

DNA Brick Crystals with Prescribed Depths

Supplementary Information 2 - Sequences

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Note: all sequences are marked by their 5' ends corresponding to the design diagrams.

S1.1 Z-6H×6H×32B-cuboid crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTTAACTGTTGTGCCTAT	1,23
GTTTACTTAGGGATGGTACGAACTCAACGCAC	1,39
GCTCGGGTAGTCTCAAGAAGATAGAGACATA	3,23
AATTCGCTAAACCGGAAAAAGTATCCGCATCTC	3,39
ACTCAGTGATCGAGTATTCATGTGCCTTTTCGAACGGTGACACACTT	5,39
GTGTTCAATCAGAGTAGCGGAAATATGGCCGC	7,23
TTCGGTGCGCAGCGGGCCGCTGTAACGCTTAATCAGCCCGGGCTTTT	7,39
GCTAATACGCTGAGCGATGCTGTTGTTGCGGG	9,23
GTTTCTGAACCGAAACCGGGCTAATGAAGCC	9,39
GTGACCCAGAGACTGTCTGATGCACCGGGAGCCAGCCACTTAGCTGT	11,23
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGGGTGATGCCAAAAGGT	13,23
GGATATGGAGCTGGAACGGCTCTGATTTCTAG	13,39
TGACCTGGTATAATGGCGGAGCTACCTGACCT	15,23
CAATCATACTGCCACGGAAGGATTCATCCCC	15,39
TTAAGAATGATCGCACAGTCTTTGAGATGTTGAACATCTTTTGGTTG	17,39
GCGTAAAGATCTCGCATTCTGGTGCCAAAAC	19,23
GCCGACTCGTTCAAGCACTATTATCTGGCTATAAAAAGATGTCTGTCAG	19,39
CCAAAGCTTAGCATAAAGCGGCTGGACGACCC	21,23
GCCGTGCGACGACTGACCGTCGAGCCCTGCGC	21,39
GACAAAACGCATATCCTCGGCCCGCAAATTAATAGTCGATTACGCTTC	23,23
GCCTAAAGGTCTTCACGGTAATCGGGGGTGACTCCGGCCTCCTTGG	25,23
TATATTAGCTTACCCTCGCGTGGCAGCTCT	25,39
ACGACTCGTCGAACGAGGACTGTTCTACATAG	27,23
TGACTTGGACGAGGTTTCACTGGGCGCTATAC	27,39
AGGAACTCGAGGGGCTCCTGTCTGTGAGCCCAGCGACCACTTCTG	29,39
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	31,23
CTTGGGGGTGATATACCTCACTAACTCCTTCTAATGTGACTAAGCGT	31,39
TAACCTCAAAGGAAACCGATATCCATATC	33,23
GATGTAAGCGGACATCTATGCGCCGATATCC	33,39
GTTCAAACCTAGGGGGCTTCTGACCAAAGCTCATGAGAATTGTAACAG	35,23
GTATGATTATAGGACACAACAGTTAACCGTGAGGGGTACCTCCCGGT	0,15
CTATCTTCGTGCGTTGAGTTTCGTATATGCTCTGTATTAGCGTTCGGT	2,15
CACCGTTCGAGATGCGGATACCTTAAAGTGTGATGAACACCCCGCTGC	4,15
GGGCTGATTAAGCGTTCCTGAGTGAAAAGGGACATGAATACTCGAT	6,15
ACAGGCGGAAAAGCCAAAGACTGTGCGATCA	6,31
ATTTCCGCGGTTTCATAGCGAATTTGAGACTACCCGAGCTCCGGTTT	8,15
TAGCCCGGGCGGCCATCCAGGTCAGTGGGACG	8,31
AACAGCATAACAGCTAAAAGTAAACGAGCCACTTAACCTGGCCATCCCT	10,15
GTGGCTGGCCCGCAACACACTGACTTCCAGCT	10,31
GAGGGAACACCTTTTGCATCAGACAGTCTCT	12,15
GGCATCACCTAGCTACGTTTGTCTTAATTTG	12,31
TAGTCCGCTAGAAATTCAGAAACCGCTCAGC	14,15
CAGAGCCGAGGTCAGGAGCTTGGGTCAGTCGT	14,31
AGATGTTCCGGGATGAGCACCGAATACTCTGA	16,15
ATCCTTCCAACCAAACCTTACGCGCTTGAAC	16,31
CATCTTTTATAGCCAGTCTTAAAAACATCTC	18,15
ATAATAGTCTGACAGAGACAGGGAGCCCCTCG	18,31
CACCAGAAGCGCAGGGTATGATTGCCATTATA	20,15
CTCGACGGAGTTTGGCGAGTCGTAACCTCGT	20,31
CCAGCCGCGAAGCGTACCATATCCTCGCGATC	22,15
ATCGACTAGGGGTCTGCTTTAGGCTGGGTAAG	22,31
ATTACCGTCCAAGGAGGCGGGCCGAGGATATG	24,15
GCCGGAGTACCCCGGTTTGAACGAGCTTTGGTCAGAAGCCCCCTA	24,31
AACAGTCCAGACGTGCCGACGGCTTATGCTA	26,15
CACGCGAGCTATGTAGTGGAGTTAGATGTCGCTTACATCGTTTCCCT	26,31
GTCGCTGGGTATAGCGGAGTCGGCTGCGAGAT	28,15
CCCAGTGACAGAAGTGTCTTTCTGTATATACCCCCAAGCCACCGCA	28,31
TAGTGAGACGCTTAGTCACATAGAAGGAGTAGTTTCCCTGCTCGACA	30,31
GGCGCATACTAATCACAACCTACTGGGATATCGCCAAGTCATCGTTTCCA	32,31
AATTCCTCAGAAATAGGGATAGCTGCTGTTTACCTAATATAGGAAGGAC	34,31

