Supplementary Material (ESI) for Journal of Materials Chemistry

Supplementary data

Trimeric Supramolecular Liquid Crystals Induced by Halogen Bond

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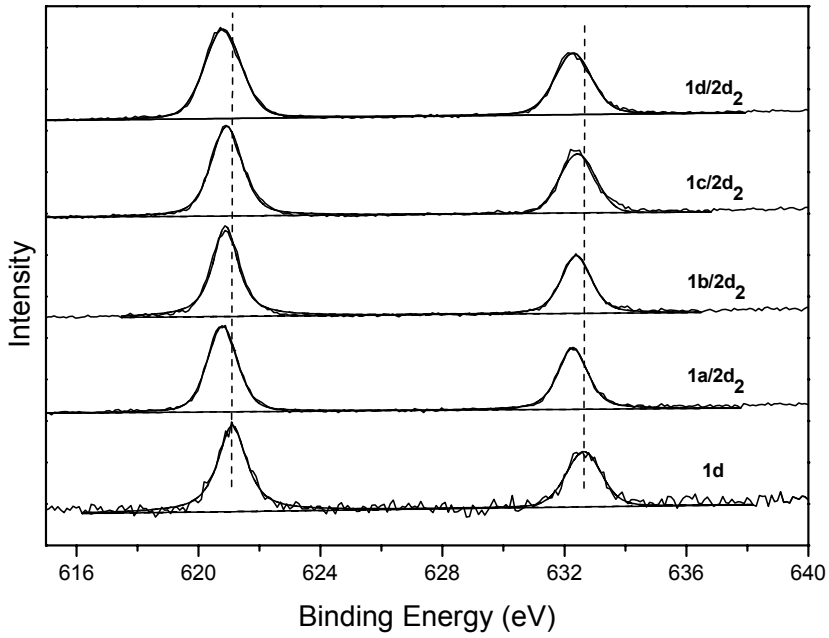
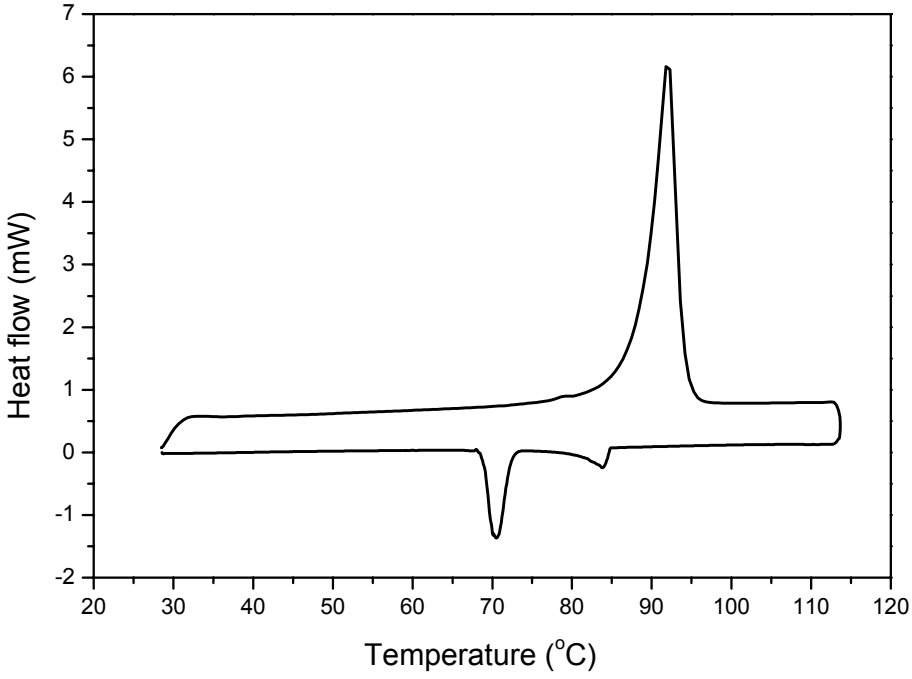
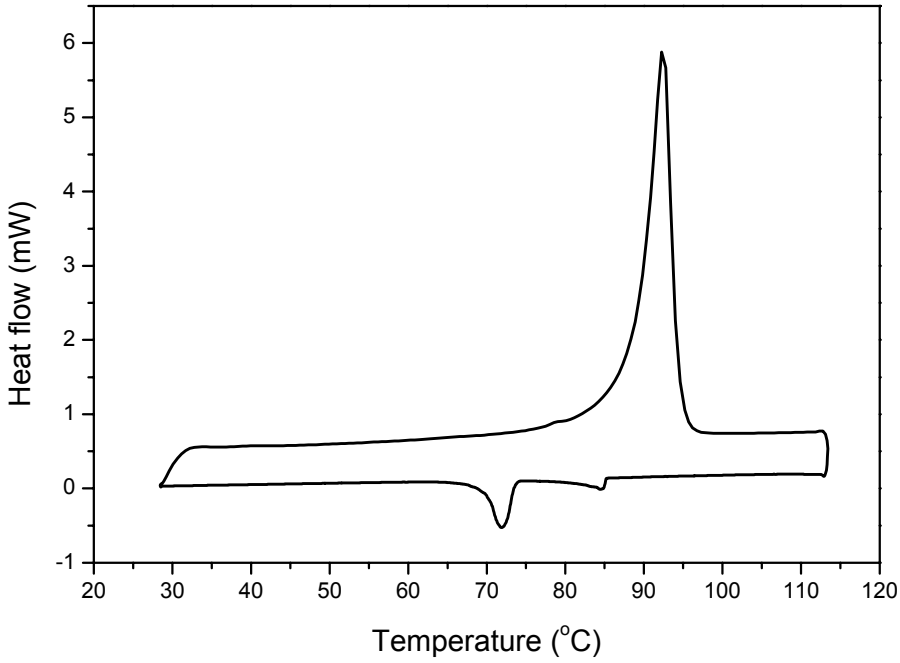


