## **Supporting Information**

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**Fig. S1.** Depolarized reflected light microscopic (DRLM) images of the channel confined B7 phase shows beautiful periodic optical textures over large areas. Rotating the sample through angles *A*, 0°, *B*, 10°, *C*, 30°, and *D*, 45° shows that the average optic axis is parallel to the channel for most to the geometries obtained.



Fig. 52. (A) B4 phase of MHOBOW cooled down slowly to room temperature. (B) A crystallized 34-14O(OH)-4r sample in a channel shows no layer structure but lots of bumps.



Fig. S3. AFM micrograph and its scheme of the channel confined B7 phase. (A) The texture of the spherulitic domains as well as the splay modulation stripes can be seen clearly in the deflection mode AFM image. (B) Sketch of the texture indicated by the AFM and DRLM images showing the spherulitic domains, splay modulation lines, and the bright optical domains observed with crossed polarizer and analyzer along the channel. (C) Surface profile of modulation lines show that these have a pitch of approximately 50 nm.

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