

Supporting information for

The design of liquid crystalline bistolane-based materials with extremely high birefringence

Yuki Arakawa,^{a,b} Sungmin Kang,^a Hideto Tsuji,^b Junji Watanabe^a and Gen-ichi Konishi^a

^a Department of Organic and Polymeric Materials, Tokyo Institute of Technology, O-okayama, Meguro-ku, Tokyo 152-8552, Japan

^b Department of Environmental and Life Sciences, Graduate School of Engineering, Toyohashi University of Technology, Tempaku-cho, Toyohashi, Aichi 441-8580, Japan.

DSC measurements

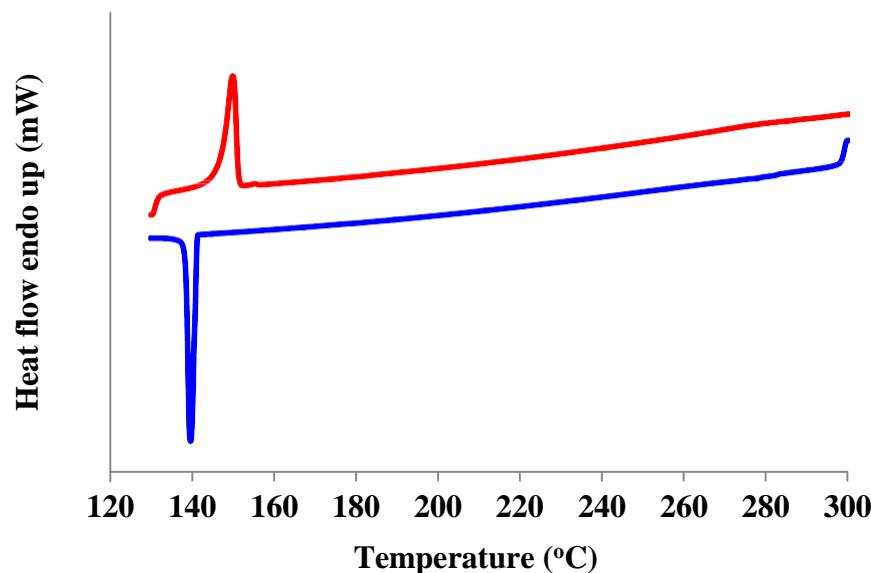


Fig. S1. DSC curve for 1.

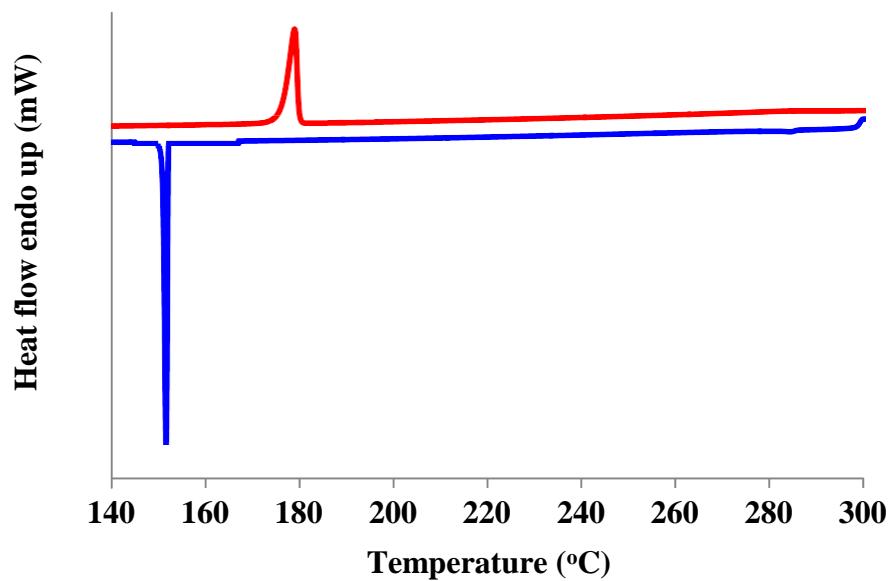


Fig. S2. DSC curve for 2.