Fig. S1 I 3d core-level spectra of Ha-bonded complexes **1/2d$_2$** and unbonded **1d**.



(a)



(b)

Fig. S2 DSC thermograms of Ha-bonded complex of **1d/2a$_2$** with a cooling rate of (a)1 ˚C min^{-1}; and (b) 0.5 ˚C min^{-1} on the second run.

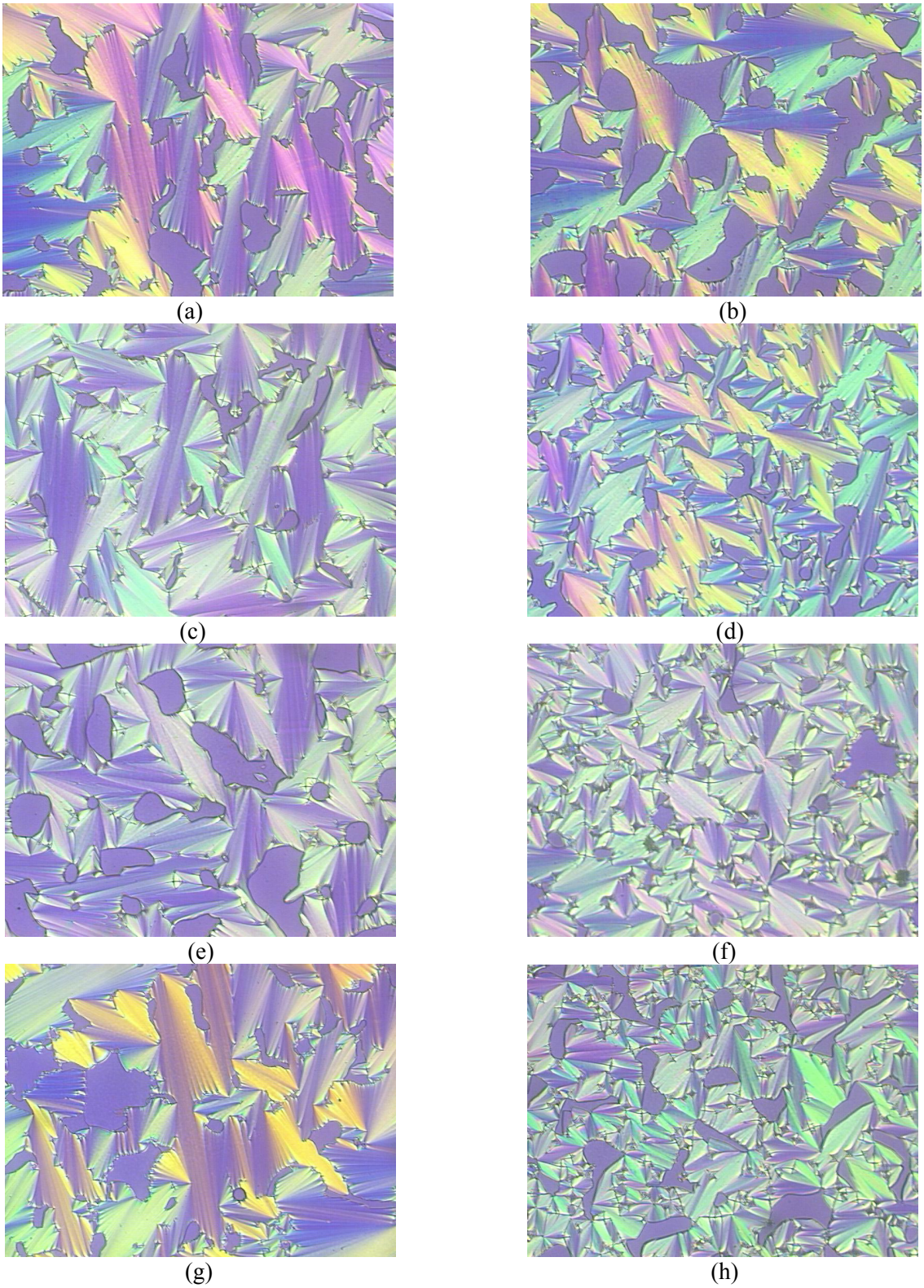


Fig. S3 Selected photomicrographs of Ha-bonded liquid crystals on cooling; (a) **1a/2a$_2$** at 79 ºC; SmA; (b) **1b/2a$_2$** at 77 ºC; SmA; (c) **1b/2b$_2$** at 75 