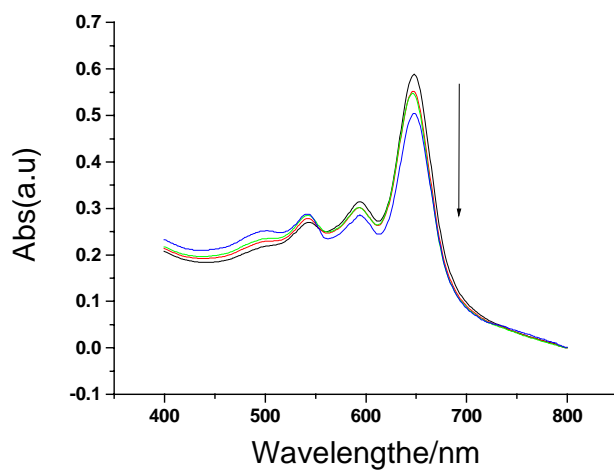


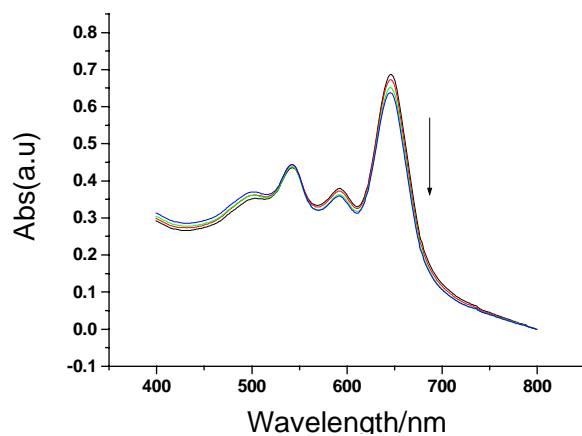
## Supporting Information

### Size effect of the polydiacetylene vesicles functionalized with glycolipids on their colorimetric detection ability

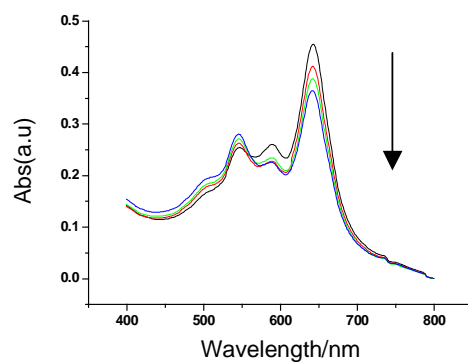
*Cai X. Guo<sup>1</sup>, Paul Boullanger<sup>2</sup>, Tao Liu<sup>1</sup>, Long Jiang<sup>1\*</sup>*



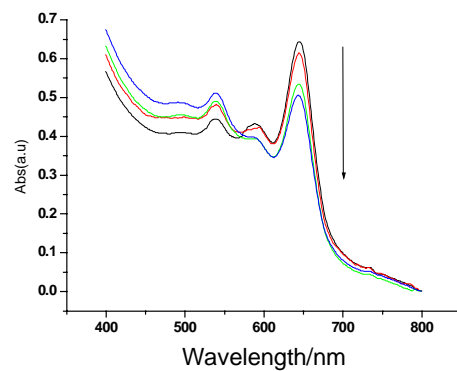
**Figure S1.** Visible absorption spectrum of PCDA/PB1097 (5%) vesicles corresponding to Figure 5 (•) in the paper. The indirection of arrow indicates the concentration of Con A increases starting from 0 to  $13 \times 10^{-2}$  mg/mL.



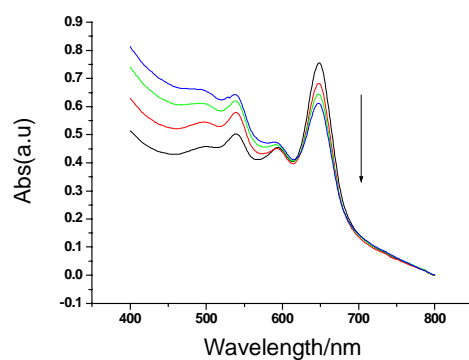
**Figure S2.** Visible absorption spectrum of PCDA/PB915 (5%) vesicles corresponding to Figure 5 ( $\pi$ ). The indirection of arrow indicates the concentration of Con A increases starting from 0 to  $13 \times 10^{-2}$  mg/mL..



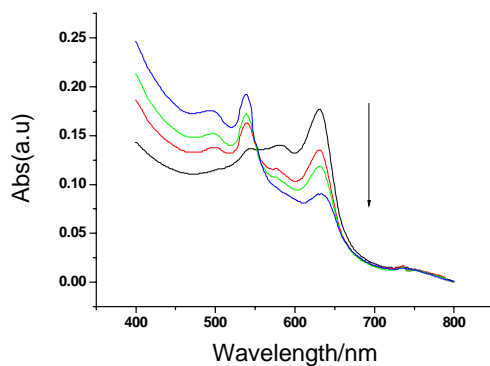
**Figure S3.** Visible absorption spectrum of PCDA/PB1124 (5%) vesicles corresponding to Figure 5 (■) and Figure 6 ({}). The indirection of arrow indicates the concentration of Con A increases starting from 0 to  $13 \times 10^{-2}$  mg/mL..