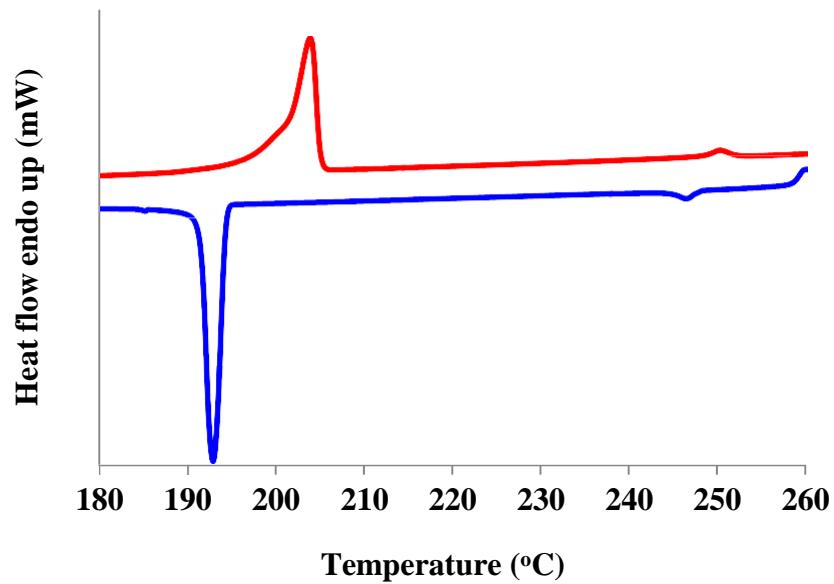


Fig. S3. DSC curve for 3.

POM observation

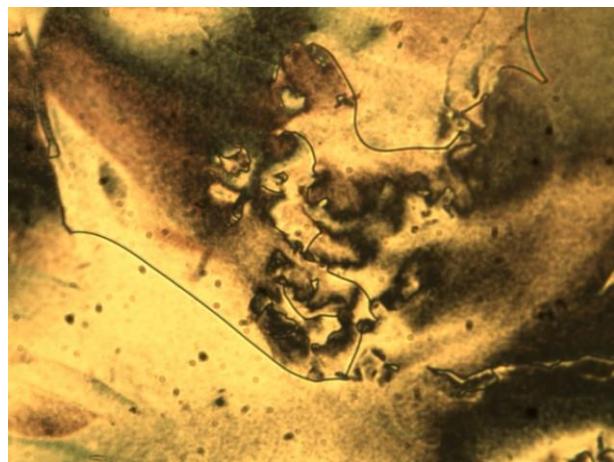


Fig. S4. POM image of **1** at 157 °C.

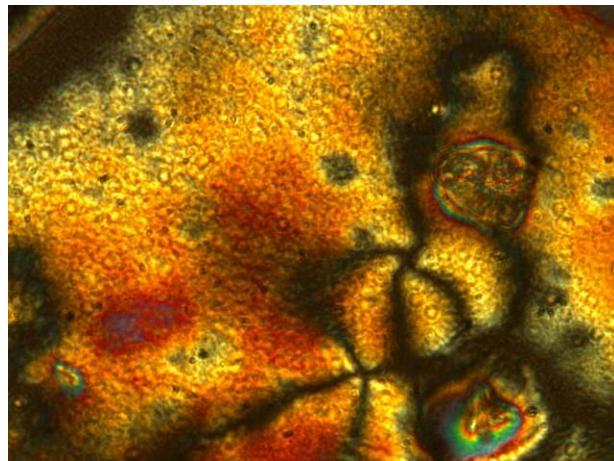


Fig. S5. POM image of **2** at 200 °C.