S1.2 Z-8H×8H×32B-cuboid crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTAACTGTTGTGTCCTAT	1,23
GTTTACTTAGGGATGGTACGAACTCAACGCAC	1,39
GCTCGGGTAGTCTCAAGAAGATAGAGAGCATA	3,23
AATTCGCTAAACCGGAAAAGTATCCGCATCTC	3,39
ACTCAGTGATCGAGTATTCATGTCGCCCTTTTC	5,23
GAACGGTGACACACTTGTGTTCAATCAGAGTA	5,39
GCGGAAATATGGCCGCTTCGGTGCGCAGCGGGCCCTGTAACGCTTA	7,39
ATCAGCCCCGGGCTTTTGCTAATACGCTGAGCG	9,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAACCCGGGCTAATGAAGCC	9,39
GTGACCCAGAGACTGTCTGATGCACCGGGAG	11,23
CCAGCCACTTAGCTGTGTGTCAGTGTGATCGCGA	11,39
GTCCCTCTAGCTAGGGTGATGCCAAAAGGGT	13,23
GGATATGGAGCTGGAACGGCTCTGATTTCTAG	13,39
TGACCTGGTATAATGGCGGAGCTACCTGACCTCAATCATACTGCCAC	15,23
GGAAGGATTCATCCCTTTAAGAATGATCGCACAGTCTTTGAGATGTT	17,23
GAACATCTTTTGGTTGGCGTAAAGATCTCGCA	17,39
TTCTGGTGCCAAAACCTGCCGACTCGTTCAAGC	19,23
ACTATTATCTGGCTATAAAAGATGTCTGTGTCAG	19,39
CCCAAGCTTAGCATAAGCGGCTGGACGACCCC	21,23
GCCGTGCGACGACTGACCGTCGAGCCCTGCGC	21,39
GACAAAACGCATATCCTCGGCCCGCAAATTAATAGTCGATTACGCTTC	23,39
GCCTAAAGGTCTTCCACGGTAATCGGGGGTG	25,23
ACTCCGGCCTCCTTGGTATATTAGCTTACCCACTCGCGTGGCAGCTCT	25,39
ACGACTCGTGAACGAGGACTGTTCTACATAG	27,23
TGACTTGGACGAGGTTTCACTGGGCGCTATAC	27,39
AGGAAACTCGAGGGGCTCCCTGTCTGTGTCGAGC	29,23
CCAGCGACCACTTCTGGAGAAAAGATGCGGTGG	29,39
CAGTAGTTGTGATTAGCTTGGGGGTGATATACCTCACTAAACTCCTTC	31,23
TAATGTGACTAAGCGTAACTCCAAAGGAAACCAGCTATCCCATATTC	33,23
GATGTAAGCGGACATCTATGCGCCCGATATCC	33,39
GTTCAAACCTAGGGGGCTTCTGACCAAAGCTCA	35,23
TGAGAATTGTAAACAGGAACAGCTTAGAGCAG	35,39
TCAAGTTCGGATACGCTACCTATGGACGGGGA	37,23
TATGCGACACCATGATCCGGATGAGTTATGAA	37,39
GATCGTCATTGGGATATAACAATCTCGAAGTAAAGCATAGCACCTGCG	39,39
AAGATAGGGTCACAGCAGTAATACCTCTACCT	41,23
TGTTGGACGTAAGCGTGAATAACGACCAGAAAAGCACGAGGATTATCA	41,39
CGTGACCTCGAAATAATCGTTAGTTTCTCGA	43,23
CTGTTCCGAAACAGGCAGCGGTAGCCTCCCAC	43,39
TTAACCTATGCCTTGGTAACTGATTTTCTCCT	45,23
GGTTCGCTAGCTGATCTATGGTCCTTAATAT	45,39
AACCCTCGGAGGCAAGGGGAGAGGGTGA AACAGGCCACCTGGCTCGGG	47,23
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATACTCGTCAAGCCTGCTTT	49,23
CCATAGCTAACCCGATTGTGATTCCACGTGA	49,39
GTCGTACTTAAAGCAAACGTGGGAGTGCCCGA	51,23
GCGTCTGAGGTATGGTTTACCCACTATGTTGT	51,39
CTCAAGTGCTAACAGTACTAATATCCATAAC	53,23
TGTGCACGTCAGGGATTCTACCGGTGGCCGT	53,39
TGCTACATCAGTTTCTTGCACCTCTGGGGAAACTATACTTACGCACT	55,39
GGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	57,23
ATTGTAGGCACAATTTTGTATTGATCACATACATGGGCAATAAAGCT	57,39
GTAGCCTGAGGCGCGCAGCTGCACCGTGTAC	59,23
CTTGATATTGAGGGACACCTCGTCAATTCGGAT	59,39
AAACCATACTGAGGGCAGTGGGCGAGATCGGC	61,23
TAATCATTAGTGCTCCCTTAGTTAGTTCATAG	61,39
TTCATTAGGGGCGGAAATGGGCTGGTGCCCCACGTACAGTAACCAACC	63,23
GTATGATTATAGGACACACAGTTAACCTGACCAGGTCAAGGTCAAGG	0,15
CTATCTTCGTGCGTTGAGTTTCGTATATGCTCTGAGGGAACTTCCAGCT	2,15
GACATGAAGAGATGCGGATACTTTGAAAAGCGGGGTCACACAGCTAA	4,15
ACAGGCGGTACTCTGAATGAACACTAAGCGTTGGGCTGATCCCGCAAC	6,15
TAGCCCGGGTTCGGTATTTCCGCCCCGTGCGCACCGAAGCGGCCAT	8,15
TCAGAAAACGGCTTCATGCGGGCCGAGGATATG	8,31
GTATTAGCTCGGATCCACCGTTCTACTCGATCACTGAGTAAGTGTGT	10,15
ACACTGACCGCTCAGCAGCTTGGGTCACTCGT	10,31
GCATCAGACTAGAAAATAGCGAATTTTGTAGACTACCCGAGCTCCGGTTT	12,15