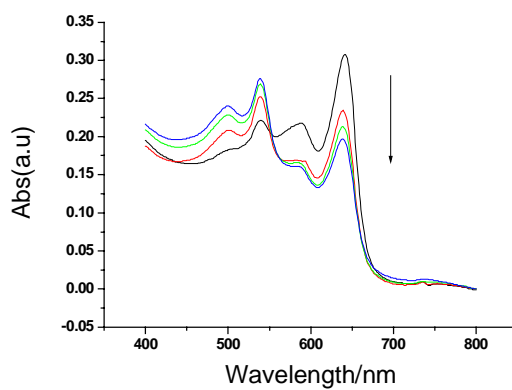
**Figure S4.** Visible absorption spectrum of PCDA/PB1124 (10%) vesicles corresponding to Figure 6 (|). The indirection of arrow indicates the concentration of Con A increases starting from 0 to  $13 \times 10^{-2}$  mg/mL



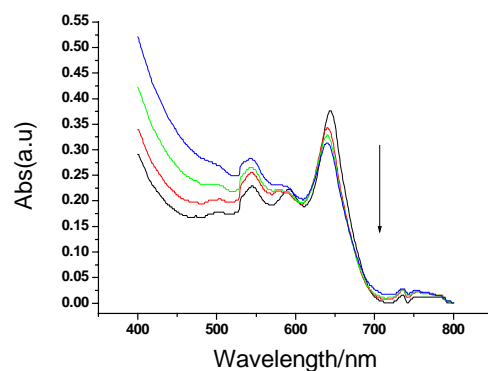
**Figure S5.** Visible absorption spectrum of PCDA/PB1124 (50%) vesicles corresponding to Figure 6 (■). The indirection of arrow indicates the concentration of Con A increases starting from 0 to  $13 \times 10^{-2}$  mg/mL



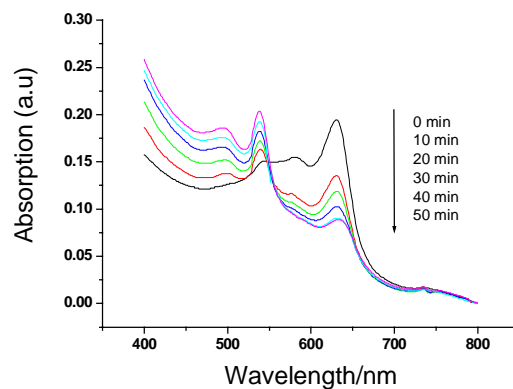
**Figure S6.** Visible absorption spectrum of the extruded PCDA/PB1124 (50%) vesicles (through 0.2- $\mu\text{m}$  film) corresponding to Figure 6 (●) and Figure 10 ( $\pi$ ). The indirection of arrow indicates the concentration of Con A increases starting from 0 to  $13 \times 10^{-2}$  mg/mL



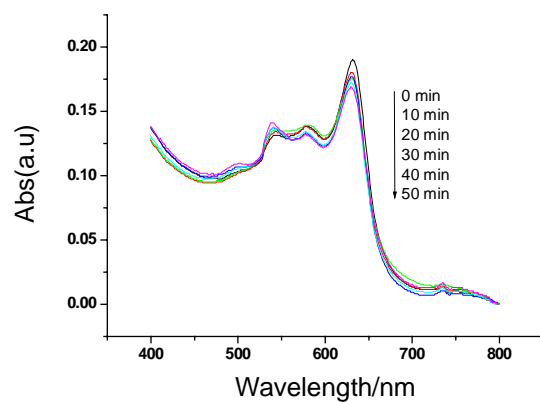
**Figure S7.** Visible absorption spectrum of the extruded PCDA/PB1124 (50%) vesicles (through 0.45- $\mu\text{m}$  film) corresponding to Figure 10 (●). The indirection of arrow indicates the concentration of Con A increases starting from 0 to  $13 \times 10^{-2}$  mg/mL



**Figure S8.** Visible absorption spectrum of the extruded PCDA/PB1124 (50%) vesicles (through 1- $\mu\text{m}$  film) corresponding to Figure 10 (■). The indication of arrow indicates the concentration of Con A increases starting from 0 to  $13 \times 10^{-2} \text{ mg/mL}$



**Figure S9.** Control experiment carried out by addition of glucolipid to the extruded vesicle (through 0.2- $\mu\text{m}$  film) solution corresponding to Figure 7 (●). The indication of arrow indicates the concentration of Con A increases starting from 0 to  $13 \times 10^{-2} \text{ mg/mL}$



**Figure S10.** Control experiment carried out by addition of glucolipid [octadecyl  $\beta$ -D-glucopyranoside] to the extruded vesicle (through 0.2- $\mu$ m film) solution corresponding to Figure 7 (●), showing the colorimetric response is mainly due to the molecular recognition of GlcNAc by Con A. .