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【916】Structural Colors from Amyloid-Based Liquid Crystals

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The helical periodicity and layered structure in cholesteric liquid crystals (CLCs) may be tuned to generate structural color according to the Bragg's law of diffraction. Here, the possibility of using amyloid CLCs is reported to prepare films with iridescent color reflection and opposite handedness. Right-handed CLCs assembled by left-handed amyloid fibrils are dried into layered structures with variable pitch controlled by the addition of glucose. Circularly polarized light with the same handedness of amyloid CLCs helix is reflected in the Bragg regime. Varying the drying speed leads to the switching between films with a rainbow-like color gradient and large area uniform color.

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