CAGAGCCGCTCCCGGTACCAGAAAATAGCCAG	12,31

GGCATCACGTGGGACGAAGTAAACGAGCCACTTAACTGGCCATCCCT	14,15
TATGATTGACCCTTTTATCCTTCCCAACCAAA	14,31
TTCTTAAAAACATCTCTAGCTCCGCCATTATA	16,15
AAAGACTGTGCGATCAAACACTGGTATATCA	16,31
GAGTCGGCTGCGAGATCCATATCCCCTAGCTA	18,15
CTTTACGCGCTTGAACAGTTTCTCAGAAGTG	18,31
CCAGCCGCTGACAGAGTGGCTGGCAGTCTCT	20,15
CATCTTTTGGGGTCGTCGAGTCGTAACCTCGT	20,31
ATCGACTAGCGCAGGGAACAGCATAAAAGCCC	22,15
CTCGACGGGAAGCGTACTTTAGGCCCAAGGAG	22,31
CACGCGAGTGGGTAAGCGTTTGTCTTAATTTG	24,15
CTAATATAAGACGTGCAGATTGTATATCCCAA	24,31
ATTACCGTGTATAGCGCGCACGGCTTATGCTA	26,15
CCCAGTGACACCCCGGAACCTTGAATCATGGT	26,31
AACAGTCCCACCGCAATAATAGTAGTTTTGG	28,15
TCTTCTCCTATGTAGGTTTGAACCTGTTTAC	28,31
GACAGGGAGAAGGAGTAGATGTTTCGGGGATGA	30,15
TTAGTGAGGCTCGACATCACATTAGATGTCCG	30,31
TGGAGTTAGAATATGGCCCCAAGCTAATCAC	32,15
GATAGCTGGTTTCTTCGAGGGTTTGTTCAC	32,31
GGTCAGAAGGATATCGGTCGCTGGGCCCTCG	34,15
GGCGCATATGAGCTTTTAGGTTAAATCAGCTA	34,31
CATAGGTAAGTCTTACCAAGTCATCGTTTGA	36,15
AGCTGTTCTCCCGTCGGTACACGGCCTGTTT	36,31
GCTATGCTTTCATAACGCCGGAGTGGAAGGAC	38,15
TCATCCGGCGCAGGGTCTATCTTACGCTTAC	38,31
CTCGTGCTTCTGGTCTGACGATCTTACTTCG	40,15
GTTATTTCTGATAATCGAGTGCAAAGAACTG	40,31
GTATTACTGTGGGAGGGTCGCATAGCGTATCC	42,15
CTACCGCTAGGTAGAGCACTTGAGATCCCTGA	42,31
CTAACGATATATTAAGAATTCTCAGCCCCCTA	44,15
GACCATAGTCGAGAAAAGTACGACACCATACC	44,31
ATCAGTTACCCGAGCCCTTACATCACGCTTAG	46,15
AGGTGGCCAGGAGAAAGGGCACTCATCGGGT	46,31
GAGGCGGCAAAGCAGGCCTCTCCCTTGCCCT	48,15
CTTGACGAGTATAACCCTAATGAATGGGGACCAGCCCATTCCGCC	48,31
TCCCACGTTACGTGGGCGGAACCCCAAGGCA	50,15
AATGCACATCGGGCACTATGGTTTGGAGCACTAATGATTAGCCCTCAG	50,31
TAATTAGTACAACATACGGAACAGTATTTTGA	52,15
GTGGGTAAGTTATGGACAGGCTACGTCCCTCAATATCAAGGCGGCCT	52,31
AGTATAGTACGGCCACGTCCAACAGCTGTGAC	54,15
CGGTGAGAAAGTGCATCCAAACCAAATGTGCCTACAATCTAATCCC	54,31
CGAATCAAAGCTTTATTGCCATGTATGTGATATGTAGCATTCCCCAG	56,31
GACGAGGTGCAACCTAGCAATTGCATCCGAATCGTGCAAACTGTTAG	58,31
TAACATAAGGTGACACGGTGCAGCTCTATGAACTCAGACGCTTGCTTGA	60,31
ACTGTACGGCCGATCTCGCCCACTGGTTGGTTAGCTATGGTGCCGAGG	62,31

S1.3 Z-10H×10H×32B-cuboid crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTAACTGTTGTGTCCTAT	1,23
GTTTACTTAGGGATGGTACGAACTCAACGCAC	1,39
GCTCGGGTAGTCTCAAGAAGATAGAGAGCATA	3,23
AATTCGCTAAACCGGAAAAGTATCCGCATCTC	3,39
ACTCAGTGATCGAGTATTATGTCGCCTTTTC	5,23
GAACGGTGACACACTTGTGTTCAATCAGAGTA	5,39
GCGGAAATATGGCCGCTTCGGTGCGCAGCGGG	7,23
CCGCTGTAAACGCTTAATCAGCCCGGGCTTTT	7,39
GCTAATACGCTGAGCGATGCTGTTGTTGCGGGTTCGAAACCGGAAC	9,39
CCGGGCTAATGAAGCCGTGACCCAGAGACTG	11,23
TCTGATGCACCGGAGCCAGCCACTTAGCTGTGTCAGTGTGATCGCGA	11,39
GTTCCCTCTAGCTAGGGTGTATGCCAAAAGGGT	13,23
GGATATGGAGCTGGAACGGCTCTGATTTCTAG	13,39
TGACCTGGTATAATGGCGGAGCTACCTGACCT	15,23
CAATCATACTGCCACGGAAGGATTATCCCC	15,39
TTAAGAATGATCGCACAGTCTTTGAGATGTT	17,23
GAACATCTTTGGTTGGCGTAAAGATCTCGCA	17,39
TTCTGGTGCCAAAAGTCCGACTCGTTCAAGCACTATTATCTGGCTAT	19,23
AAAAGATGTCTGTGACGCCAAGCTTAGCATAAGCGGTGGACGACCCC	21,23
GCCGTGCGACGACTGACCGTGCAGCCCTGCGC	21,39
GACAAACGCATATCCTCGGCCGCCAAATTA	23,23
TAGTCGATTACGCTTCGCCTAAAGGTCCTTCC	23,39
ACGGTAATCGGGGGTACTCCGGCTCCTTGG	25,23
