

Supplementary Information for:

A Programmable Transducer Self-Assembled from DNA

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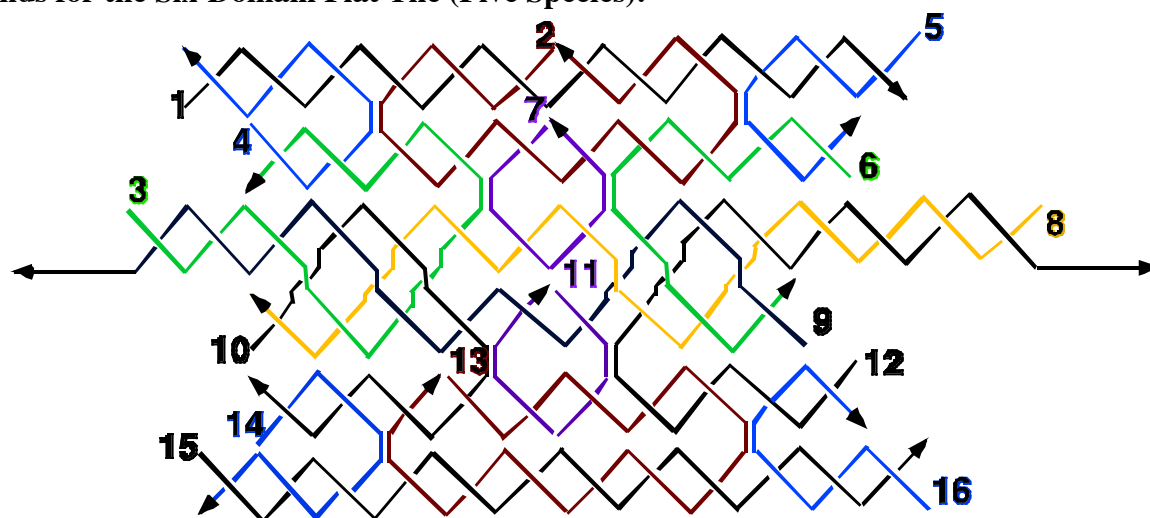
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Contents: Structural Diagrams and Sequences for the DNA Motifs Used in this Work.

Strands for the Six-Domain Flat Tile (Five Species):



6DF Tile 1

Strand 1:

5'-GCCGTCAGTAGAAGATGTTGTGTACTAATCAGCTACGTTAGCGACATGGTCA
GTCAGCACTAGCCACGTC-3'

Strand 2:

5'-AACGTAGCTGATTAGTCAACTATAACCAGTCGATACTATCACGTATAACTGACCATG
TCGCT-3'

Strand 3:

5'-GTGGTAATGAGTGATCTCACAGATTCTTCATGCGTTATAGTTGCTGCTGTCATC-3'

Strand 4:

5'-GATGACAGCAGACACAACATCT-3'

Strand 5:

5'-GCAGATTGACGTGGCTAGTGCTGGACATCATACT-3'

Strand 6:

5'-AGTATGATGTCTATACGTGATCTCACTGAACAGTGTC-3'

Strand 7:

5'-GACTGCATACAGTGACAGTATC-3'

Strand 8:

5'-
ACGGATGTGGACGTTGTTCAAGGTCGTCAGTGTATGGCATGAGTCGCCTGTGACTTAC-
3'

Strand 9:

5'-GACACACTTAGGTGAGAGTATCCTGGTACTACAAGAATGATATGGATCACTCATTA
CCAC-3'

Strand 10:

5'-GTAAGCATATCGCGACTGTAGTCTGTCCGTCCTATGTATCATC-3'

Strand 11:

5'-GATACTATTTGCGATTAACCAG-3'

Strand 12:

5'-GATCGTAGAGTGTCAGGATTGGACCTCTAAGTACGTCCACATCCGTTACACCCGAG
TC-3'

Strand 13:

5'-GACAGTAATCGCAAATCAATCCTGACGATAGTCCATCTACTGCTAAGATAGATCCT
GGGACG-3'

Strand 14:

5'-GATGATACATACCACATTCCACTTGTC-3'

Strand 15:

5'-GACAAGTGGAATGTGGCAGGATCTATCTTAGCAGTAGATGGACTATCCTAATGCGA
CTTATC-3'

Strand 16:

5'-GCTGGCAGATAAGTCGCATTAGACTCTACGATC-3'

6DF Tile 2

Strand 1:

5'-GTAGAAGATGTTGTGTACTAATCAGCTACGTTAGCGACATGGTCAGTCAGCACTAG
CCACGTC-3'

Strand 2:

5'-AACGTAGCTGATTAGTCAACTATAACCAGTCGATACTATCACGTATAACTGACCATG
TCGCT-3'

Strand 3:

5'-GATCTCACAGATTCTTCATGCGTTATAGTTGCTGCTGTCATC-3'

Strand 4:

5'-GATGACAGCAGACACAACATCTTCTAC-3'

Strand 5:

5'-GCAGATTGACGTGGCTAGTGCTGGACATCATACT-3'