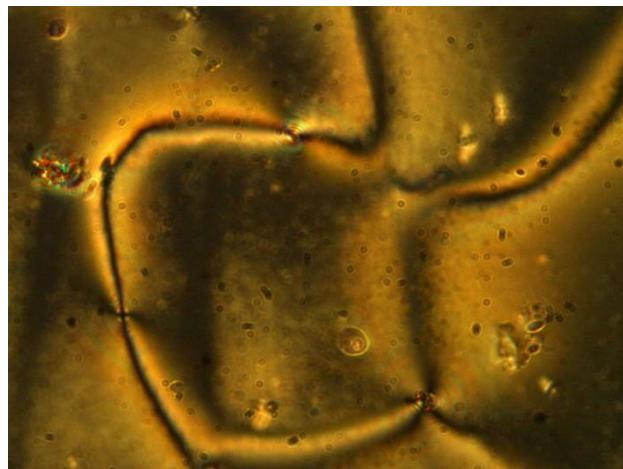


Fig. S6. POM image of **3** at 235 °C.

Refractive index measurements

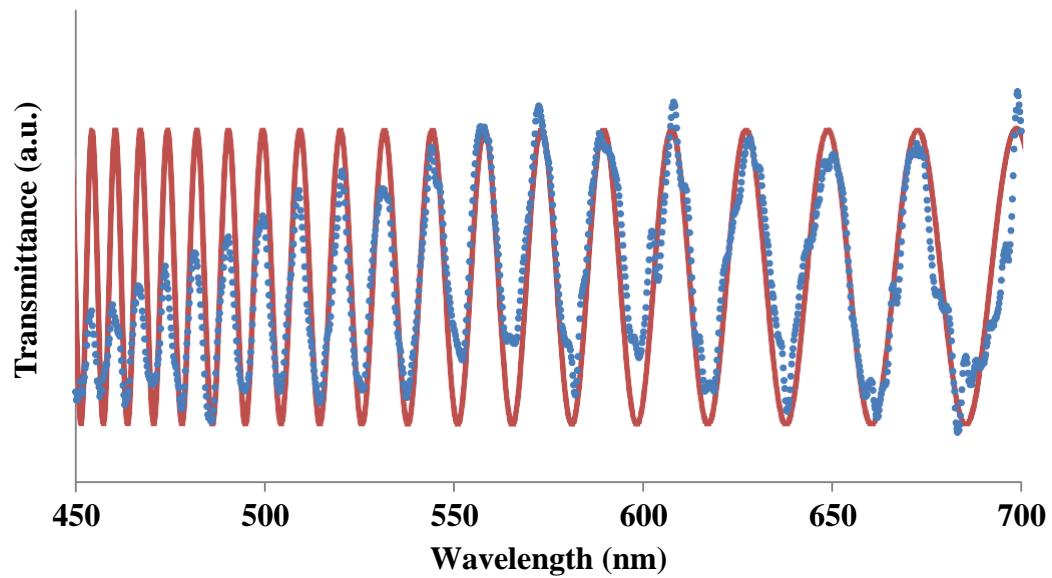


Fig. S7. A representative transmittance spectrum for **1** at 145 °C, observed in parallel to the nematic director (blue dots) together with the corresponding curve fitting (red solid line).

