

Electronic Supporting Information

Chiral conglomerate observed for a binary mixture between a nematic liquid crystal trimer and 6OCB

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1. Fig. S1 Phase diagram of trimer **1** and 2-(4-hexyloxyphenyl)-5-pentyloxypyrimidine (**PPY**).
2. Fig. S2 Phase diagram of trimer **1** and 4-methyloxyphenyl 4-hexyloxycyclohexanecarboxylate (**PCA**).
3. Fig. S3 X-ray diffraction pattern (a) and profile (b) in the small angle region of a mixture consisting of trimer **1** (40 mol%) and **6OCB** (60 mol%) in the DC phase at 85.4 °C.
4. Fig. S4 Polarized optical textures of a mixture of **P-8-O-PIMB** (50 wt%) and the trimer **1-6OCB** mixture (50 wt%): (a) B4 phase at 128.8 °C and (b) DC phase at 78.5 °C.
5. Fig. S5 X-ray diffraction profile in a small angle region in (a) the B4 phase at 135.4 °C and (b) the DC phase at 85.4 °C of a mixture of **P-8-O-PIMB** (50 wt%) and the trimer **1-6OCB** mixture (50 wt%).

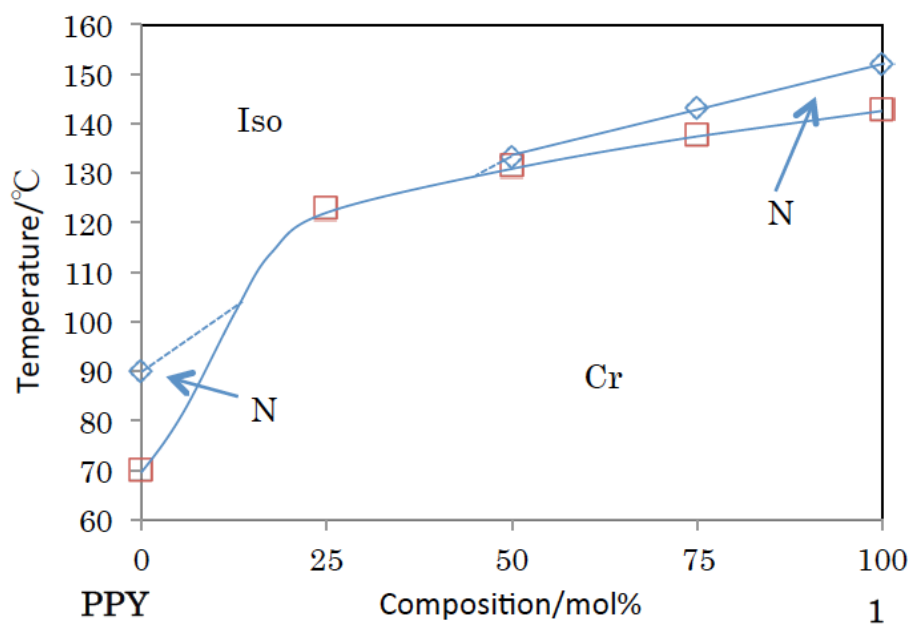


Fig. S1 Phase diagram of trimer **1** and 2-(4-hexyloxyphenyl)-5-pentyloxypyrimidine (PPY). Blue diamond: Iso–N transition; red square: recrystallization.