ºC; SmA; (d) **1b/2d$_2$** at 79 ºC; SmA; (e) **1c/2a$_2$** at 79 ºC; SmA; (f) **1c/2d$_2$** at 74 ºC; SmA; (g) **1d/2b$_2$** at 80 ºC; SmA; (h) **1d/2c$_2$** at 74 ºC, SmA.

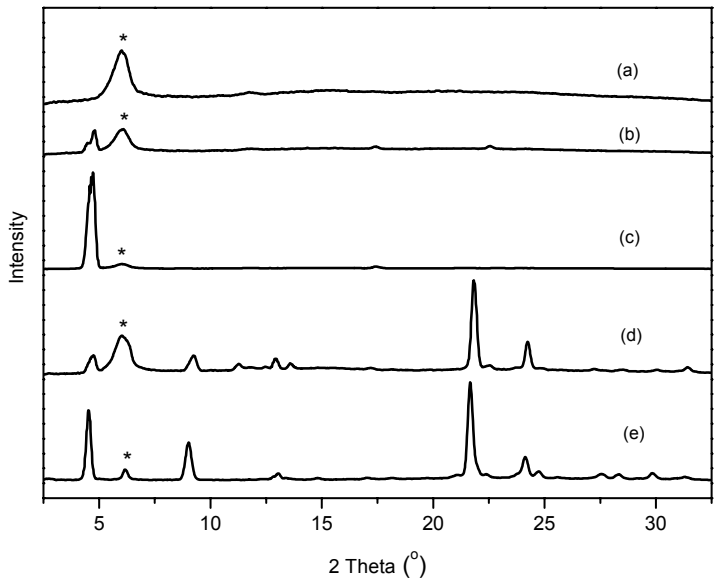


Fig. S4 X-ray diffraction pattern of Ha-bonded complexes **1d/2b$_2$** at (a) 80 ºC; (b) 78 ºC; (c) 75 ºC; (d) 25 ºC cooled from isotropic state; and (e) 25 ºC before heating. *: The peak is from the glass sample holder. Intensity is offset for clarity.