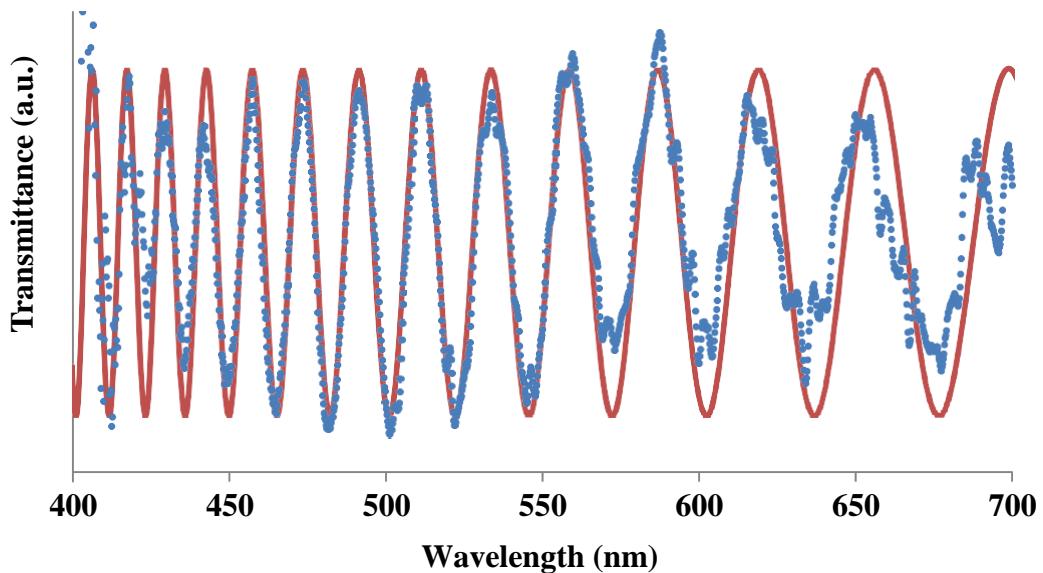


Fig. S8. A representative transmittance spectrum for **1** at 145 °C, observed perpendicular to the nematic director (blue dots) together with the corresponding curve fitting (red solid line).

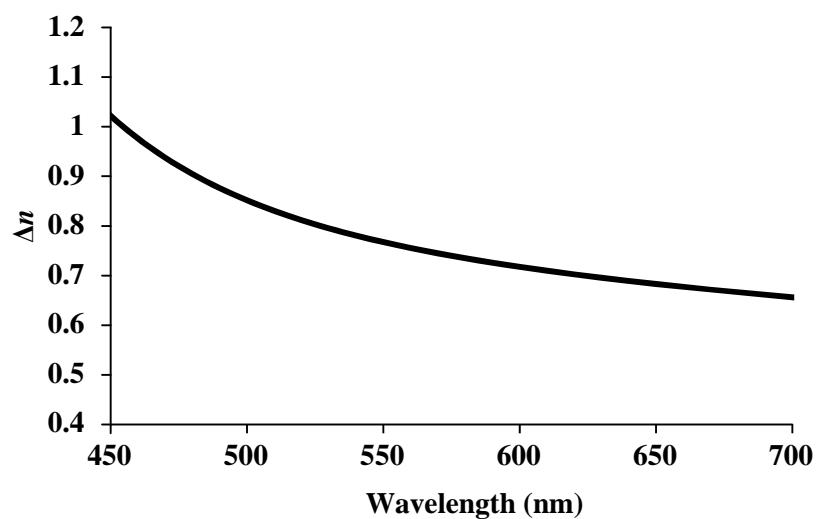


Fig. S9. Wavelength dependence of Δn (550 nm) at 145 °C for **1**.

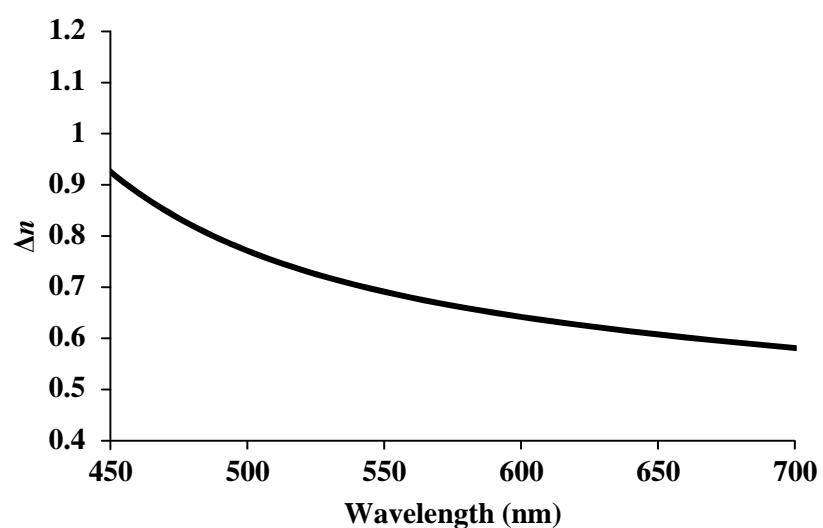


Fig. S10. Wavelength dependence of Δn (550 nm) at 165 °C for **2**.

