Electronic Supplementary Information for

Vesicle-tube-ribbon evolution via spontaneous fusion in a self-correcting supramolecular tissue

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1. Gelation and solubility properties of 1 and 2

Tuble ST The Selution properties of T and 2, with the concentration of 12.5 mg/2.						
	1	2				
Benzene	OG	S				
Xylene	OG	S				
toluene	OG	S				
methanol	OG	S				
Ethanol	OG	S				
isopropanol	OG	S				
cyclohexane	TG	S				

Table S1 The gelation properties of 1 and 2, with the concentration of 12.5 mg/L.

OG: opaque gel; TG: transparent gel; S: soluble. Gels were obtained by a heating-cooling process.



Fig. S1 Gel photos of **1** in different solvents, from left to right: cyclohexane (25 mg/mL), xylene (12.5 mg/mL), methanol (25 mg/mL), ethanol (25 mg/mL), isopropanol (25 mg/mL).

Tuble 52 Genution time of T in Aylene with unferent concentrations									
С	8.3 mg/mL (CGC)	12.5 mg/mL	17 mg/mL	25 mg/mL	50 mg/mL				
Gelation time	30 min	5 min 31 s	1 min 28 s	35 s	18 s				

Table S2 Gelation time of 1 in xylene with different concentrations

Note: Gelation time is the time for a prepared sample (see detail in experimental part of the main text) changing to a stable gel at room temperature.

2. Assembly and disassembly study of 1 in xylene



Fig. S2 TEM image of the sol (5 mg/mL) aging for 40 min, which shows the fusion of the vesicles into helical tubular structure.



Fig. S3 (a) SEM images of gel 1 in xylene aging for 60 min, the tubes as twin crystal with the width about 100 nm (pointed by arrows); (b) the magnification picture of a. Scale bars are 1 and 0.5 μ m for a and b, respectively.



Fig. S4 (a) SEM images part areas of 1 in xylene aging for 70 min; (b) the magnification of (a) in square; scale bars are 5 and 1 μ m for a and b, respectively. It showed the intermediate from tubes to curling ribbons.



Fig. S5 Left: the photos of T-gel (12.5 mg/mL, aging for 48 hours) at 52 °C; right: complete collapse of the T-gel at 60 °C.



Fig. S6 Different areas of T-gel (12.5 mg/mL, aging for 48 h) after warming at 60 $^{\circ}$ C for 5 min. Formation and escapement of the vesicles resulted in the fracture of the tube in length; the contact and fusing vesicles could be also seen in c and d.



Fig. S7 (a) UV-visible spectra of xerogel of **1** (film, 12.5 mg/mL from xylene) with different aging time; (b) solution of **1** in xylene (0.91 mg/mL), and the T-gel (12.5 mg/mL) in xylene aging for 30 min.



Fig. S8 CD signal change at 314 nm with the temperature increasing from 25 to 80 °C (Data was obtained from Fig. S7).



Fig. S9 The TEM image of **1** in mixed solvent of xylene and isopropanol (75 v% of xylene).

3. Mechanism of the structural evolution



Fig. S10 IR spectra of **1** (a) in T-gel (12.5 mg/mL), aging for 20 min, 35 min, 2 h and 3.5 h; (b) in solution (5 mg/mL).



Fig. S11 Pictures of T-gel (12.5 mg/mL) aging for 10 and 1.5 hours; a and c: T-gel aging for 10 hours; b and d: T-gel aging for 1.5 h; a and b are the images in the dark, c and are the images under natural light.



Fig. S12 The transmittance spectra of the hot solution (12.5 mg/mL, heating to dissolve at 120 $^{\circ}$ C) and the gel (12.5 mg/mL) with different aging time at room temperature.