TATATTAGCTTACCCACTCGCGTGGCAGTCT	25,39
ACGACTCGTGAACGAGGACTGTTCTACATAG	27,23
TGACTTGGACGAGGTTTCACTGGGCGCTATAC	27,39
AGGAAACTCGAGGGGCTCCCTGTCTGTGAGCCCAGCGACCACTTCTG	29,39
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	31,23
CTTGGGGGTGATATACCTCACTAAACTCCTTCTAATGTGACTAAGCGT	31,39
TAACCTCAAAGGAAACCAGCTATCCCATATTC	33,23
GATGTAAGCGGACATCTATGCGCCCGATATCC	33,39
GTTCAAAGTGGGGGCTTCTGACCAAAGCTCA	35,23
TGAGAATTGTAAACAGGAACAGCTTAGAGCAG	35,39
TCAAAGTTCGGATACGCTACCTATGGACGGGGA	37,23
TATGCGACACCATGATCCGGATGAGTTATGAA	37,39
GATCGTCATTGGGATATACAATCTCGAAGTAAAGCATAGCACCCCTGCG	39,23
AAGATAGGGTCACAGCAGTAATACCTCTACCTTGTGGACGTAAGCGT	41,23
GAAATAACGACCAGAAAGCAGAGGATTATCA	41,39
CGTGTACCTCGAAATAATCGTTAGTTTCTCGA	43,23
CTGTTCCGAAACAGGACGGTAGCCTCCCAC	43,39
TTAACCTATGCCTTGGTAACTGATTTTCTCCT	45,23
GGTTCGCTAGCTGATCTATGGTCCTTAATAT	45,39
AACCCTCGGAGGCAAGGGGAGAGGGTGAAACA	47,23
GGCCACCTGGCTCGGGAGTGCCCCCTCGGCA	47,39
GCCGCTCGGTTATACTCGTCAAGCCTGCTTTCATAGCTAACCCGAT	49,39
TGTGCATTCCACGTGAGTCTACTTAAAGCAA	51,23
ACGTGGGAGTGCCCGAGCGTCTGAGGTATGGTTTACCACTATGTTGT	51,39
CTCAAGTGCTAACAGTACTAATTATCCATAAC	53,23
TGTGCACGTCAGGGATTCTACCGGTGGCCGT	53,39
TGCTACATCAGTTTCTTTCACCTCCTGGGGAA	55,23
ACTATACTTACGCACTGGTTTGGAGGGATTAG	55,39
GCAATTGCTAGGTTGCATTGTAGGCACAATTT	57,23
TTGATTCGATCACATACATGGGCAATAAAGCT	57,39
GTAGCCTGAGGCGCGCAGCTGCACCGTGTACCTTGATATTGAGGGAC	59,23
ACCTCGTCAATTCGGATAAACATACTGAGGGCAGTGGGCGAGATCGGC	61,23
TAATCATTAGTGTCCCTTAGTTAGTTCATAG	61,39
TTCATTAGGGGCGGAAATGGGCTGGTGCCCA	63,23
CGTACAGTAACCAACCGGTGTACCTGTGGGTA	63,39
GGGCCGAGCGCTGGGCTTACATGTGCAAGTGA	65,23
AATATATGACTTGGTCGACCAGATCTGCTAGA	65,39
AACCACCAACATCCTCCTTGACACCTTTCAAT	67,23
TTTTAGTAAACACCAACAGAGCTGAACTTCC	67,39
CATGGTCGTTCTACTGTCTGATGATCATAGGATCAAACATAAATACAGC	69,39
GTACCGCCAGTTCTTGTCTTATTGGCGATCG	71,23
TGCATTCCAATGTTTGTGATGGCCGCTGGCTTATTAAGACGGCCGGTGT	71,39
AACCACATAAAGTCTCCGCCTCCGGTAGTCA	73,23

ACGCGGAACGTAATGGCAGAAAGTCTATACCC	73,39
GACAAAAACAGATTTGTACCGGGGTGAACAGC	75,23
ACGTGCGGCTTCTCTGTATCGCCTTGTGTAT	75,39
TATACTTTGCGGGGGGGTTCGAGCGCTCCACT	77,23
GTAGTGGCCGGCCATCGTGGACTAGAAAAGCGC	77,39
CGGCAATCTGAATATCGCTACCTCCGATACGCGAACCCAGAACCATTTA	79,23
AGAGTAGGGGCAGTGCAGCAAAACAGTGGGACATCTCGGAAAGGTG	81,23
TCCCAAGTGAAGTAAAAAAGGAATTATGAGA	81,39
TCATGTGGGATCCTAAAGTTTCTGGTAGACCT	83,23
CGTAGGCTAGAGCGGTGATATCCACGGTACAT	83,39
TCGTTTACTGCACGGAACGAGAGTGTGGCAT	85,23
AAGCAAGAGAAAACCTAACTTGGGGACTAAGAT	85,39
CGTTGCGAATTTTCGCGGATTTCGCATGTAGC	87,23
CGAACGAGATCGTCTAGACGACGGATCTCCT	87,39
GCATGCCGGTAGCACCGTCAAATATGCGTGTCTTTAACGCTTTAGACC	89,39
CAGCTTGACGCAAGACGCTAATCACTGGGCAG	91,23
GGTCTAGGTTGCAGAAAACCTACCCCTAAGCAGCGTAGTAAGGGTTA	91,39
CAAGTTCTGCGGCGGTGTACGAATGAGTCC	93,23
GGCCTTGACATGACATTCTCCACCCGTCCAA	93,39
CACCAGCAGGATGTCGAGCCCAACTTGACA	95,23
GTAGTACAGTATCTTTTTTCATGGCGGCGATG	95,39
TCGCCGTTTGTCTGCGTGCCTACGGCTTTTAT	97,23
ATAGCGTAGACCGGACAACCCCGTAAATCGTA	97,39
AGAGTCGTTATGCCCCCGGTTCTGCTAGAGTGGGACTGGATCAGATG	99,23
GTATGATTATAGGACACAACAGTTAACCGTGACACCAGAAGCTTGAAC	0,15
CTATCTTCGTGCGTTGAGTTCGTATATGCTCTTCTTAAACAACCCAAA	2,15
GACATGAAGAGATGCGGATACCTTTGAAAAGGCCAGGTCAAGTGGGACG	4,15
