## **Support Information**

## Reversible photo-responsive vesicle based on the complexation between azobenzene contained molecule and α-cyclodextrin

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**Fig. S1**. <sup>1</sup>HNMR spectrum (500 MHz, CD<sub>3</sub>Cl, 298.2 K) of N-BOC-11aminoundecanoic acid.

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Fig. S2. <sup>1</sup>HNMR spectrum (500 MHz, CD<sub>3</sub>OD, 298.2 K) of Azo 11 amide.



Fig. S3. <sup>1</sup>HNMR spectrum (500 MHz, CD<sub>3</sub>OD, 298.2 K) of Azo-Cl.



Fig. S4. ESI-MS spectrum of Azo 11 amide. Main peak: m/z 381.3, 382.4.



Fig. S5. ESI-MS spectrum of Azo-Cl. Main peak: m/z 423.5, 424.5.



**Fig. S6**. Absorbance variation at 346 nm of trans Azo-Cl  $(1.2 \times 10^{-4} \text{ M})$  in the presence of equimolar  $\alpha$ -CD with UV irradiation time and afterwards with Vis irradiation time (the dash lines were the fitting curves).