Supporting information

Lamellar-cubic transition of a dihydrazide derivative and its effect on the gel stability

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Fig. S1 DSC curves of 4D_{16} xerogel from cyclohexane (15 mg/mL, 20 °C) during second heating and cooling cycles with the heating rate of 10 °C/min.
Fig. S2 Photos of gelation process of 4D$_{16}$ at 20 °C in cyclohexane with the concentration of (a) 10 mg/mL, (b) 15 mg/mL.

Fig. S3 Photos of gelation process of 4D$_{16}$ at 20 °C in benzene with the concentration of (a) 26 mg/mL, (b) 40 mg/mL, (c) 60 mg/mL.
**Fig. S4** XRD patterns of 4D_{16} xerogels obtained from benzene (40 mg/mL, 20 °C) after different annealing time at 58 °C. Inset graph was the plots of gel-sol phase transition temperature ($T_{gel}$) of 4D_{16} gels formed in benzene (40 mg/mL, 20 °C) annealed at 58 °C for different time period.

**Fig. S5** SEM images of 4D_{16} xerogels obtained from cyclohexane (15 mg/mL, 20 °C) after different annealing time at 52 °C: (a) 0 h, (b) 110 h, (c) 260 h.
**Fig. S6** SEM images of 4D$_{16}$ xerogels obtained from benzene (40 mg/mL, 20 °C) after different annealing time at 58 °C: (a) 0 h, (b) 10 h.