Electronic Supplementary Material (ESI) for Soft Matter

Electronic Supplementary Information

The Restoration of DNA Structures by the Dry-Wet Method

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Fig. ESI1. Schematics and sequence maps of the 5 helix ribbon (5 HR) and 8 helix tube (8 HT).

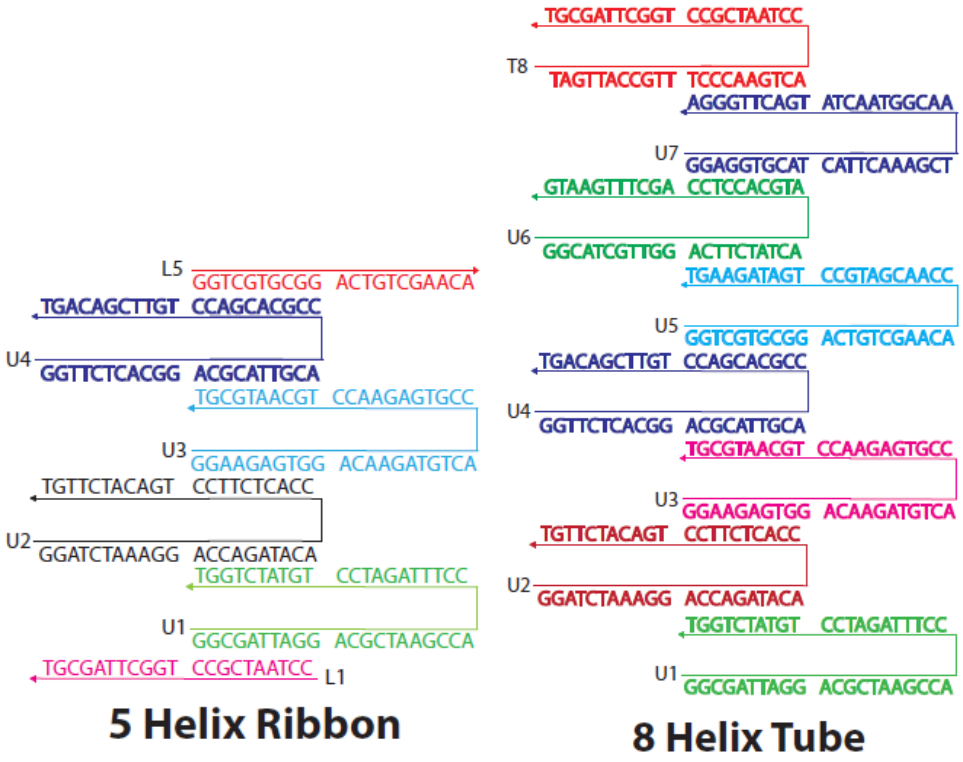

Table ESI1. The sequence details for all the DNA strands for 5 HR and 8 HT.

Strand	Number of Bases	Sequence(5' to 3')
U1	42	GGCG ATTA GGAC GCTA AGCC ACCT TTAG ATCC TGTA TCTG GT
U2	42	GGAT CTAA AGGA CCAG ATAC ACCA CTCT TCCT GACA TCTT GT
U3	42	GGAA GAGT GGAC AAGA TGTC ACCG TGAG AACC TGCA ATGC GT
U4	42	GGTT CTCA CGGA CGCA TTGC ACCG CACG ACCT GTTC GACA GT
U5	42	GGTC GTGC GGAC TGTC GAAC ACCA ACGA TGCC TGAT AGAA GT
U6	42	GGCA TCGT TGGA CTTC TATC AATG CACC TCCA GCTT TGAA TG
U7	42	GGAG GTGC ATCA TTCA AAGC TAAC GGTA ACTA TGAC TTGG GA
L1	21	CCTA ATCG CCTG GCTT AGCGT
L5	21	GGTC GTGC GGAC TGTC GAACA
T8	42	TAGT TACC GTTT CCCA AGTC ACCT AATC GCCT GGCT TAGC GT

Fig. ESI2. Schematics and sequence map of the double-crossover (DX) tiles.

