

**Table S1.** The average base pair parameters of eight duplexes, counted from 500 ns simulations for each system.

	x-displacement (Å)	Slide (Å)	Twist (°)
dupDNA	-0.77	0.1	33.9
dup1D1L	-4.47	-1.77	28.6
dup2D1L	-2.77	-0.96	31.2
dup3D1L	-2.20	-0.71	32.1
dup2D2L	-3.53	-1.33	29.4
dup2L2D	-3.45	-1.34	29.5
dupD5LD	-2.58	-0.9	30.9
dupLNA	-5.58	-2.18	26