Strand 6:

5'-AGTATGATGTCTATACGTGATCTCACTGAACAGTGTC-3'

Strand 7:

5'-GACTGCATACAGTGACAGTATC-3'

Strand 8:

5'-ACGGATGTGGACGTTGTTCAAGGTCGTCACTGTATGGCATGAGTCGCCTGTGACTC

AC-3'

Strand 9:

5'-GACACACTTAGGTGAGAGTATCCTGGTACTACAAGAATGATATGGATCGTCGTATC
TGTC-3'

Strand 10:

5'-GTGAGCATATCGCGACTGTAGTCTGTCCGTCCTATGTATCATC-3'

Strand 11:

5'-GATACTATTTGCGATTAACCAG-3'

Strand 12:

5'-GATCGTAGAGTGTCAGGATTGGACCTCTAAGTACGTCCACATCCGTGACTTACTAG
AC-3'

Strand 13:

5'-GACAGTAATCGCAAATCAATCCTGACGATAGTCCATCTACTGCTAAGATAGATCCT
GGGACG-3'

Strand 14:

5'-GATGATACATACCACATTCCACTTGTC-3'

Strand 15:

5'-GACAAGTGGAATGTGGCAGGATCTATCTTAGCAGTAGATGGACTATCCTAATGCGA
CTTATC-3'

Strand 16:

5'-GCTGGCAGATAAGTCGCATTAGACTCTACGATC-3'

6DF Tile 3

Strand 1:

5'-GTAGAAGATGTTGTGTACTAATCAGCTACGTTAGCGACATGGTCAGTCGGCACTAG
CCACGTC-3'

Strand 2:

5'-AACGTAGCTGATTAGTCAACTATAACCAGTCGATACTATCACGTATAACTGACCATG
TCGCT-3'

Strand 3:

5'-GATCTCACAGATTCTTCATGCGTTATAGTTGCTGCTGTCATC-3'

Strand 4:

5'-GATGACAGCAGACACAACATCTTCTAC-3'

Strand 5:

5'-GCAGATTGACGTGGCTAGTGCCGGACATCATACT-3'

Strand 6:

5'-AGTATGATGTCTATACGTGATCTCACTGAACAGTGTC-3'

Strand 7:

5'-GACTGCATACGGTGACAGTATC-3'

Strand 8:

5'-ACGGATGTGGACGTTGTTCAAGGTCGTCACCGTATGGCATGAGTCGCCTGTGACTT
AC-3'

Strand 9:

5'-GACACACTTAGGTGAGAGTATCCTGGTACTACAAGAATGATATGGATCATCAGTCA
CTGC-3'

Strand 10:

5'-GTAAGCATATCGCGACTGTAGTCTGTCCGTCCTATGTATCATC-3'

Strand 11:

5'-GATACTATTTGCGATTAACCAG-3'

Strand 12:

5'-GATCGTAGAGTGTCAGGATTGGACCTCTAAGTACGTCCACATCCGTGCAAGACTAT
AC-3'

Strand 13:

5'-GACAGTAATCGCAAATCAATCCTGACGATAGTCCATCTACTGCTAAGATAGATCCT
GGGACG-3'

Strand 14:

5'-GATGATACATACCACATTCCACTTGTC-3'

Strand 15:

5'-GACAAGTGGAATGTGGCAGGATCTATCTTAGCAGTAGATGGACTATCCTAATGCGA
CTTATC-3'

Strand 16:

5'-GCTGGCAGATAAGTCGCATTAGACTCTACGATC-3'

6DF Tile 4

Strand 1:

5'-GTAGAAGATGTTGTGTACTAATCAGCTACGTTAGCGACATGGTCAGTCAGCACTAG
CCACGTC-3'

Strand 2:

5'-AACGTAGCTGATTAGTCAACTATAACCAGTCGATACTATCACGTATAACTGACCATG
TCGCT-3'

Strand 3:

5'-GATCTCACAGATTCTTCATGCGTTATAGTTGCTGCTGTCATC-3'

Strand 4:

5'-GATGACAGCAGACACAACATCTTCTAC-3'

Strand 5:

5'-GCAGATTGACGTGGCTAGTGCTGGACATCATACT-3'

Strand 6:

5'-AGTATGATGTCTATACGTGATCTCACTGAACAGTGTC-3'

Strand 7:

5'-GACTGCATACAGTGACAGTATC-3'

Strand 8:

5'-CCGGATGTGGACGTTGTTCAAGGTCGTCCTGTATGGCATGAGTCGCCTGTGACT
TAC-3'

Strand 9:

5'-GACACACTTAGGTGAGAGTATCCTGGTACTACAAGAATGATATGGATCGACCAGCT
TAGC-3'

Strand 10:

5'-GTAAGCATATCGCGACTGTAGTCTGTCCGTCCTATGTATCATC-3'

Strand 11:

5'-GATACTATTTGCGATTAACCAG-3'

Strand 12:

5'-GATCGTAGAGTGTGAGGATTGGACCTCTAAGTACGTCCACATCCGGCACTCTGCTC
GC-3'