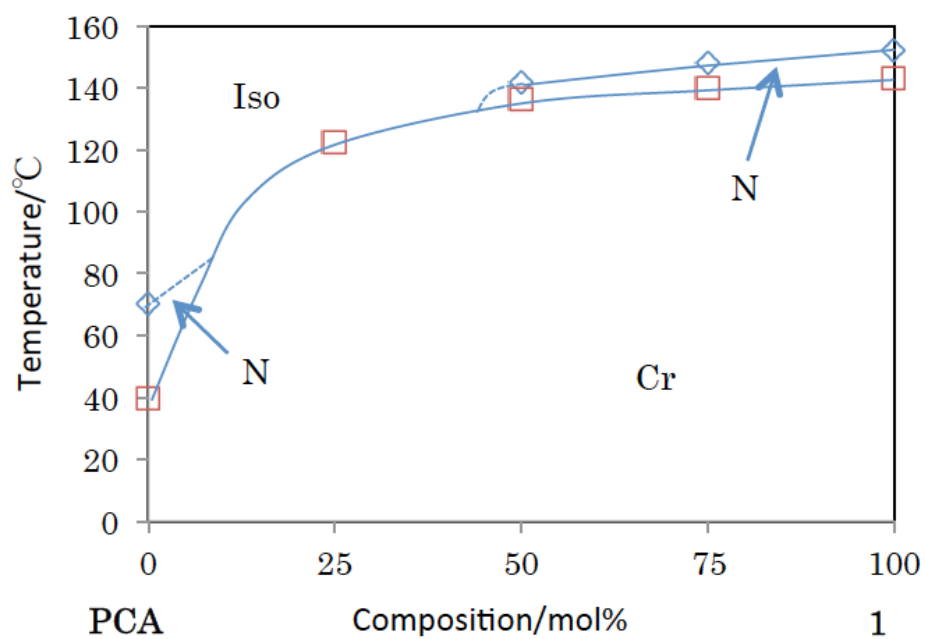
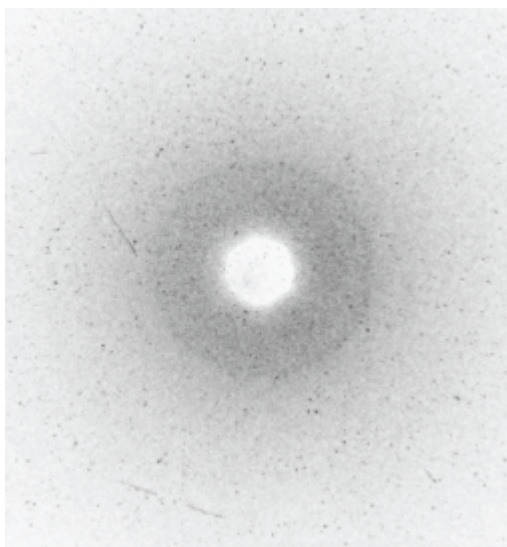


Fig. S2 Phase diagram of trimer **1** and 4-methoxyphenyl 4-hexyloxycyclohexanecarboxylate (**PCA**). Blue diamond: Iso–N transition; red square: recrystallization.

(a)



(b)

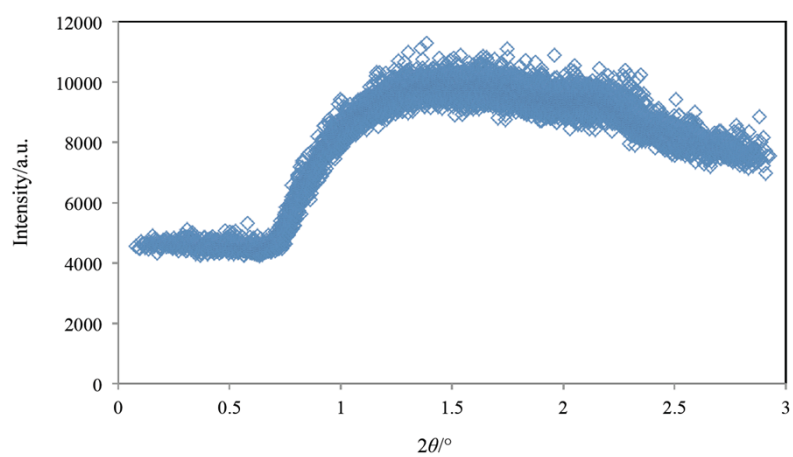
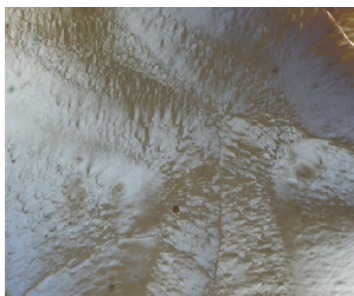


Fig. S3 X-ray diffraction pattern (a) and profile (b) in the small angle region of a mixture consisting of trimer **1** (40 mol%) and **6OCB** (60 mol%) in the DC phase at 85.4 °C. The expose time was 5 min.

(a)



(b)

