

## Supporting Information

# Concentration-dependent and light-responsive self-assembly of bolaamphiphiles bearing $\alpha$ -cyanostilbene based photochromophore

Yingzhi Jin,<sup>a</sup> Yijun Xia,<sup>a</sup> Shuai Wang,<sup>a</sup> Li Yan,<sup>a</sup> Yi Zhou,<sup>a</sup> Jian Fan,<sup>\*b</sup> Bo Song<sup>\*a</sup>

<sup>a</sup> Jiangsu Key Laboratory of Advanced Functional Polymer Design and Application, The Key Lab of Health Chemistry and Molecular Diagnosis of Suzhou, College of Chemistry, Chemical Engineering and Materials Science, Soochow University, Suzhou 215123, P. R. China. Tel: +86 (512) 65882507; E-mail: songbo@suda.edu.cn

<sup>b</sup> Institute of Functional Nano & Soft Materials (FUNSOM) & Collaborative Innovation Center of Suzhou Nano Science and Technology, Soochow University, Suzhou 215123, China

### <sup>1</sup>H NMR result of each compound

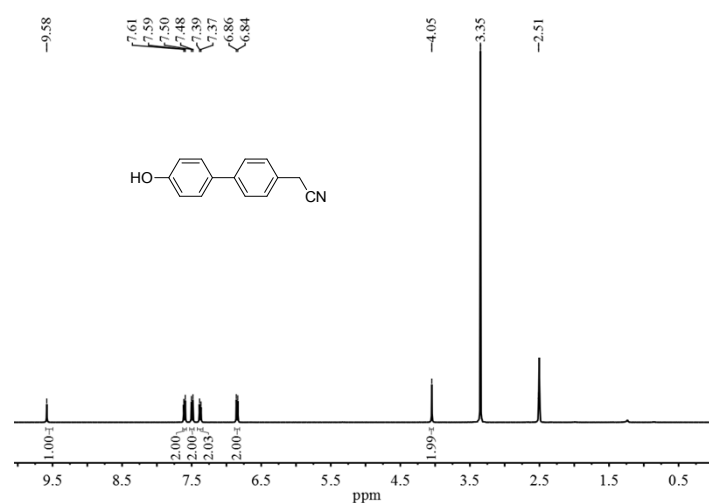


Fig. S1 <sup>1</sup>H NMR spectrum of compound A.

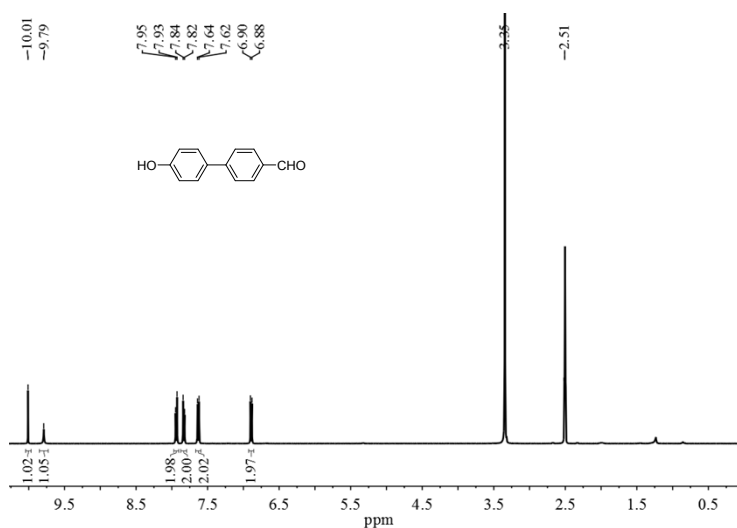


Fig. S2 <sup>1</sup>H NMR spectrum of compound B.



### Light-induced *Z*- and *E*-conformation change of CNBE-12 in aqueous solution for monomers

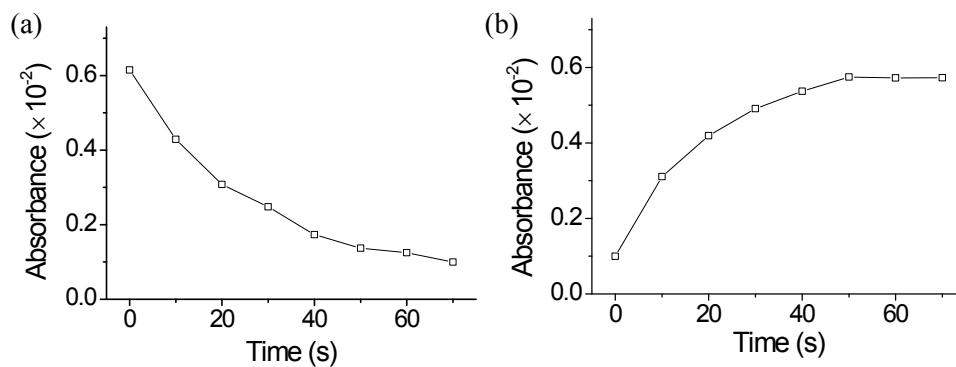


Fig. S6 (a) *Z*- to *E*-conformation absorbance intensity of CNBE-12 versus time; (b) *E*- to *Z*-conformation absorbance intensity of CNBE-12 versus time.

Concentration =  $5.0 \times 10^{-7}$  mol L<sup>-1</sup>

### Light-induced *Z*- and *E*-conformation change of CNBE-12 at dry state

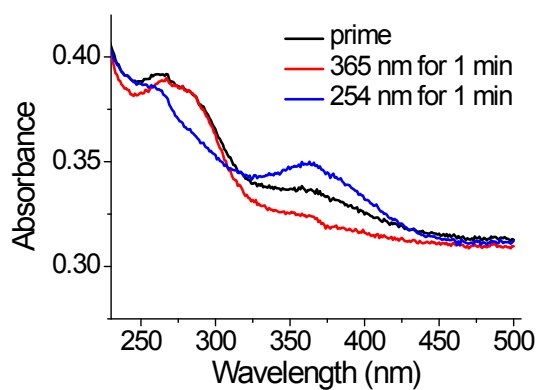


Fig. S7 UV-vis spectra of (Z)-CNBE-12 at dry state: prime (black), after irradiation with 365 nm (red) and then 254 nm light (blue).