GCACCGAATACTCTGAATGAACACCCCGCTGCGAGGGAACCTCCAGCT	6,15
TCAGAAAACAAAAGCCCGGGCTGATGTTCCGGTTAGCCCGGCTCCCGGT	8,15
ACACTGACACAGCTAAGTATTAGCCCCGCAACAACAGCATCGCTCAGC	10,15
GTGGCTGGTCGCGATCGACAGGGAGCCCTCG	10,31
GGGGTCACTAGAAAATACAGGCGGGCGGCCATATTCCGCTAAGCGTT	12,15
CAGAGCCGAGTCTCTCGAGTCGTAACCTCGT	12,31
GGCATCACGGGATGACACCGTTCTACTCGATCACTGAGTAAGTGTGT	14,15
ATCCTTCCACCCTTTTATTACCGTTGGGTAAG	14,31
TAGTCCGTGCGAGATAGCGAATTTGAGACTACCCGAGCTCCGGTTT	16,15
CTTTACGCAGGTCAAGCGTTTGTGGAAGCGTA	16,31
AAAGACTGATAGCCAGAAGTAAACGAGCCACTTAACTGGCCATCCCT	18,15
ATAATAGTAACATCTCCATCTTTTCAGTCGT	18,31
AGCTTGGGGGGTTCGTGAGTCGGCAGTTTTGG	20,15
CCAGCCGCTTATGCTATGACGATCTTACTTCG	20,31
GCGGGCCGGCGCAGGGAGATGTTCTGCGATCA	22,15
CTCGACGGTTAATTTGGAACCTGAATCATGGT	22,31
GCCGGAGTGGAAGGACTATGATTGCCATTATA	24,15
CTTTAGGCCCAAGGAGGTTTGAACCTGTTTAC	24,31
AACAGTCCAGACGTGCCATATCCCTAGCTA	26,15
CACGCGAGCTATGTAGTGGAGTTAGATGTCCG	26,31
GTCGCTGGGTATAGCGGCATCAGAGGCTTCAT	28,15
CCCAGTGACAGAAGTGTCTTCTCGTATATCA	28,31
TCACATTAGAAGGAGTAGTTTCTGCTCGACA	30,15
TTAGTGAGACGCTTAGCTTGACGAGTATAACC	30,31
AACTACTGGGATATCGCCAAGTCATCGTTCGA	32,15
GGCGCATACTAATCACCGAGGGTTCCCGAGCC	32,31
GATAGCTGCTGCTACTAATATACACCCCG	34,15
AGCTGTTTGAATATGGTAGGTTAAATCAGCTA	34,31
GGTCAGAATTCATAACATCGACTAAGGATATG	36,15
TCATCCGGTGAGCTTTGGTACACGGCCTGTTT	36,31
CATAGGTACGCAGGGTCCGACGGCCTGACAGA	38,15
GCTATGCTTCCCCGTCCCTATCTTTCTGGTC	38,31
GTATTACTACGCTTACAGATTGTATATCCAA	40,15
GTCCAACAAGGTAGAGCAGGCTACGTGACACG	40,31
CTAACGATTGATAATCGTCGCATAGCGTATCC	42,15
CTCGTGCTTCGAGAAAGCAATTGCTATGTGAT	42,31
ATCAGTTAGTGGGAGGAATTCTCAGCCCCCTA	44,15
CTACCGCTAGGAGAAAATGTAGCAAGTGCCTA	44,31
CCTCTCCCATATTAAGCTTACATCGTTTCTCT	46,15
GACCATAGTGTTCACCACTTGAGATCCCTGA	46,31
AGCTATGGTGCCGAGCCCCCAAGCCACCGCA	48,15

GGGCACTCATCGGGTTAATGCACATCGGGCAC	48,31
GTGGGTAAACCATACCGAGGCGGCAAAGCAGG	50,15
TCAGACGCACAACATATCATAACGACAGTAGAA	50,31
AGTACGACACGGCCACAGGTGGCCCTTGCCTC	52,15
CGGTGAGATTGCTTATGGTGGTTTGGGTGTT	52,31
TAATTAGTCTAATCCCAGGAAACCCCAAGGCA	54,15
TCCAAACCGTTATGGACTCGGCCCGACCAAGT	54,31
GAGTGCAAAGCTTTATCGGAACAGTATTTGCA	56,15
TGCCCATGTTCCCGAGCTAATGAAGGTTGGTT	56,31
CCTACAATGTCCTCAGTTATTTGCGTGTGAC	58,15
ATATCAAGAAATTGTGGACGAGGTGGAGCACT	58,31
TATGGTTTGCCGATCTGTGCAGCTGCGCGCCT	60,15
CGCCCACTGCCCTCAGGATTGCCGGCGTATCG	60,31
CAGCCCATCTATGAACCGAATCAAGCAACCTA	62,15
TAACTAAGTGGGGCACAGAGTATAGATGGCCG	62,31
ACATGTAATACCCACAAGTATAGTAGAAACTG	64,15
GGTACACCTCACTTGCTTTTGTGAGGAGAAG	64,31
GTGTCAAGTCTAGCAGCGTGCACAACGTGTTAG	66,15
ATCTGGTCATTGAAAGATGTGGTTCCATTACG	66,31
TAGTTTGAGGAAGTTCTCCACGTTACAGTGG	68,15
AGCTCTGTGCTGTATTGGCGGTACCAAACATT	68,31
CGTCTTAATAAGCCACCGACCATGTCCATGA	70,15
GCGGCCATACACCGGCTATTTGACGGTGCTAC	70,31
AATAAGGAGGGTATAAGTACTAAAAGAGGATGT	72,15
ACTTTCTGCGATCGCCTCGCAACGAGGACGAT	72,31
GGAGGCGGATACACAACATATATTGCCAGCG	74,15
GGCGATACTGACTACCGTAAACGATAGGTTTC	74,31
CCCCGGTAGCGCTTTCAGTGTACGTTCCGCC	76,15
TAGTCCACGCTGTTACCACATGAACCGCTCT	76,31
GCTCGACCTAAATGGTAATGATTAATCCGAAT	78,15
TCTGGTTCAGTGGAGCCCTACTCTTACTTGC	78,31
TTGGGTGACACCTTTCGAGGTAGCGATATTCA	80,15
CGAGATGTCCCACTGTACGACTCTACTCTAGCAGAACCGGGGGGCATA	80,31
