

## Magnetic-field-induced molecular alignment in the achiral liquid crystal spin-labeled by a nitroxyl group in the mesogen core

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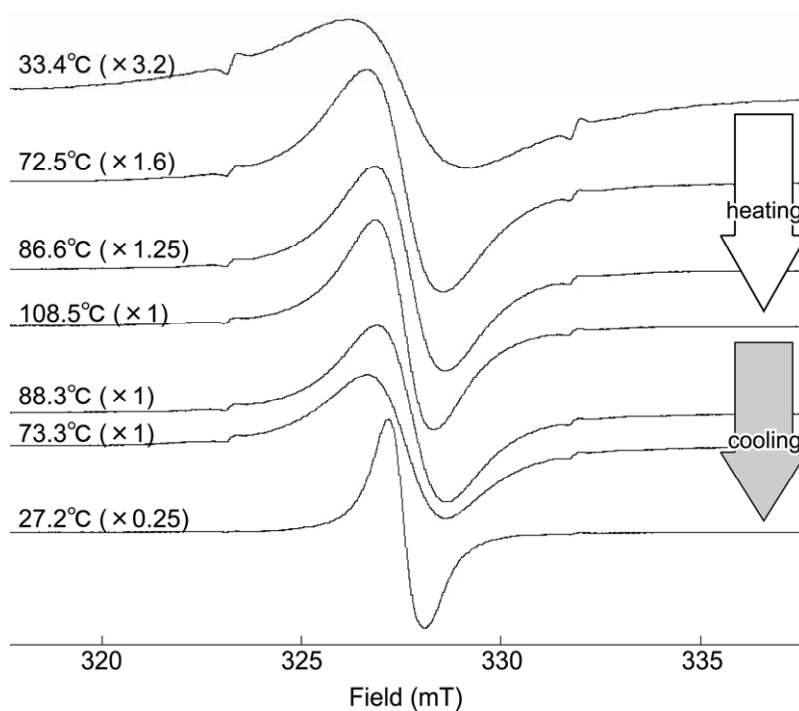
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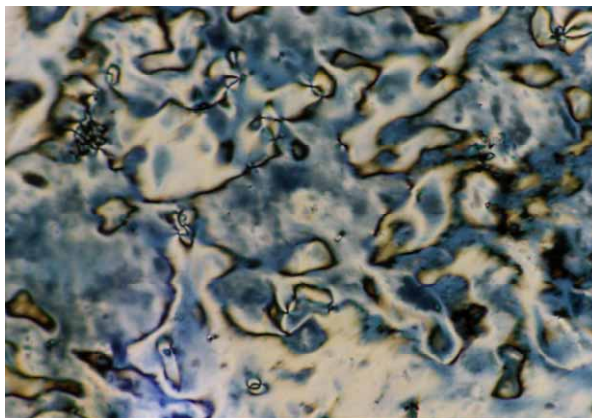
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### Electronic Supplementary Information

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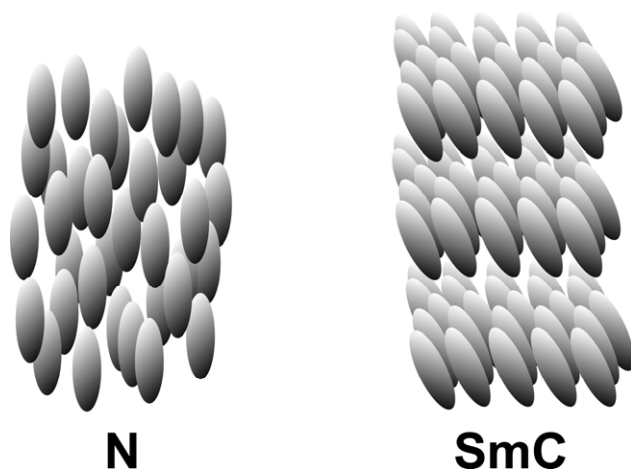
**Fig. S1** Selected EPR spectra of (±)-1 measured at various temperatures from the crystalline phase (top) to the supercooled phase (bottom) through the LC and isotropic phases.



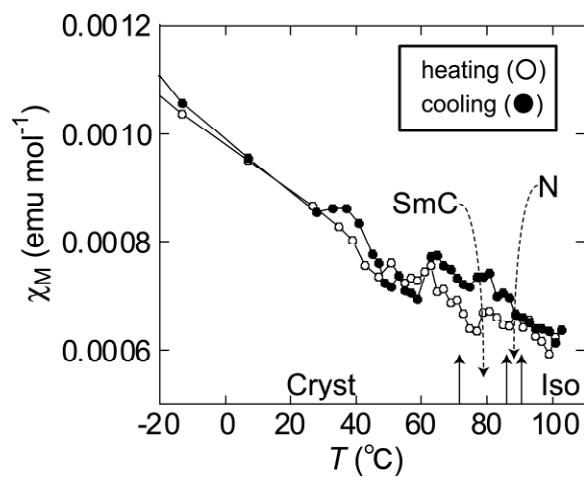
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**Fig. S2** Polarized optical micrographs showing a SmC Schlieren texture of (±)-1 at 76°C.

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**Fig. S3** Molecular arrangement in N and SmC phases. A molecule is represented as an ellipsoid.



**Fig. S4** Temperature dependence of the magnetic susceptibility of ( $\pm$ )-1 at a magnetic field of 2.0 T. Measured through the first heating (white circle) and cooling (black circle) processes.