## **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

**Description:** Value list of length and intensity analysis of all three-step ssDNA Curtains

experiments conducted in this work.

File Name: Supplementary Movie 1

**Description:** Three-step low-complexity ssDNA Curtains. 10 pM RPA-MeGFP was flushed into the chamber for 30-min, and then 25-fold nM RPA-MeGFP (250 pM) was flushed into the chamber for another 10-min. The flow rate was 0.4 ml/min. The working buffer was 40 mM Tris-HCl (pH 7.5), 150 mM NaCl, 2 mM MgCl<sub>2</sub>, and 0.2 mg/mL BSA.