CAGAACTTCTCATAAGCCACTACCCCCGCA	82,15
TTCCTTTTAGGTCTACAACGGCGAGTCCGGTCTACGCTATCGCGAGCA	82,31
ACTCTCGTATGTACCGCCGACGTCAAATCTG	84,15
TGGATATCATGCCAGCTGCTGGTGAAGATACTGTACTACCGACATCC	84,31
CGAATCGCATCTTAGTTTCCGCGTACGACTTT	86,15
CCCCAAGTGCTACATGGGAAC TTGATGTCATGTCAAGGCCCCCGCCGA	86,31
GCGTTAAAAGGAGATCGGAATGCACAAGAACT	88,15
CGTCGTCTGGTCTAAATCAAGCTGTCTGCAACCTAGGACCGTCTTGCG	88,31
GGTAGGTTTAAACCTTACTACGCTGCTTAGGGCGGCATGCAGCACGCA	90,31
GTGGGAGACTGCCAGTGATTAGCTTGACGGCTCGTTCCGGCGAAAAT	92,31
CCATGAAAGGACTCATTCGTACAGCATCGCCGCTTGCTTCCGTGCA	94,31
ACGGGGTTTGTCAAGTTGTGGGCTTACGATTTAGCCTACGTTAGGATC	96,31
CCAGTCCCATAAAAAGCCGTACGCACATCTGATACTTGGGAGCACTGCC	98,31

S1.4 Z-6H×6H×128B-spiral crystal sequences

CCAGGTTAAGTGGCTC	0,24
AATCATACTCACGGTT	1,39
AACTGTTGTGCTCTATGTTTACTTAGGGATGGTACGAACTCAACGCAC	1,55
GCTCGGGTAGTCTCAAGAAGATAGAGAGCAT	1,71
AATTCGCTAAACCGGAAAAGTATCCGCATCTCACTCAGTGATCGAGTA	1,87
TTCATGTCGCCTTTTCGAACGGTGACACACTT	1,103
GTGTTCAITCAGAGTAGCGGAAAATATGGCCGCTTCGGTGCGCAGCGGG	1,119
CCGCCTGTAACGCTTAATCAGCCCGGGCTTTT	1,135
GCTAATACGCTGAGCG	2,40
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAACCCGGGCTAATGAAGCC	3,23
GTGACCCAGAGACTGTCTGATGCACCGGGAG	3,71
CCAGCCACTTAGCTGTGTCAGTGTGATCGCGA	3,87
GTTCCCTCTAGCTAGGGTGTGCCAAAAGGGT	3,103
GGATATGGAGCTGGAACGGCTCTGATTTCTAG	3,119
TGACCTGGTATAATGG	4,24
CGGAGCTACCTGACCTCAATCATACTCCACGGAAGGATTCATCCCC	5,39
TTAAGAATGATCGCA	5,71
CAGTCTTTGAGATGTTGAACATCTTTTGGTTGGCGTAAAGATCTCGCA	5,103
TTCTGGTGCCAAAAGTCCGACTCGTTCAAGCACTATTATCTGGCTAT	5,135
AAAAGATGTCTGTGACGCCAAGCTTAGCATAA	7,23
GCGGCTGGACGACCCCGCGTGCACGACTGA	7,39
CCGTCGAGCCCTGCGCGACAAACGCATATCCTCGGCCCGCAAATTA	7,71
TAGTCGATTACGCTTCGCCTAAAGGTCTTCC	7,87
ACGGTAATCGGGGTGACTCCGGCTCCTTGGTATATTAGCTTACCCA	7,103
CTCGCGTGGCAGTCTACGACTCGTCGAACGA	7,119
GGACTGTTCTACATAGTACTTGGACGAGGTTTCACTGGGCGCTATAC	7,135
AGGAAACTCGAGGGGCTCCTGTCTGTGAGC	9,55
CCAGCGACCACTTCTGGAGAAAGATGCGGTGG	9,71
CAGTAGTTGTGATTAGCTTGGGGGTGATATAC	9,87
CTCACTAAACTCCTTCTAATGTGACTAAGCGT	9,103
TAACCTCAAAGGAAACCACTATCCATATC	9,119
GATGTAAGCGGACATCTATGCGCCCGATATCC	9,135
GTTCAAAGTGGGGCTTCTGACCAAAGCTCATGAGAATTGTAACAG	11,55
GAACAGCTTAGAGCAGTCAAGTTCGGATACGCTACCTATGGACGGGA	11,87
TATGCGACACCATGATCCGGATGAGTTATGAAGATCGTCATTGGGATA	11,119
TACAATCTCGAAGTAAAGCATAGCACCCCTGCG	11,135
AAGATAGGGTCACAGC	12,24
AGTAATACCTCTACCTTGTGGACGTAAGCGT	13,39
GAAATAACGACCAGAAAGCACGAGGATTATCACGTGTACCTCGAAATA	13,55
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	13,71
AGCGGTAGCCTCCACTTAACTATGCCTTGGTAACTGATTTTCTCT	13,87
GGTCCGCTAGCTGATCTATGGTCCTTAATAT	13,103
AACCCTCGGAGGCAAGGGGAGAGGGTGAAACA	13,119
GGCCACCTGGCTCGGGAGTGCCCCCTCGGCA	15,23
GCCGCCTCGGTTATACTCGTCAAGCCTGCTTT	15,39
CCATAGCTAACCCGATTGTGATTCCAGTGCAGTACTTAAAGCAA	15,71
ACGTGGGAGTGCCCGAGCGTCTGAGGTATGGT	15,87
TTACCCACTATGTTGTCTCAAGTGCTAACAGT	15,103
ACTAATTATCCATAACTGTGCACGTCAGGGATTCTACCGGTGGCCGT	15,119
TGCTACATCAGTTTCTTTGCACTCCTGGGGAA	15,135
ACTATACTTACGCACTGGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	17,39
ATTGTAGGCACAATTTTGTGATCGATCACATACATGGGCAATAAAGCT	17,103
