Supplementary Materials for

Linkage-length dependent structuring behavior of bent-core molecules in helical nanostructures

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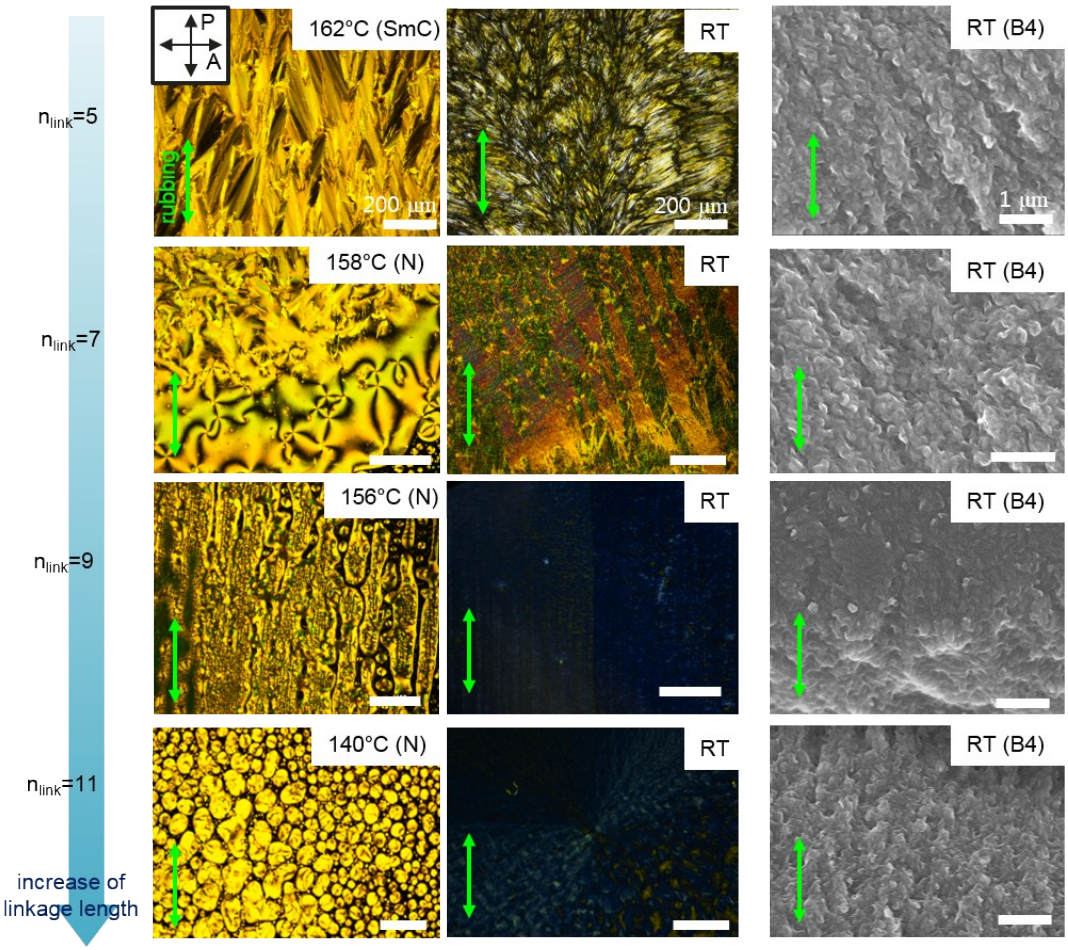
This material contains:

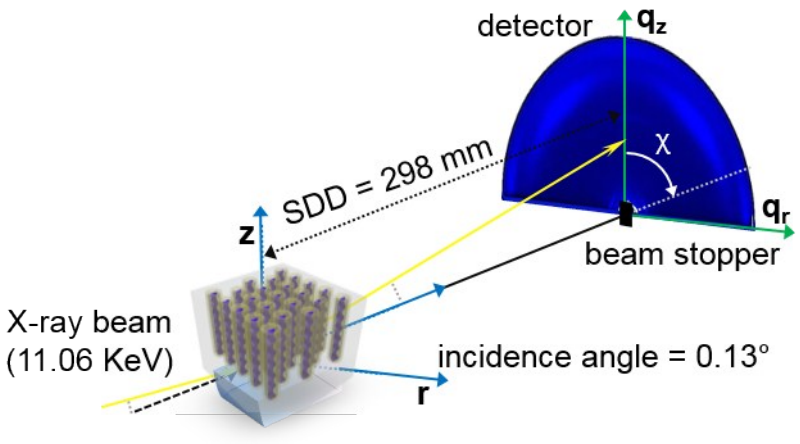
Figures S1-S2

Figure S1



S1. Observations by DRLM and SEM on the overall thermal transitions of bulk HNFs with the homologues upon cooling (5 °C/min), which imply how the filaments are grown from preceding LC phases (Smetic C or Nematic) before reaching to B4, where each homologue alters molecular organization in layering. For the case of short spacer (n_{link}= 5 and 7), it shows the pre-smectic feature at high temperature range while the long molecules (n_{link}= 9 and 11) only reveal nematic phase in the whole temperature range before B4, meaning that the long-linkage group might induce geometric overlapping among the molecules which is evident in the polarized optical textures. All cases ternimate their thermal transitions for B4 phase at room temperature, which show random orientation in morphology regardless of the pre-rubbed direction (green arrow). All scale bars, 200μm.

Figure S2



S3. Geometry of grazing incidence X-ray diffraction measurement for the simultaneous investigation of the molecular orientation and layer arrangement. X-ray beam is incidentally guided to the sample, having the beam energy of 11.06 KeV, and the size of 700 μm (vertical) by 300 μm (horizontal). SDD (Sample to detector distance) was 298 mm with a two-dimensional charge-coupled device (2D-CCD) detector.