Strand 13:

5'-GACAGTAATCGCAAATCAATCCTGACGATAGTCCATCTACTGCTAAGATAGATCCT
GGGACG-3'

Strand 14:

5'-GATGATACATACCACATTCCACTTGTC-3'

Strand 15:

5'-GACAAGTGGAATGTGGCAGGATCTATCTTAGCAGTAGATGGACTATCCTAATGCGA
CTTATC-3'

Strand 16:

5'-GCTGGCAGATAAGTCGCATTAGACTCTACGATC-3'

6DF Final Tile

Strand 1:

5'-GTAGAAGATGTTGTGTACTAATCAGCTACGTTAGCGACATGGTCAGTCAGCACTAG
CCACGTC-3'

Strand 2:

5'-AACGTAGCTGATTAGTCAACTATAACCAGTCGATACTATCACGTATAACTGACCATG
TCGCT-3'

Strand 3:

5'-GATCTCACAGATTCTTCATGCGTTATAGTTGCTGCTGTCATC-3'

Strand 4:

5'-GATGACAGCAGACACAACATCTTCTAC-3'

Strand 5:

5'-GCAGATTGACGTGGCTAGTGCTGGACATCATACT-3'

Strand 6:

5'-ATGGTCTAGTATGATGTCTATACGTGATCTCACTGAACAGTGTC-3'

Strand 7:

5'-GACTGCATACAGTGACAGTATC-3'

Strand 8:

5'-GACTCGGTGTGAACGGATGTGGACGTTGTTCAAGGTCGTCACTGTATGGCATGAGT
CGCCTGTGACTTAC-3'

Strand 9:

5'-GACACACTTAGGTGAGAGTATCCTGGTACTACAAGAATGATATGGATCGACCAGCT
TAGC-3'

Strand 10:

5'-GTAAGCATATCGCGACTGTAGTCTGTCCGTCCTATGTATCATC-3'

Strand 11:

5'-GATACTATTTGCGATTAACCAG-3'

Strand 12:

5'-ATGGTCTGATCGTAGAGTGTCAGGATTGGACCTCTAAGTACGTCCACATCCGTTTAC
ACCGAGTC-3'

Strand 13:

5'-GACAGTAATCGCAAATCAATCCTGACGATAGTCCATCTACTGCTAAGATAGATCCT
GGGACG-3'

Strand 14:

5'-GATGATACATACCACATTCCACTTGTC-3'

Strand 15:

5'-GACAAGTGGAATGTGGCAGGATCTATCTTAGCAGTAGATGGACTATCCTAATGCGA
CTTATC-3'

Strand 16:

5'-GCTGGCAGATAAGTCGCATTAGACTCTACGATC-3'

6DF 5-Final Tile

Strand 1:

5'-GTAGAAGATGTTGTGTACTAATCAGCTACGTTAGCGACATGGTCAGTCAGCACTAG
CCACGTC-3'

Strand 2:

5'-AACGTAGCTGATTAGTCAACTATAACCAGTCGATACTATCACGTATAACTGACCATG
TCGCT-3'

Strand 3:

5'-GATCTCACAGATTCTTCATGCGTTATAGTTGCTGCTGTCATC-3'

Strand 4:

5'-GATGACAGCAGACACAACATCTTCTAC-3'

Strand 5:

5'-GCAGATTGACGTGGCTAGTGCTGGACATCATACT-3'

Strand 6:

5'-ATGGTCTAGTATGATGTCTATACGTGATCTCACTGAACAGTGTC-3'

Strand 7:

5'-GACTGCATACAGTGACAGTATC-3'

Strand 8:

5'-GACTCGGTGTGAACGGATGTGGACGTTGTTCAAGGTCGTCACCTGTATGGCATGAGT
CGCCTGTGACTTAC-3'

Strand 9:

5'-GACACACTTAGGTGAGAGTATCCTGGTACTACAAGAATGATATGGATCACTCATTA
CCAC-3'

Strand 10:

5'-GTAAGCATATCGCGACTGTAGTCTGTCCGTCCTATGTATCATC-3'

Strand 11:

5'-GATACTATTTGCGATTAACCAG-3'

Strand 12:

5'-ATGGTCTGATCGTAGAGTGTCAGGATTGGACCTCTAAGTACGTCCACATCCGTTAC
ACCGAGTC-3'

Strand 13:

5'-GACAGTAATCGCAAATCAATCCTGACGATAGTCCATCTACTGCTAAGATAGATCCT
GGGACG-3'

Strand 14:

5'-GATGATACATACCACATTCCACTTGTC-3'