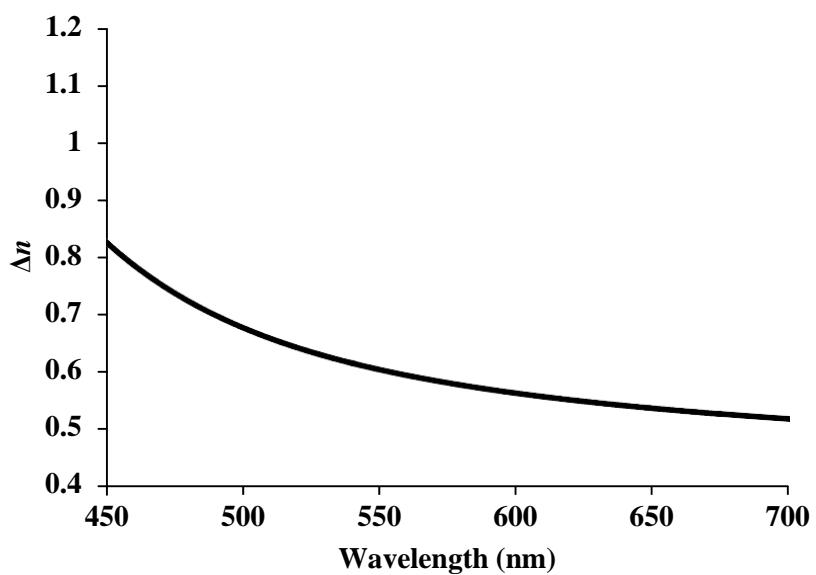


Fig. S11. Wavelength dependence of Δn (550 nm) at 194 °C for **3**.

WAXD measurements on magnetically aligned samples

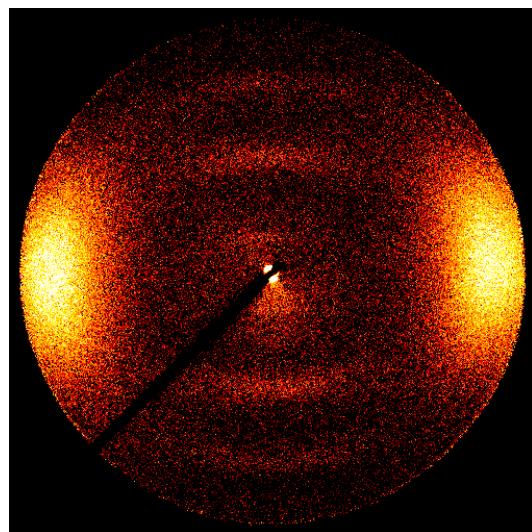


Fig. S12. 2D-XRD pattern for **1** at 155 °C.

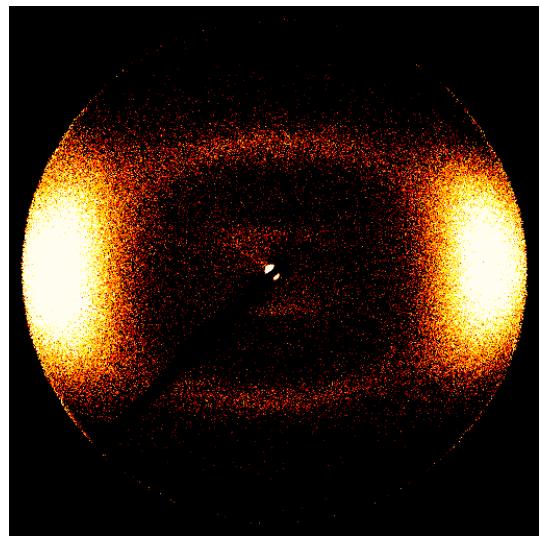


Fig. S13. 2D-XRD pattern for **2** at 180 °C.