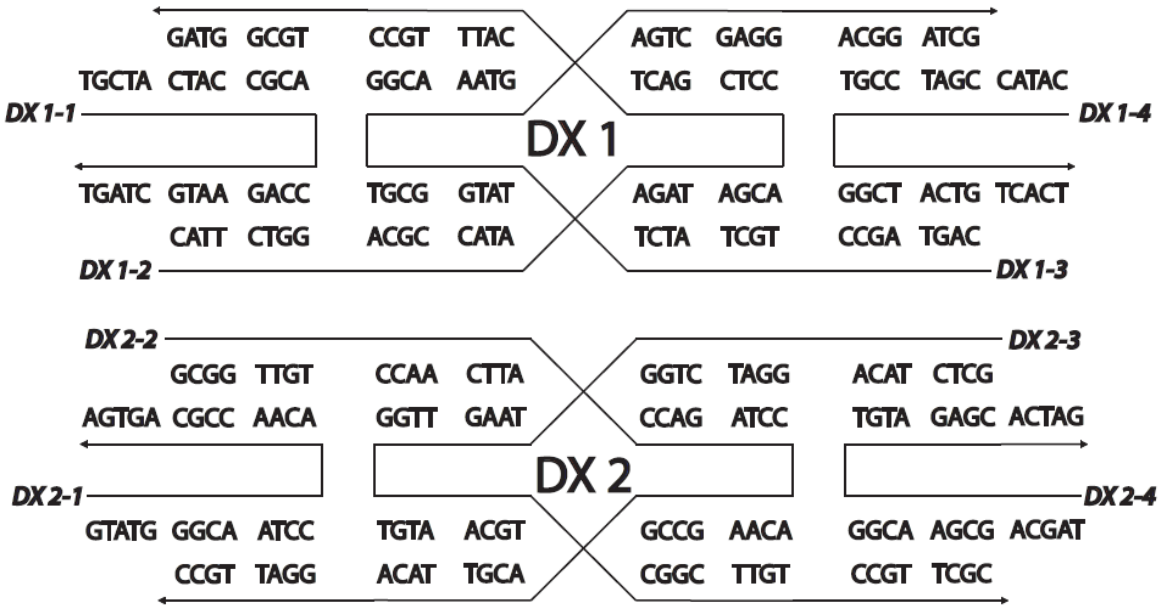

Table ESI2. The sequence details (5' to 3') for double-crossover (DX) tiles.

Strand	Number of Bases	Sequence(5' to 3')
DX1-1	26	TGCTA CTACCGCA CCAGAATG CTAGT
DX1-2	48	CATTCTGG ACGCCATA AGATAGCA CCTCGACT CATTTGCC TGCGGTAG
DX1-3	48	CAGTAGCC TGCTATCT TATGGCGT GGCAAATG AGTCGAGG ACGGATCG
DX1-4	26	CATAC CGATCCGT GGCTACTG TCACT
DX2-1	26	GTATG GGCAATCC ACAACCGC AGTGA
DX2-2	48	GCGGTTGT CCAACTTA CCAGATCC ACAAGCCG ACGTTACA GGATTGCC
DX2-3	48	GCTCTACA GGATCTGG TAAGTTGG TGTAACGT CGGCTTGT CCGTTCGC
DX2-4	26	TAGCA GCGAACGG TGTAGAGC ACTAG

Fig. ESI3. Schematics and sequence map of the DX-biotin (DXB) tiles.