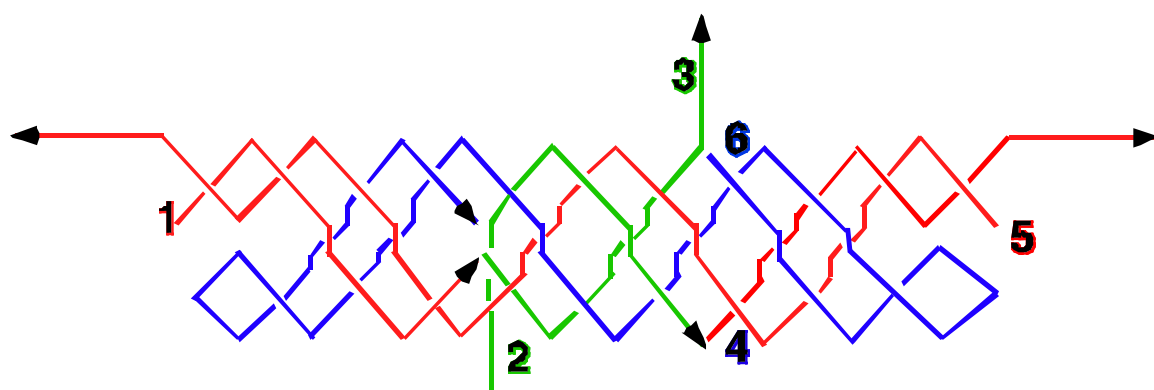
Strand 15:

5'-GACAAGTGAATGTGGCAGGATCTATCTTAGCAGTAGATGGACTATCCTAATGCGA
CTTATC-3'

Strand 16:

5'-GCTGGCAGATAAGTCGCATTAGACTCTACGATC-3'

Strands for Four Different PX-JX₂ Devices in the PX State:



PX 1

Strand 1:

5'-GACGTGGTGACTAATGTCCTCA-3'

Strand 2:

5'-GCTAGAACTGTATGCCGACTGCCT-3'

Strand 3:

5'-TCAGACACGAGACTAGACAAGTGT-3'

Strand 4:

5'-CATTCGACGGTTCAGTGCATCGACAGATACGAC-3'

Strand 5:

5'-GATGCACTGAAAGCTCCGAATGCTAGTGTCGGCTCTGATGAGGATCTTCGTCACCAC
GTCGACTCGGTGTGA-3'

Strand 6:

5'-TTCGCTGAGCTGCAATGTTTTTCATTGCCCGTAGCGAAAGGCACTCGTGATACAGATA
TTCATTAGAGGCTTTTGTAGCCTCGAAGAAATATC-3'

PX 2

Strand 1:

5'-GACCTGGTCACCTAATTCCTCA-3'

Strand 2:

5'-GTGAGACTGCGGTACTGTAGCCAT-3'

Strand 3:

5'-GATACGTCAGCAGAACATTCCATC-3'

Strand 4:

5'-CATTGACGGTCGTCTGTCGTGCAGTGACTGAT-3'

Strand 5:

5'-ACGACAGACGAAGCTCCGAATGGTTCTTACAGTGTATCTGAGGACTCTCGTGACCA
GGTCGTCTAGTAAGTC-3'

Strand 6:

5'-TTCGCTGAGCTGCAATCTTTTGATTGCCCCGTAGCGAAATGGCGCTGACACCGCGATA
TTATTAGAGGCACTTTTGTGCCTGAGAGAATATC-3'

PX 3

Strand 1:

5'-GACGTGTTGACTAATGTCCTCA-3'

Strand 2:

5'-GAGTAGATCGCATGATTGCGCTCC-3'

Strand 3:

5'-CACTCAGTGCGTACGAGTCCGTG-3'

Strand 4:

5'-CATTGACGGTTCAGAGCATCGCTAAGCTGGTC-3'

Strand 5:

5'-GATGCTCTGAAAGCTCCGAATGCGTGAGCAATCGAGTGTGAGGATGTATGTCAACA
CGTCGTATAGTCTTGC-3'

Strand 6:

5'-TTCGCTGAGCTGCAAGGTTTTTCCTTGCCCCGTAGCGAAGGAGCCGCACTATGCGGATA
TTCATTAGAGGCTTTTGTAGCCTCATACAAATATC-3'

PX 4:

Strand 1:

5'-GACGTGGTCACTAATCTCCTCA-3'

Strand 2:

5'-GAACGAGACACAGAGTAGCAGCAG-3'

Strand 3:

5'-GTTACTTCGTACATAGGCTCATTC-3'

Strand 4:

5'-CAAGCGACGGTTCAGAGCATCGTGGTAATGAGT-3'