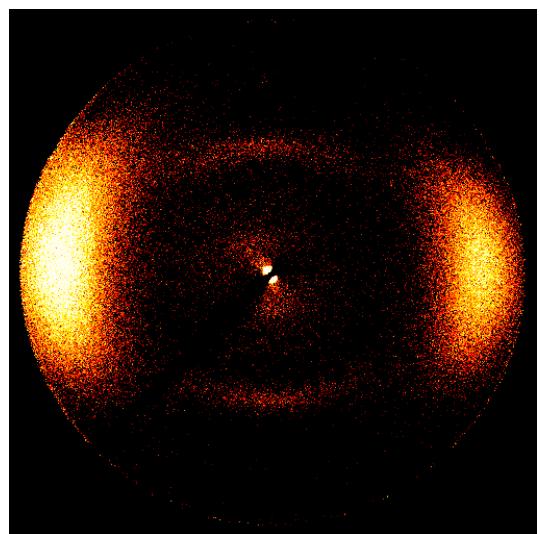
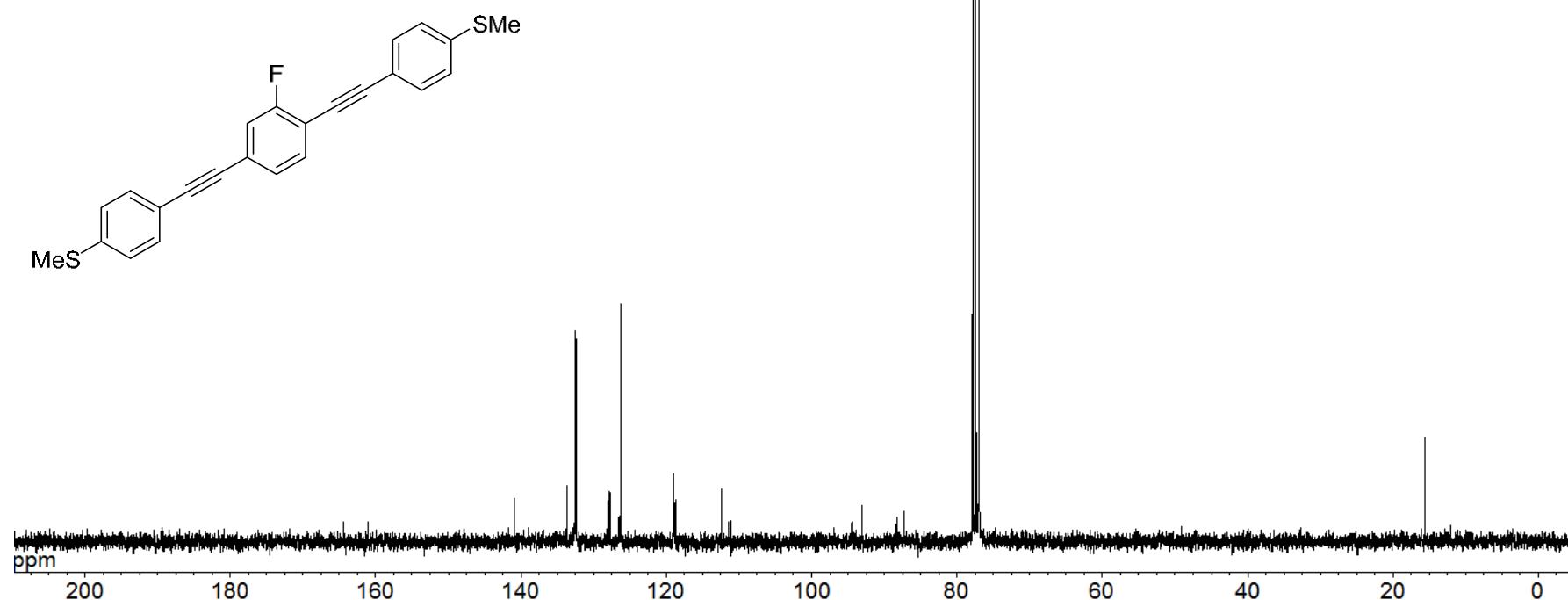


Fig. S14. 2D-XRD pattern for **3** at 205 °C.

^{13}C NMR for Compound 3 in



(70- 170 ppm)

