Supporting Information

Thermotropic liquid crystals built from the organic-inorganic hybrid

polyoxometalates and simple cationic surfactant

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1. IR spectra of POM-1, POM-2, DODACl and compound 1.

Fig. S2. IR spectrum of POM-2.



Fig. S4. IR spectrum of compound 1.

2. ¹H NMR spectra of DODACl and compound 1.



Fig. S5. ¹H NMR spectrum of DODACl.



Fig. S6. 1H NMR spectrum of compound 1.

3. TGA curve of compound **1.**



Fig. S7. TGA curve of compound 1.

4. IR spectrum, ¹H NMR spectrum and TGA curve of compound **2.**



Fig. S8. IR spectrum of compound 2.



Fig. S9. ¹H NMR spectrum of compound 2.



Fig. S10. TGA curve of compound 2.



3. The optical textures of compounds 1 and 2 cooled from their isotropic state.

Fig. S11. The optical textures of compound **1** cooling from the isotropic state, (a) the isotropic state at 102 °C, (b) 95 °C, (c) 93 °C, (d) 91 °C, (e) 90 °C (f) 88 °C, (g) 87 °C, (h) 86 °C, (i) 84 °C.



Fig. S12. The optical textures of compound **2** cooling from the isotropic state, (a) the isotropic state at 145 °C, (b) 128 °C, (c) 126 °C, (d) 124 °C, (e) 122 °C (f) 120 °C.