

Abstract Submitted  
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**Chirality Transfer in Chiral Homopolymers and Chiral Block Copolymers** RONG-MING HO, Department of Chemical Engineering, National Tsing Hua University — Herein, we deal with the chirality transfer of chiral polymers on different length scales. Helical conformation could be formed due to the stereoregularity of chiral entities in the chiral polymers and the BCPs\*. Helical superstructures and phases can be fabricated by self-assembling polymer chains with helical conformation through intramolecular and intermolecular interactions. The transfer of chiral information from molecules to macroscopic level and the control of the handedness of the helical architectures are discussed. The examples of chirality transfer in the self-assembled chiral polymers and BCPs\* are introduced. As found, the molecular chirality of constituted chiral entities in the chiral polymers and the BCPs\* and corresponding conformational chirality plays an important role in the formation of helical architectures with exclusive handedness. Also, we deal with the chirality transfer in specific model systems, chiral polylactides and polylactide-containing BCPs\*, at which homochiral evolution from chiral entity to helical phase is demonstrated. A methodology for systematic studies of the chirality transfer from molecular level to phase scale is suggested. Through the design and synthesis of macromolecules and the operation of self-assembly, the mechanisms of chirality transfer on different length scales can be understood, giving supplementary information to disclose the mysteries of morphological evolution from the molecular level.

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