GTAGCCTGAGGCGCGCAGCTGCACCGTGTACCTTGATATTGAGGGAC	17,135
ACCTCGTCATTCGGATAAACCATACTGAGGGC	19,23
AGTGGGCGAGATCGGCTAATCATTAGTGCTCCCTTAGTTAGTTCATAG	19,39
TTCATTAGGGGCGGAAATGGGCTGGTGCCCA	19,55
CGTACAGTAACCAACCGGTGTACCTGTGGGTAGGGCCGAGCGCTGGGC	19,103
TTACATGTGCAAGTGAAATATATGACTTGGTC	19,119
GACCAGATCTGTAGAAACCAACATCCTCCTTGACACCTTCAAT	19,135
TTTTAGTAAACACCAACAGAGCTGAACTTCC	21,23
CATGGTCGTTCTACTGTCTGATGATCATAGGA	21,39
TCAAATAAATACAGCGTACCGCCAGTTCTTG	21,55
TCCTTATGGCGATCGTGCATTCCAATGTTGATGGCCGCGTGGCTTA	21,71
TAAAGACGGCCGGTGAACCACATAAAGTCGT	21,87
CCGCCTCCGGTAGTCAACGCGGAACGTAATGG	21,103
CAGAAAGTCTATACCC	21,119

GACAAAAACAGATTTGTACCGGGGTGAACAGC	21,135
ACGTGCGGCTTCTCCT	23,23
GTATCGCCTTGTGATTATACTTTGCGGGGGGGTTCGAGCGCTCCACT	23,55
GTAGTGGCCGGCCATCGTGGACTAGAAAGCGCCGGAATCTGAATATC	23,87
GCTACCTCCGATACGCGAACCAGAACCATTTA	23,103
AGAGTAGGGGCAGTGC	24,120
TCAGCCAAACAGTGGGACATCTCGGAAAGGTGTCCCAAGTGCAAGTAA	25,23
AAAAGGAATTATGAGATCATGTGGGATCCTAA	25,39
AGTTTCTGGTAGACCTCGTAGGCTAGAGCGGTGATATCCACGGTACAT	25,55
TCGTTTACTGCACGGAACGAGAGTGTGGCATAAGCAAGAGAAACCTA	25,71
ACTTGGGGACTAAGATCGTTGCGAATTTTCGCGGATTTCGCATGTAGC	25,87
CGAACGAGATCGTCT	25,103
AGACGACGGATCTCCTGCATGCCGGTAGCACC	25,135
GTCAAATATGCGTGCTTTAACGCTTTAGACC	27,23
CAGCTTGACGCAAGACGCTAATCACTGGGCAG	27,39
GGTCTAGGTTGCAGAAACCTACCCCTAAGC	27,55
AGCGTAGTAAGGGTTACAAGTTCCTGCGGCGG	27,71
CTGTACGAATGAGTCC	27,119
GGCCTTGACATGACATTCTCCACCCGTCCAA	27,135
CACCAGCAGGATGTGC	28,88
AGCCCAAACTTGACAGTAGTACAGTATCTTTTTTCATGGCGGCGATG	29,39
TCGCCGTTTGTCTCGCTGCGTACGGCTTTTATATAGCGTAGACCCGGAC	29,71
AACCCCGTAAATCGTA	29,103
AGAGTCGTTATGCCCCCGGTTCTGCTAGAGTGGGACTGGATCAGATG	29,135
TTCAAGTATTCGGTGACCTCCCCGATTACAA	31,23
CGCGTTACCAAGTAACGTATGTACGACGCGATGCGAGTGAACGGGTG	31,39
GATGAATTTGCTTCGGGGCCAGGCGATCTAAG	31,55
TCTGGCGCGTGAGGACACGTAAGTTGAAGTAG	31,71
GAAGCTTTTTCTAGCCATAGCATCGACACTACGACCTGCTTTTCGACA	31,103
CGGACTGCATTCTGGACAGTAACTGCATTAAC	31,119
TACGTGCTCCCAACATAAGTGACGTCTCAGCAGTTGAAAATTATCTC	31,135
GATAAGCAGAAGGACCTGTATAACTGGCAAGA	33,23
GACAAGGCCGCTTCAGAAAAGGATAGCCGGACC	33,39
GTATTAATGCCGCGCCAACGGTTTCCCGGACC	33,55
TAGTGTCTATCAAGTCTATTCTATGAAACCAT	33,71
TCTCGGGTCGAGCGGGTCACTGTTGTGACCTA	33,87
CGAGAAGCGTATAGATGTTCCGCGCGAATAGC	33,135
TCACAGGCGAACTACGTATGAATTGGTTTTAAACGCTCCTCGGGAATTA	35,23
ATACGACAGGTGGCAAAACCACCTCCGATGTCAGCGCCGCATACCCATT	35,55
CACTGTGAATTTCCACACCGAGGATTCGACAGTCCATGGGATTCACCA	35,87
AGTCTGTATACACCTGATTCCTCATGGCAGC	35,103
AAGTAAACGAGCCACTTAACTGGTTTTTTTTTTTTTTTGGAGCTTT	0,47
GATACTTTGTGCGTTGAGTTCGTACCATCCCTGTTGAACGCGTATCC	0,79
ATTTCCGCTACTCGATCACTGAGTGAGATGCGAGCTGTTCTTCATAAC	0,111
TTTTTTTTCCCGCTGCGCACCGAAGCGGCCATGTGCGCATATTACTTCG	0,143
TTTTTTTTAACCGTGA	1,16
GTATTAGCTTTTTTTT	2,47
ACACTGACTATGCTCTCTATCTTCCGCTCAGCAGTTTCTCAGAAAGTG	2,79
CAGAGCCGAAGTGTGTACCGTTCTCGCGATCAACTACTGGAAGGAGT	2,111
TTTTTTTTAAAAGCCCGGCTGATCTAGAAATTGGAGTTAGATGTCCG	2,143
TTTTTTTCAGTCTCT	3,48
ATCCTTCCGGCTTCATTAGCCCGGATAGCCAGCACGCGAGCTATGTAG	4,15
TTTTTTTTCCATTATACCAGTCAAGGGATGACATCTTTTGGGGTCGT	4,47
CTTACGCCTCCCGGTGCATCAGATTTTTTTTTTTTTTGGCGAGGG	4,79
ATAATAGTACCCTTTTGGCATCACTGCGAGATATCGACTACACCCCG	4,111