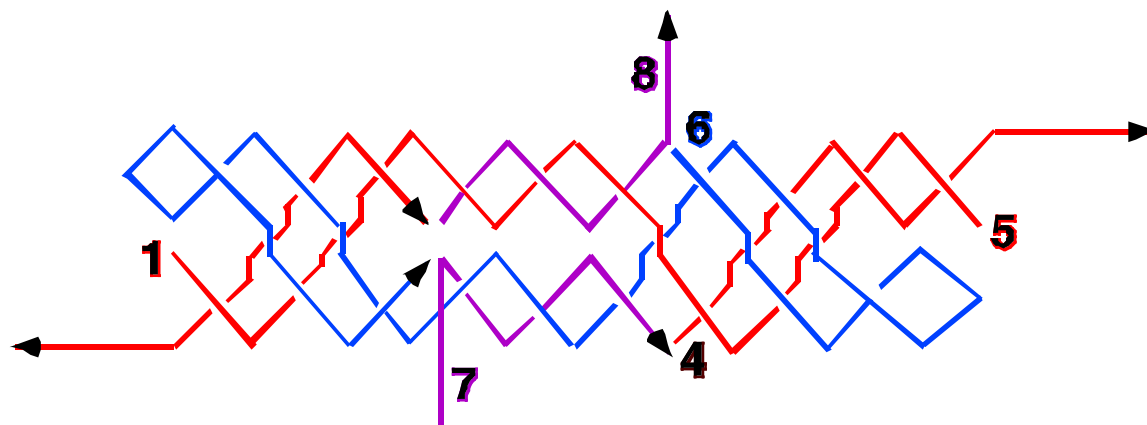
Strand 5:

5'-GATGCTCTGAAAGCTCCGCTTGCTATGGCTACTGTAAGTGGAGGATCTTTGTGACCAC
GTCGCGAGCAGAGTG-3'

Strand 6:

5'-TTCGACGAGCTGCAATGTTTTTCATTGCCCCGTGTCGAACTGCTTACGAACTGTGGATA
TTGATTAGAGGCATTTTTGCCTCAAAGAAATATC-3'

Strands for Four Different PX-JX₂ Devices in the JX₂ State:



JX₂ 1

Strand 1:

5'-GACGTGGTGACTAATGTCCTCA-3'

Strand 7:

5'-TCAGAGCCGACACTAGACAAGTGT-3'

Strand 8:

5'-GCTAGAACTGTATCACGAGTGCCT-3'

Strand 4:

5'-CATTCGACGGTTCAGTGCATCGACAGATACGAC-3'

Strand 5:

5'-GATGCACTGAAAGCTCCGAATGCTAGTGTCGGCTCTGATGAGGATCTTCGTCACCAC
GTCGACTCGGTGTGA-3'

Strand 6:

5'-TTCGCTGAGCTGCAATGTTTTTCATTGCCCCGTAGCGAAAGGCACTCGTGATACAGATA
TTCATTAGAGGCTTTTTAGCCTCGAAGAAATATC-3'

JX₂ 2

Strand 1:

5'-GACCTGGTCACCTAATTCCTCA-3'

Strand 7:

5'-GATACACTGTAAGAACATTCCATC-3'

Strand 8:

5'-GTGAGACTGCGGTGTCAGCGCCAT-3'

Strand 4:

5'-CATTGACGGTCGTCTGTCGTGCAGTGACTGAT-3'

Strand 5:

5'-ACGACAGACGAAGCTCCGAATGGTTCTTACAGTGTATCTGAGGACTCTCGTGACCA
GGTCGTCTAGTAAGTC-3'

Strand 6:

5'-TTCGCTGAGCTGCAATCTTTTGATTGCCCCGTAGCGAAATGGCGCTGACACCGCGATA
TTATTAGAGGCACTTTTGTGCCTGAGAGAATATC-3'

JX₂ 3

Strand 1:

5'-GACGTGTTGACTAATGTCCTCA-3'

Strand 7:

5'-CACTCGATTGCTCACGAGTCCGTG-3'

Strand 8:

5'-GAGTAGATCGCATAGTGCGGCTCC-3'

Strand 4:

5'-CATTGACGGTTCAGAGCATCGCTAAGCTGGTC-3'

Strand 5:

5'-GATGCTCTGAAAGCTCCGAATGCGTGAGCAATCGAGTGTGAGGATGTATGTCAACA
CGTCGTATAGTCTTGC-3'

Strand 6:

5'-TTCGCTGAGCTGCAAGGTTTTCTTGCCCCGTAGCGAAGGAGCCGCACTATGCGGATA
TTCATTAGAGGCTTTTTCCTCATACAAATATC-3'

JX₂ 4

Strand 1:

5'-GACGTGGTCACTAATCTCCTCA-3'

Strand 7:

5'-GTTACAGTAGCCATAGGCTCATTC-3'

Strand 8:

5'-GAACGAGACACAGTTCGTAAGCAG-3'

Strand 4:

5'-CAAGCGACGGTTCAGAGCATCGTGGTAATGAGT-3'

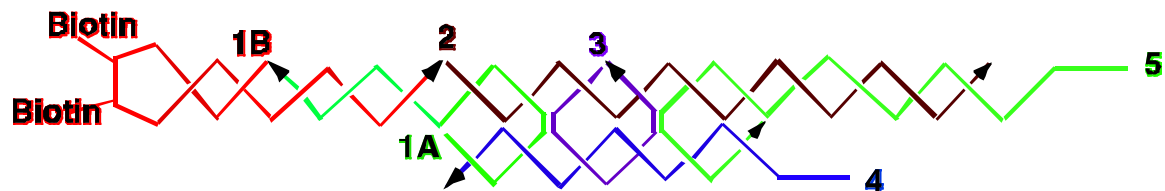
Strand 5:

