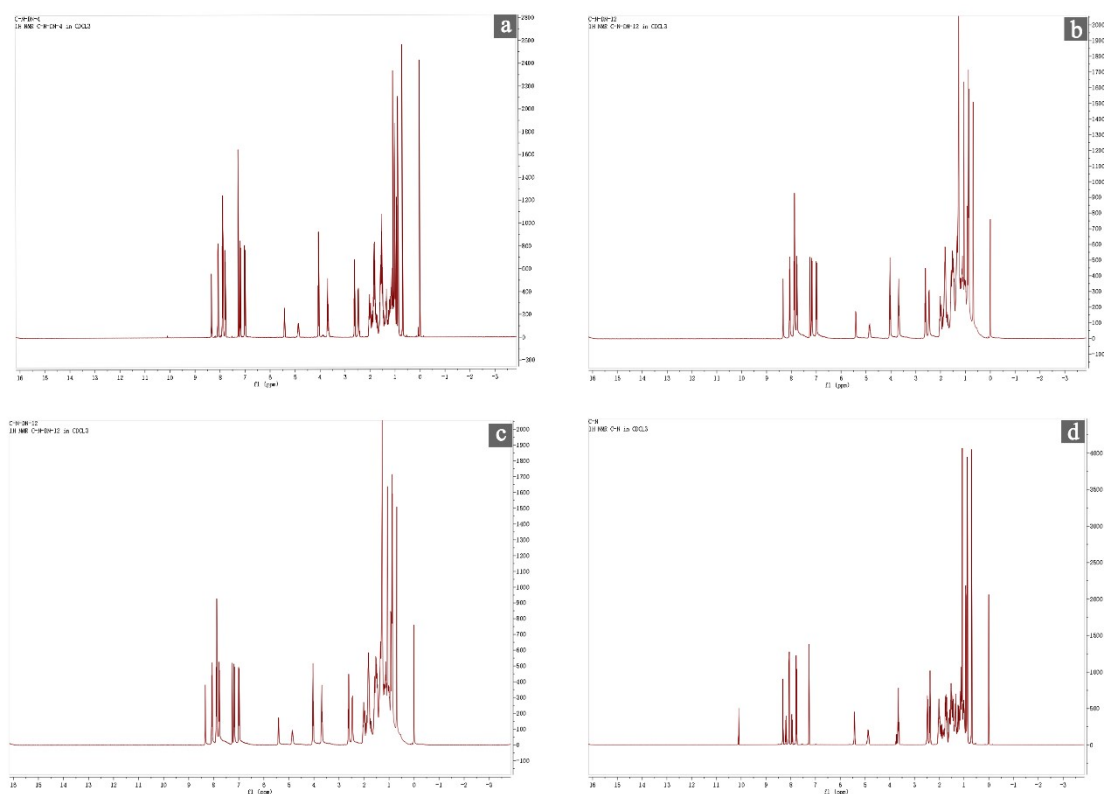


## Supplementary information

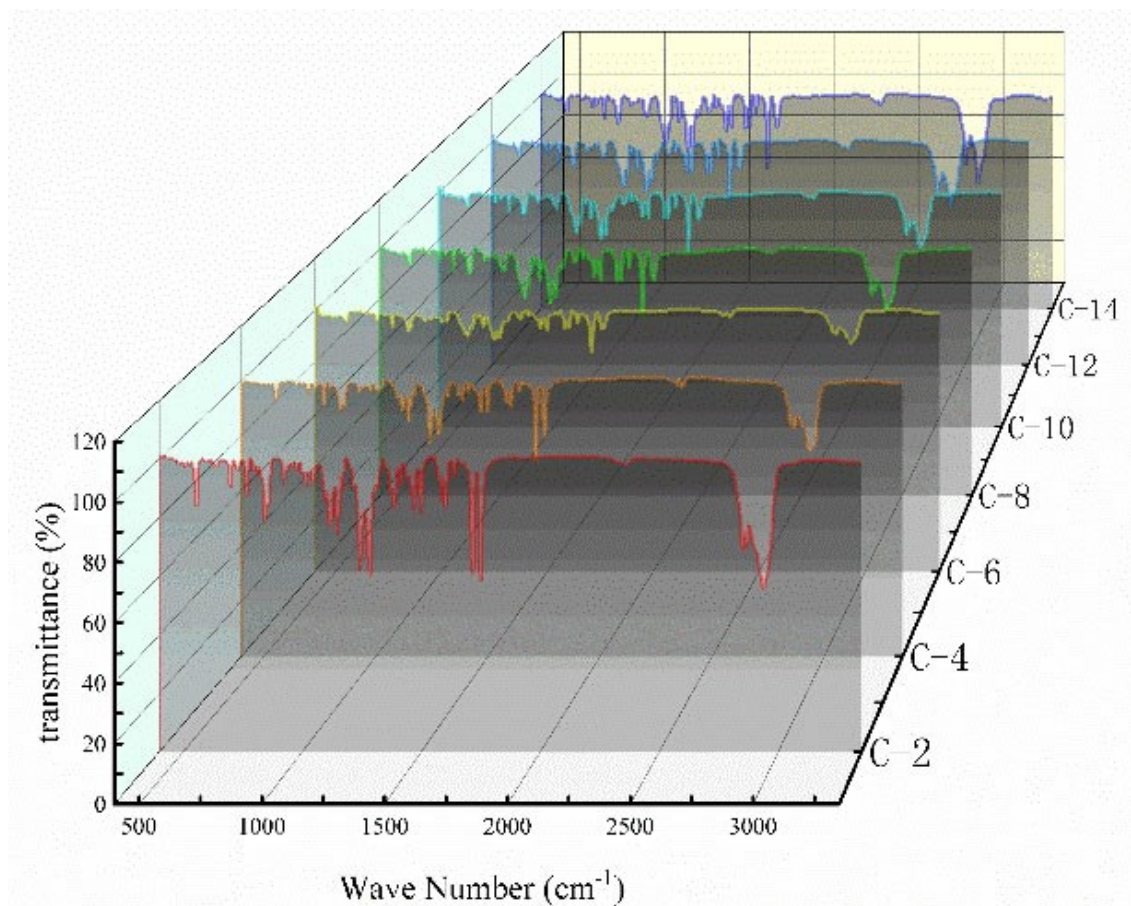
### Liquid crystalline dimers containing a Cholesterol benzoate unit: smectic phase, chiral nematic phase and blue phase

**Figure S1.**

- (a)  $^1\text{H-NMR}$  spectra of compound C-N-DN-4.
- (b)  $^1\text{H-NMR}$  spectra of compound C-N-DN-12 (Recrystallization 1 time).
- (c)  $^1\text{H-NMR}$  spectra of compound C-N-DN-12 (Recrystallization 3 times).
- (d)  $^1\text{H-NMR}$  spectra of compound C-N.



**Figure S2.** FTIR spectra of C-N-DN-x (x=2,4,6,8,10,12,14)



**Figure S3.** Texture of the compounds.

(a) blue phase, cooling to 192 °C . (b) chiral nematic phase, cooling to 185 °C.

(c) Smectic and chiral nematic phase, cooling to 170 °C. (d) Smectic phase, cooling to 165 °C.

(e) Smectic phase, cooling to 163 °C. (f) Smectic phase, cooling to 161 °C.

(d-e in antiparallel liquid crystal cell).