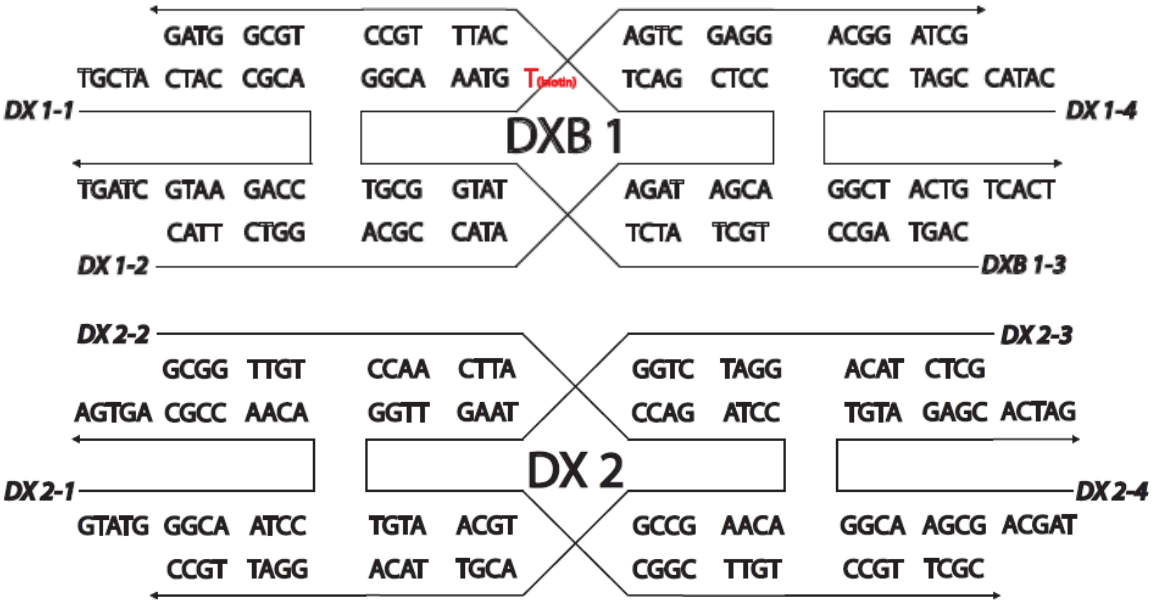

Table ESI3. The sequence details (5' to 3') for biotinylated double-crossover (DX) tiles.

Strand	Number of Bases	Sequence(5' to 3')
DX1-1	26	TGCTA CTACCGCA CCAGAATG CTAGT
DX1-2	48	CATTCTGG ACGCCATA AGATAGCA CCTCGACT CATTTGCC TGCGGTAG
DXB1-3	48	CAGTAGCC TGCTATCT TATGGCGT GGCAAATG/ibiodT/ AGTCGAGG ACGGATCG
DX1-4	26	CATAC CGATCCGT GGCTACTG TCACT
DX2-1	26	GTATG GGCAATCC ACAACCGC AGTGA
DX2-2	48	GCGGTTGT CCAACTTA CCAGATCC ACAAGCCG ACGTTACA GGATTGCC
DX2-3	48	GCTCTACA GGATCTGG TAAGTTGG TGTAACGT CGGCTTGT CCGTTCGC
DX2-4	26	TAGCA GCGAACGG TGTAGAGC ACTAG

Fig. ESI4. The AFM image of restored DNA structures in DI water. In DI water, the DNA structures were found to maintain their integrity in a dried state over several days (scale bars in all images are 1 μm).

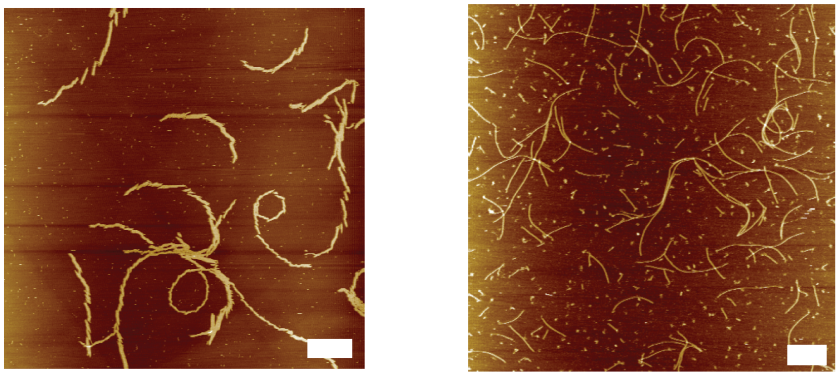

Fig. ESI5. DNA buckyball (D60) restoration analysis. (a) The AFM image of D60 structures fabricated by the free solution annealing. The inset is a D60 image taken by transmission electron microscopy. Size of D60 is about 110nm. (b) The AFM image of restored D60 structures in DI water (scale bars in all images are 1 μm).