5'-GATGCTCTGAAAGCTCCGCTTGCTATGGCTACTGTAAGTACTGAGGATCTTTGTGACCAC
GTCGCGAGCAGAGTG-3'

Strand 6:

5'-TTCGACGAGCTGCAATGTTTTTCATTGCCCGTGTCGAACTGCTTACGAACTGTGGATA
TTGATTAGAGGCATTTTTGCCTCAAAGAAATATC-3'

Strands for the Starting DX Tile:



Strand 1A:

5'-GTGGTCACTCGCGTCCACAATCGACGGTGCGATCTTAAG-3'

Strand 1B:

5'-TGATCGTAGTTT(Biotin)T(Biotin)TACTACGATCACTTAAGATCGCACCGTC-3'

Strand 2:

5'-GATTGTGGACGATCAGATTCAAGTCATTACTACTGAACAGTCGATAGCACT-3'

Strand 3:

5'-CTGATGAGCTAGGTATGAAT-3'

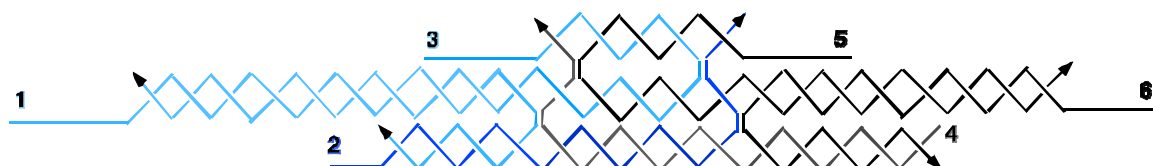
Strand 4:

5'-TCTACTGACGGCGAGTATCTATACCTAGCTCCGAGTGACCAC-3'

Strand 5:

5'-ATGTCGTTGAATAGTGCTATCGACTGTTCAGTAGTAATGACTTAGATACTC-3'

Strands for Six Different Computational TX Tiles:



Computational TX 1

Strand 1:

5'-Psoralen-
ATTCAACGACATACCGTGCTCAGTGTAGGGCACTCTCATCTCTGATTCTTGAAGTAG
CATGTGGAAGGAGGTGCAAGACATGACA-3'

Strand 2:

5'-TGCCAGCTGTCATGTCTTGACCTCCTTAATCGTAGTCGCTCGATCCCATATTCGTAT
GATGGCT-3'

Strand 3:

5'-ATGTCGAACAGTAGTCGGATGCGATAGCTTAACGTGTCGTACAGATTCAATTAACC
ACATGCTACTTCAAGAATCAGAGATGAGAGTGCCCTACACTGAGCACGGT-3'

Strand 4:

5'-ACGACTCTACGTGCAGATCAGTCCTGGGAATATGGGATCGAGCGACTACGATTTTA
ATCGACT-3'

Strand 5:

5'-ATGTCGAACAGTAGCCATGTTAAGCTATCGCATCTGAATCTGTACGACACCATACAT
ACTGACAATCCATCGCGCTGTCACGGTCACCGAGCTACT-3'

Strand 6:

5'-ATGTCGTTGAATAGTAGCTCGGTGACCGTGACAGCGCGATGGATTGTCAGTATCCA
GGACTGATCTGCACGTAGAGTCGT-3'

Computational TX 2

Strand 1:

5'-Psoralen-ATTCAACGACATACCGTGCTCAGTGTAGGGCACTCTCATCTCTGATTCTTG
AAGTAGCATGTGGAAGGAGGTGCAAGACATGACA-3'

Strand 2:

5'-AATCTGCTGTCATGTCTTGCACCTCCTTAATCGTAGTCGCTCGATCCCATATTCGTAT
GATGGCT-3'

Strand 3:

5'-ATGTCGAACAGTAGTCGGATGCAATAGCTTAACGTGTCGTACAGGTTCAATTAACC
ACATGCTACTTCAAGAATCAGAGATGAGAGTGCCCTACACTGAGCACGGT-3'

Strand 4:

5'-ACGACTCTACGTGAAGATCAGTCCTGGGAATATGGGATCGAGCGACTACGATTTTA
ATCGACT-3'

Strand 5:

5'-ATGTCGAACAGTAGCCATGTTAAGCTATTGCATCTGAACCTGTACGACACCATACAT
ACTGACAATCCATCGCGCTGTCACGGTCACCGAGCTACC-3'

Strand 6:

5'-Psoralen-ACGCATAGCATAGGTAGCTCGGTGACCGTGACAGCGCGATGGATTGTCAG
TATCCAGGACTGATCTTCACGTAGAGTCGT-3'

Computational TX 3

Strand 1:

5'-TATGCTATGCGTACCGTGCTCAGTGTAAAGGCACTCTCATCTCTGATTCTTGAAGTAG
CATGTGGAAGGAGGTGCAAGACATGACA-3'

Strand 2:

5'-TGCCAGCTGTCATGTCTTGCACCTCCTTAATCCTAGTCGCTCGATCCCATATTCGTAT
GATGGCT-3'