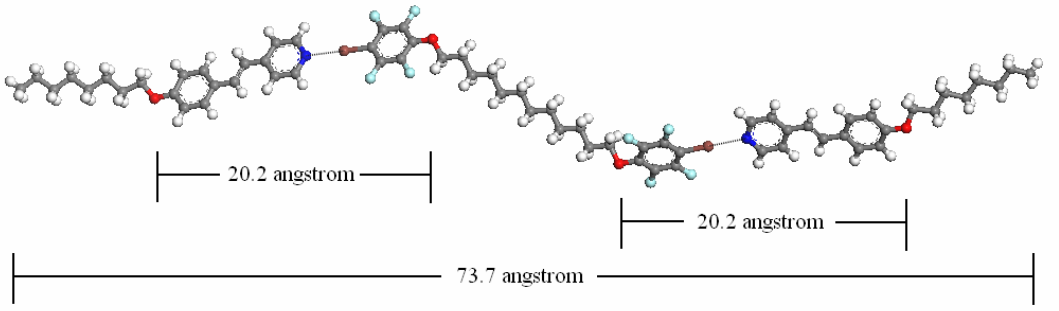
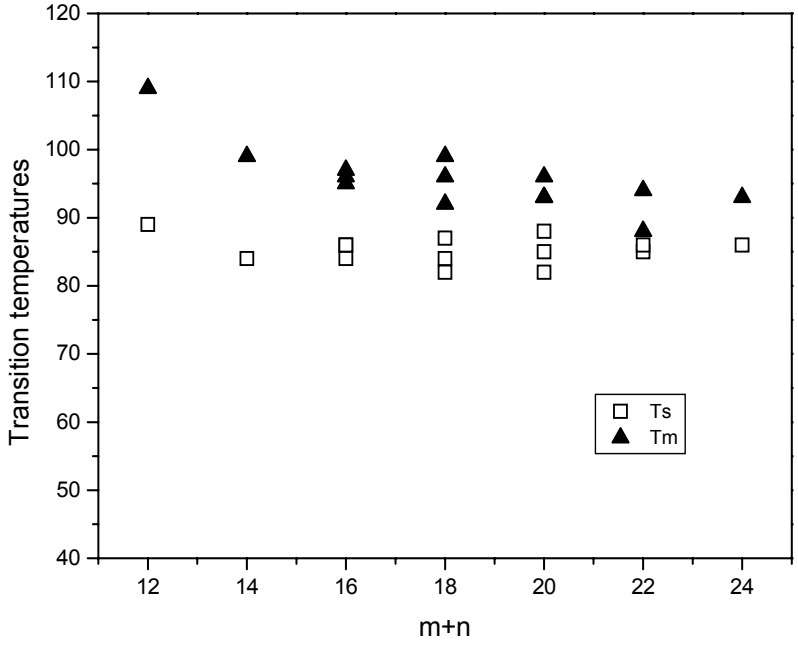
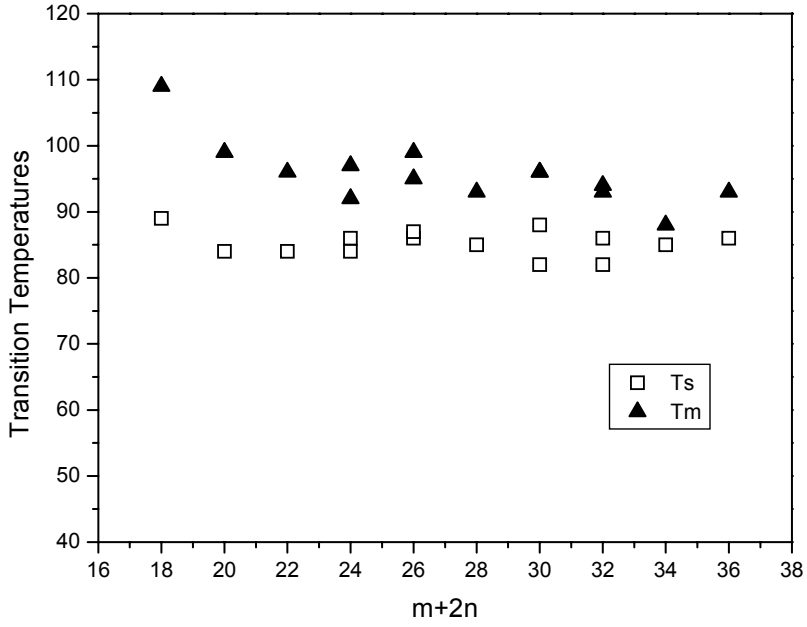


Fig. S5 The modeling structure of **1d/2b$_2$** illustrating some repeat unit distances.



(a)



(b)

Fig. S6 Transition temperatures plotted against the number of methylene units of spacers in **1a-d** and terminal groups in **2a-d**: (a) m + n, (b) m + 2n. Tm and Ts represent the melting and mesophase temperatures, respectively.