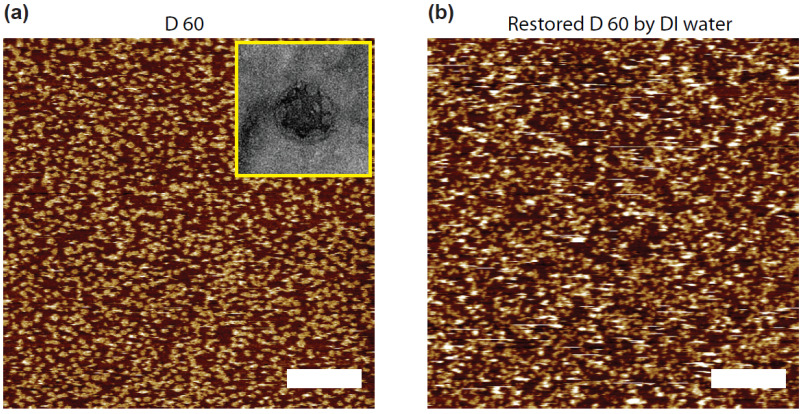

Fig. ESI6. The AFM image of restored 5 HR in propanol (scale bars in all images are 1 μm).

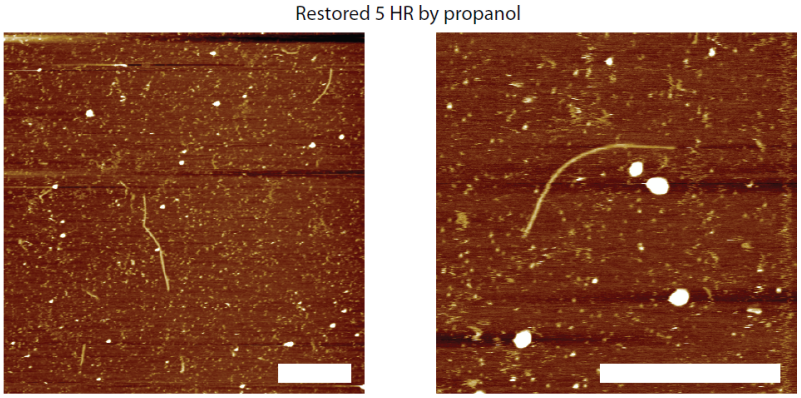

Fig. ESI7. The AFM image of restored DX lattices in ethyl alcohol (scale bars in all images are 1 μm).

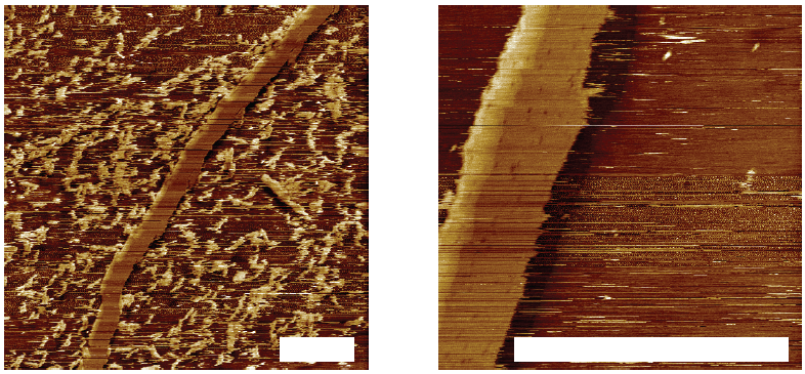

Fig. ESI8. The AFM image of restored DX lattices in chlorobenzene (scale bars in all images are 1 μm.)