Strand 3:

5'-ATGTCGAACAGTAGTCGGATGCAATAGCTTAACGTGTCGTACAGATTCAATTAACC

ACATGCTACTTCAAGAATCAGAGATGAGAGTGCCTTACACTGAGCACGGT-3'

Strand 4:

5'-ACGACTCTACGTGCAGATCAGTCCTGGGAATATGGGATCGAGCGACTAGGATTTTAA
TCGACT-3'

Strand 5:

5'-ATGTCGAACAGTAGCCATGTTAAGCTATTGCATCTGAATCTGTACGACACCATAACAT
ACTGACAATCCATCGCGCTGTCACGGTCACCGAGCTACT-3'

Strand 6:

5'-TCCAGTACTACTAGTAGCTCGGTGACCGTGACAGCGCGATGGATTGTCAGTATCCA
GGACTGATCTGCACGTAGAGTCGT-3'

Computational TX 4

Strand 1:

5'-Psoralen-
AGTAGTACTGGACTCGTCCTCAGTGTAAGGCACTCTCATCTCTGATTCTTGAAGTAG
CATGTGGAAGGAGGTGCAAGACATGACA-3'

Strand 2:

5'-AATCTGCTGTCATGTCTTGCACCTCCTTAATCCTAGTCGCTCGATCCCATATTCGTAT
GATGGCT-3'

Strand 3:

5'-GACGAGTGTGCTAGTCGGATGCAATAGCTTAACGTGTCGTACACATTCAATTAACC
ACATGCTACTTCAAGAATCAGAGATGAGAGTGCCTTACACTGAGGACGAG-3'

Strand 4:

5'-ACGACTCTACGTGGAGATCAGTCCTGGGAATATGGGATCGAGCGACTAGGATTTTA
ATCGACT-3'

Strand 5:

5'-GACGAGTGTGCTAGCCATGTTAAGCTATTGCATCTGAATGTGTACGACACCATAACAT
ACTGACAATCCATCGCGCTGTCACGGTCACCGAGCTACT-3'

Strand 6:

5'-TCCAGTACTACTAGTAGCTCGGTGACCGTGACAGCGCGATGGATTGTCAGTATCCA
GGACTGATCTCCACGTAGAGTCGT-3'

Computational TX 5

Strand 1:

5'-Psoralen-AGTAGTACTGGACTCGTCCTCAGTGTAAGGCACTCTCATCTCTGATTCTTG
AAGTAGCATGTGGAAGGAGGTGCAAGACATGACA-3'

Strand 2:

5'-TGTAGTATGTCATGTCTTGCACCTCCTTAATCCTAGTCGCTCGATCCCATATTCGTAT
GATGGCT-3'

Strand 3:

5'-GACGAGTGTGCTAGTCGGATGCAATAGCTTAACGTGTCGTACAGATTCAATTAACC
ACATGCTACTTCAAGAATCAGAGATGAGAGTGCCTTAACTGAGGACGAG-3'

Strand 4:

5'-ACGACTCTACGTGCAGATCAGTCCTGGGAATATGGGATCGAGCGACTAGGATTTTA
ATCGACT-3'

Strand 5:

5'-GACGAGTGTGCTAGCCATGTTAAGCTATTGCATCTGAATCTGTACGACACCATAACAT
ACTGACAATCCATCGCGCTGTCACGGTCACCGAGCTACC-3'

Strand 6:

5'-Psoralen-ACGCATAGCATAGGTAGCTCGGTGACCGTGACAGCGCGATGGATTGTCAGT
ATCCAGGACTGATCTGCACGTAGAGTCGT-3'

Computational TX 6

Strand 1:

5'-TATGCTATGCGTACCGTCCTCAGTGTAAGGCACTCTCATCTCTGATTCTTGAAGTAG
CATGTGGAAGGAGGTGCAAGACATGACA-3'

Strand 2:

5'-AATCTGCTGTCATGTCTTGCACCTCCTTAATCCTAGTCGCTCGATCCCATATTCGTAT
GATGGCT-4'

Strand 3:

5'-GACGAGTGTGCTAGTCGGATGCAATAGCTTAACGTGTCGTACACATTCAATTAACC
ACATGCTACTTCAAGAATCAGAGATGAGAGTGCCTTAACTGAGGACGGT-3'

Strand 4:

5'-ACGACTCTACGTGGAGATCAGTCCTGGGAATATGGGATCGAGCGACTAGGATTTTA
ATCGACT-3'

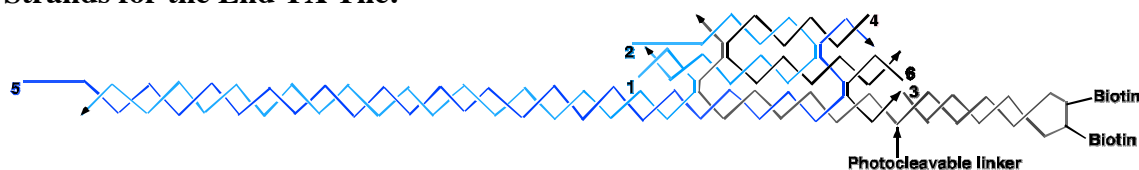
Strand 5:

