Krafft temperature (at 60 °C, where the solution was clear) with stirring for 12 h. Emission spectra of the aqueous solution of pyrene in the presence of the **1** were acquired in the range 350-450 nm (λ_{exc} =335 nm). The ratio between the intensities of the third and first vibronic peaks of pyrene, I₃/I₁, was plotted versus the concentration of the surfactant and the *cmc* (1.6×10⁻⁵ M) calculated as the flex point of the plot (reported in Figure S 1).



Figure S1. Plot of the ratio of the intensity of the third and first vibronic peaks of pyrene, I_3/I_1 , versus the concentration of 1.

1) Ananthapadmanabhan, K. P.; Goddard, E. D.; Turro N. J.; Kuo, P. L. Langmuir, **1985**, 1, 352 355

Addition of D-Glucose to fluorescence labeled Concanavalin A/glycogen complex

The addition of D-glucose to the FITC-Con A/glycogen complex was also investigated according to a reported procedure². Small volumes of a 1×10^{-3} solution of D-glucose in aqueous PBS were added to a solution of 2.0 µg/mL FITC-Con A and 2.0 µg/mL glycogen. Fluorescence spectra were recorded one minute after each addition of D-glucose at 310 K.

2) Sato, K.; Anzai, J. Anal. Bioanal. Chem. 2006, 384, 1297-1301.



Figure S2. Effect of the addition of D-Glucose on the normalized fluorescence intensity of a FITC-Con A/glycogen aqueous solution, as detected upon addition of 1×10^{-3} M glucose solution to a 2.0 µg/mL FITC-Con A and 2.0 µg/mL glycogen solution.