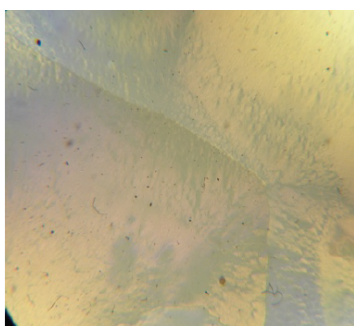
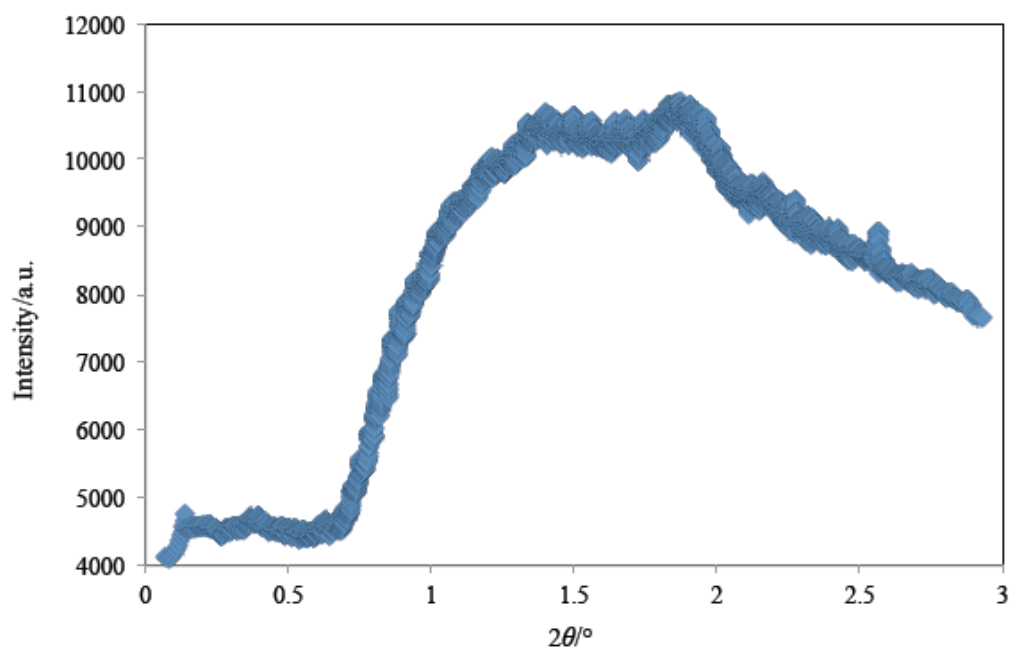


Fig. S4 Polarized optical textures of a mixture of **P-8-O-PIMB** (50 wt%) and the trimer **1-6OCB** mixture (50 wt%): (a) B4 phase at 128.8 °C and (b) DC phase at 78.5 °C.

(a) B4 phase



(b) DC phase

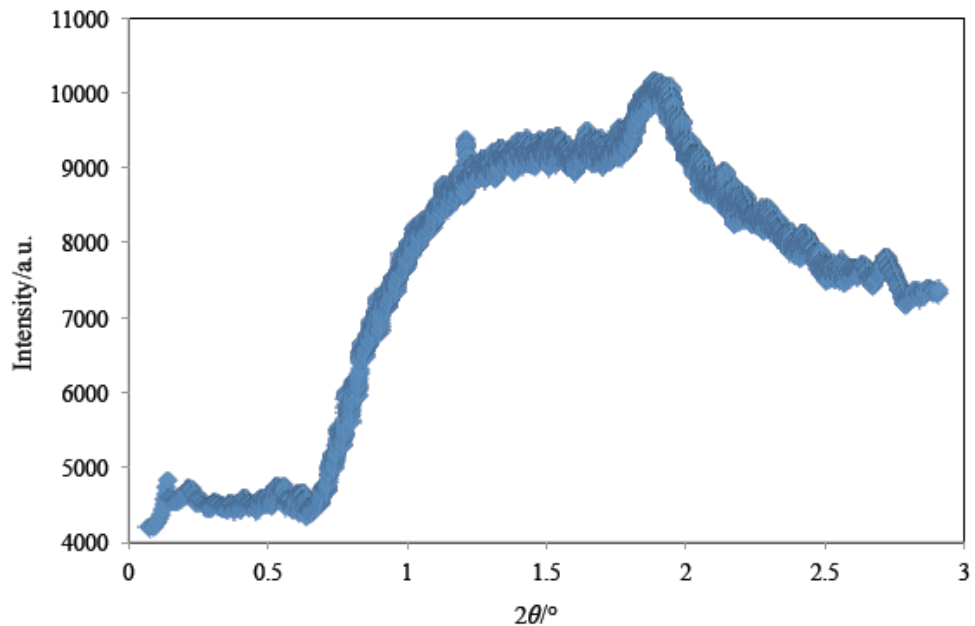


Fig. S5 X-ray diffraction profile in a small angle region in (a) the B4 phase at 135.4 °C and (b) the DC phase at 85.4 °C of a mixture of P-8-O-PIMB (50 wt%) and the trimer **1-6OCB** mixture (50 wt%). The expose time was 5 min.