5'-GACGAGTGTGCTAGCCATGTTAAGCTATTGCATCTGAATGTGTACGACACCATAACAT
ACTGACAATCCATCGCGCTGTCACGGTCACCGAGCTACCTACGT-3'

Strand 6:

5'-ATGTCGTTGAATGGTAGCTCGGTGACCGTGACAGCGCGATGGATTGTCAGTATCCA
GGACTGATCTCCACGTAGAGTCGT-3'

Strands for the End TX Tile:



Strand 1:

5'-ACTCACACTTCGTGCAGGTAGATGAACTAGGGACCGATGTCAAGTCGCGTCAGTG

ACTCAAGCGACGGAACAGACTTCTAGTGATTGCTGATGCTTCCTCTTGAATCTGCAT-3'

Strand 2:

5'-psoralen-ATTCAACGACATAGTAGGAGCAGCATAGATCCATAACTGATTGTATAGCAA TGTGAAGTGTGAGT-3'

Strand 3:

5'-TGATGCTAGTGAATTCTAGCGTGGCAGTT(Biotin)T(Biotin)TCTGCCACGCTAGAATTC ACTAGCATCA-photocleavablelinker-GATAGGATCATTCGTAGTTAGGTGTCTGAGTGCTC ATACATTCTACT-3'

Strand 4:

5'-AACTGTGTTCTTGGATCTATGCTGCTCGCTATAACAATCAGTTACTGTAGGCATGTCT CA-3'

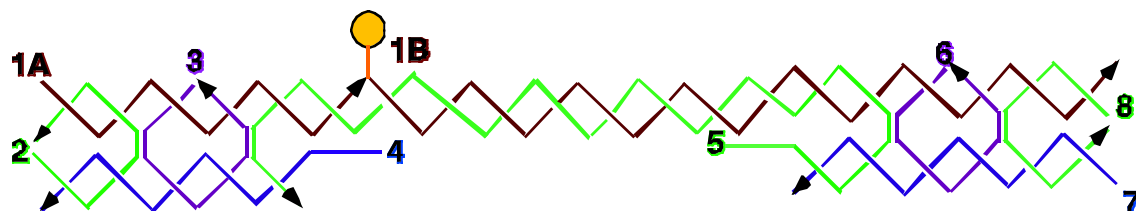
Strand 5:

5'-AGACCATATGCAGATTCAAGAGGAAGCATCAGCAAATCACTAGAAGTCTGTTCCGT CGCTTGAGTCACTGACGCGACTTGACATCGGTCCCTAGTTTCATCTACCTGCACATGAG CACTCAGACACCTAACTACGATACAGAGAACACAGTT-3'

Strand 6:

5'-TGAGACATGCCATGATCCTATC-3'

Strands for Two Types of Chelator DX Tiles:



Chelator DX 1

Strand 1A:

GATGCAAGCATACTTCAGTTCACGACTCATCG

Strand 1B:

5'-thio-CATTACAGACCATCGGACAGCTACATATAGTGATTGTGTATGACATT ACTCTACAATGTGCGGTGGTCCTAC-3'

Strand 2:

5'-GCTGTGGCTGGATGCTTGCATC-3'

Strand 3:

5'-GAAGTCTAGTGTCTGGAAC-3'

Strand 4:

5'-ACTGTTCTGCTCAGACACTAGCCAGCCACAGC-3'

Strand 5:

5'-ACTGTTTCATCGTCGCTGAGTAATGTCATACACAATCACTATATGTAGCTGTCCGATG
GTCTGTAAATGCGATGAGTCGTAGCA-3'

Strand 6:

5'-ATTGTAACCAATAGTAGCGCAC-3'

Strand 7:

5'-AGTTATCAGTCTACTATTGGTAGCGACGAT-3'

Strand 8:

5'-GTAGGACCACACTGATAACT-3'

Chelator DX 2

Strand 1A:

GATGCAAGCATACTTCAGTTCACGACTCATCG

Strand 1B:

5'-thio-CATTTACAGACCATCGGACAGCTACATATAGTGATTGTGTATGACATT
ACTCTACAATGTGCGGTGGTCCTAC-3'

Strand 2:

5'-GCTGTGGCTGGATGCTTGCATC-3'

Strand 3:

5'-GAAGTCTAGTGTCTGGAAC-3'

Strand 4:

5'-AGCACACTGCTCAGACACTAGCCAGCCACAGC-3'

Strand 5:

5'-ACGACACATCGTCGCTGAGTAATGTCATACACAATCACTATATGTAGCTGTCCGATG
GTCTGTAAATGCGATGAGTCGTAGCA-3'

Strand 6:

5'-ATTGTAACCAATAGTAGCGCAC-3'

Strand 7:

5'-AGTTATCAGTCTACTATTGGTAGCGACGAT-3'

Strand 8:

5'-GTAGGACCACACTGATAACT-3'