SI. 1 Anisotropic diffusion of homochiral domains of rubrene monomers at different coverage. (a) Flat and well-ordered Bi(111) substrate, 550 nm × 550 nm, +5.7V. (b) Homochiral domains at 0.1ML, 176 nm × 176 nm, +3.9V. (c) High-resolution images of a R- homochiral island, 30 nm × 30 nm, +3.1V. (d) Homochiral domains at 0.4ML, 200 nm × 200 nm, +4.2V. (e) Homochiral domains at 0.7ML, 180nm × 180nm, +3.9V (f) Homochiral domains at 1ML, 200 nm × 200 nm, +4.0V.
SI. 2 Supramolecular self-assembly formed at narrow terrace of Bi(111) substrate. (a) 150 nm × 150 nm, +3.5 V. (b) 100 nm × 100 nm, +3.6 V. (c) 100 nm × 100 nm, +3.5 V.
SI. 3 The boundary between homochiral domain of rubrene monomers and supramolecular self-assembly, 30 nm × 30 nm, +2.0V.

a) 30nmx30nm, 2.0V.