

Supporting Materials for:

# Angular-Dependent Back Reflection of Chiral-Nematic Liquid Crystal Microparticles as Multifunctional Optical Elements

Tomoki Shigeyama<sup>1</sup>, Kohsuke Matsumoto<sup>1</sup>, Kyohei Hisano<sup>1†,\*</sup> and Osamu Tsutsumi<sup>1,\*</sup>

<sup>1</sup>Department of Applied Chemistry, Ritsumeikan University; 1-1-1 Nojihigashi, Kusatsu 525-8577, Japan; [sc0060kf@ed.ritsumei.ac.jp](mailto:sc0060kf@ed.ritsumei.ac.jp) (T.S.); [tsutsumi@sk.ritsumei.ac.jp](mailto:tsutsumi@sk.ritsumei.ac.jp) (O.T.)

<sup>†</sup> Present address: Laboratory for Chemistry and Life Science, Institute of Innovative Research, Tokyo Institute of Technology; 4259 Nagatsuta, Midori-ku, Yokohama 226-8501, Japan.; [hisano@res.titech.ac.jp](mailto:hisano@res.titech.ac.jp) (K.H.)

\* Correspondence: [hisano@res.titech.ac.jp](mailto:hisano@res.titech.ac.jp) (K.H.); [tsutsumi@sk.ritsumei.ac.jp](mailto:tsutsumi@sk.ritsumei.ac.jp); Tel.: +81-77-561-5966 (O.T.).

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## 1. Supplementary Figures

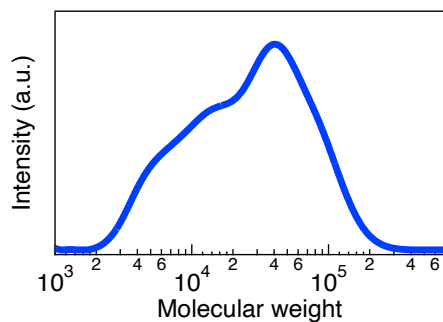


Figure S1. Size-exclusion chromatogram of P2. Molecular weight was calibrated with polystyrene standard.

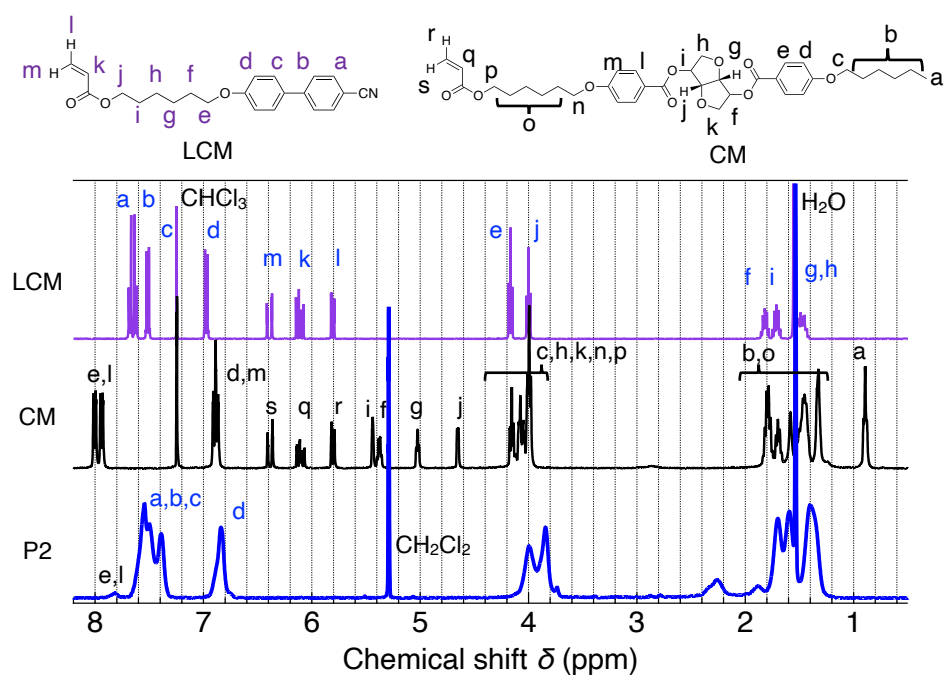
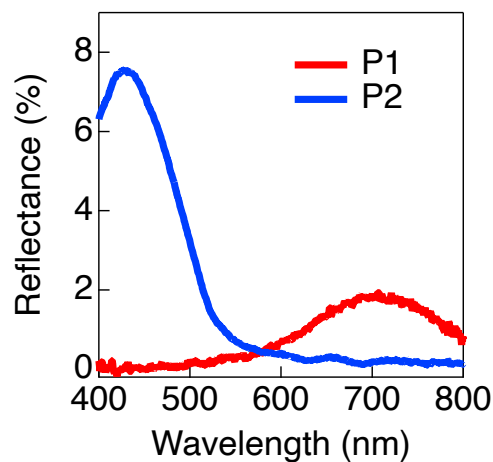


Figure S2. (a) <sup>1</sup>H NMR spectra for monomers and P2 as a representative example: (purple) LCM in CDCl<sub>3</sub>, (black) CM in CDCl<sub>3</sub>, (blue) P2 in CD<sub>2</sub>Cl<sub>2</sub>. The copolymer composition was determined using area of the peak at 7.8 and 7.5 ppm.



**Figure S3.** Reflection spectra of the N\* LC polymer particles of P1 and P2 measured with integration sphere [19]. The reflection peaks were 700 nm for P1 and 420 nm for P2, respectively.

## 2. Supplementary Table

Table S1. Polymerization composition for synthesis of the N\* LC particles.

Particle	LCM <sup>1,2</sup>	CM <sup>1,2</sup>	PVP <sup>1</sup>	AIBN <sup>1</sup>	Solvents (vol/vol)		Conversion (%)
					DMF	Methanol	
P1	97.6	2.4	130	4.0	50	50	53
P2	96.2	3.8					51

<sup>1</sup> Molar ratio of the materials in the polymerization mixture.

<sup>2</sup> Total concentration of monomers in the polymerization solution was maintained at 7.3 wt%.