TTTTTTTTTGGCATCA	5,48
CCCAGTGAAACCTCGTCACCAGAAGTGGGACGTATGATTGAGGTCAGG	6,15
CGCACGGCGTATAGCGTCCAAACCAGTGCCTA	6,31
TTTTTTTTTCAGTCTGTAGTCCGTTTTTTTT	6,47
CGTTTGTCTTTTTTTT	6,63
GCGGGCCGAGGATATGTTCTTAAACAACAAAAGATGTTCAACATCTC	6,79
GCCGGAGTTTAAATTTGCGAATCAAAAATTGTG	6,95
CTAATATAACCAAGGAGAAAGACTGGCTTGAACGAGTCGGCAGTTTTTG	6,111
CCAAGTCATGGGTAAAGGTGCAGCTGCGCGCT	6,127
AGCTTGGGGGATATCGTCAGAAACCCCGCAACAACAGCATTTTTTTTT	8,15
TTTTTTTTTATGCTAAGGTGGCCGTATAACC	8,31
TCTTCTCTTTTTTTAATGCACAATCGGGTT	8,63
CTTAGGCCACCAGGGGTCACACAGCTAAGTGGCTGGCCTAGCTA	8,79

TCACATTAGGAAGGACTCCCACGTACAACATA	8,95
CGAGTCGTACGCTTAGGAGGGAACCTCCAGCTCCATATCCGTTCCGGT	8,111
GGCGCATATCGTTTCGATAATTAGTAGAAAACCTG	8,127
AATTCTCATTTTTTTTTTTTTTTTGTAGGTAGAG	10,31
GACAGGGACTGTTTACGTATGATTATAGGACACAACAGTTTTGAGACT	10,47
CATAGGTAGCTCGACAGTTATTTCTCGAGAAA	10,63
CCCCCAAGTCCCGTCCACCCGAGCTCCGGTTTAGCGAATTGAAAAGGC	10,79
TGACGATCGTATATCACTACCGCTATCAGCTA	10,95
GATAGCTGTATCCAAGACATGAATACTCTGAATGAACACTAAGCGTT	10,111
GCTATGCTGAATATGGCGAGGGTTTTTTTTTT	10,127
TTTTTTTTTCGACAGGTACAGGCGGTTTTTTTT	10,143
AGATTGTATTTTTTTT	11,128
CCTATCTTTTTTTTTTCCGCACGTCCCCCGCA	12,31
CTCGTGCTGCTGTGACGGTCAGAAGCCCCTA	12,47
GGTACACGTGATAATCGGCGATACGCGCTTC	12,63
TAGGTTAATATTTTCGAGAACTTGACTGCTCTA	12,79
ATCAGTTACCAAGGCAGCCACTACGCGTATCG	12,95
TTTTTTTTGTTCACCCTCTCCAGGAGAAATCATCCGGATCATGGT	12,127
GGGCACTCACGGCCACCTTACATCTTTTTTTT	14,15
GTCCAACATGCCGAGGTACTAAAACAGTAGAA	14,31
AGTACGACACGCTTACTTTTTTTTGCCCTCG	14,47
CGGAACAGTTGCTTATAGTTTGACGATCGCC	14,63
TCAGACGCGCCTGTTTGTGCTGGCTAATCAC	14,79
GACCATAGACCATACCCGTCTTAATGACTACC	14,95
CGTGCAAAATATTAAGTTAGTGAGGTTTCCTT	14,111
CGGTGAGAATCCCTGAACTTTCTGCAAATCTG	14,127
GCAATTGCTTCCCCAGAACAGTCCCTGACAGA	16,15
CTTGACGAGCAACCTAGACGAGGTGCCGATCT	16,31
TTTTTTTTAAAGCAGGCCAGCCGCTTTTTTTT	16,47
TGCCCATGTTTTTTTCTCGACGGGAAGCGTA	16,79
CACTTGAGAGCTTATTTTTTTTTTGTTGGTT	16,95
ATATCAAGACTGTTAGATTACCGTAGACGTGC	16,111
GAGTGCAAGTCCCTCAACATGTAATCTAGCAG	16,127
TTTTTTTTTATGTGAT	17,64
GTGTCAAGGAGGATGTCAGGCTACCTAATCCC	18,15
AATGATTAATTGAAAGTGTACTACTGTCAAGT	18,31
TAACTAAGGGAGCACTAGTATAGTTTTTTTTT	18,47
TTTTTTTTCTATGAACCGTACGCACGCGAGCA	18,63
GGTACACCTTTTTTTTTTTTTTTTACGATTT	18,95
CTCGGCCCTACCCACACCTACAATGTGACACG	18,111
TGGTGGTTGCCAGCGAGAACCAGGGGGGCATA	18,127
TATGGTTTGCTGTTCAATGTACACCCGAGCC	20,15
TCATACGAGCCCTCAGTATTTGACGTCTTGCG	20,31
CAGCCCATTCTATGAGAGGCGGCTCACGTGG	20,47
GGAAATGCATGGGGCACCTAGGACCTAACCTT	20,63
GCGGCCATCAAACATTAGCTATGGTCGGGCAC	20,79
TTCCGCGTTAAGCCAC	20,95
CATATATTCCATTACGGTGGGTAAGTTATGGA	20,111
CCCCGGTAGACCAAGTTCGTACAGATGTCATG	20,127
GGAGGCGGGGTATAG	21,96
AGCTCTGTTTTTTTTT	22,15
GCTCGACCGGAAGTCTTGCTGATCTCATAA	22,31
GGCGGTACAGTGGAGCGTATTACTTTCTGGTC	22,47
GATTGCCGCAAGAACTCAGAAACTCCCGTGCA	22,63
ATGTGGTTGATATTCATAACGATGTGGGAGG	22,79
TCTGGTTCACGACTTCCCCAAGTAGGACGAT	22,95
TTTTTTTTTAAATGGTGGGAACCCTTGCCCTC	22,111
TTTTTTTTTAGGAGAAG	23,0
CGAGATGTGCACTGCCCTACTCTTTTTTTTTTTTTTTTTTAAACC	24,15
ACTTGGGACACCTTTCGCCTGTGATGACATCGGAGGTGGTTGCCACC	24,31
AGCTACGTTACTTGCAGAGTATAATACACAA	24,47
TGGATATCACCGCTCTTGTGCTATCCTGCGAATCCTCGGTGTGGAAAT	24,63
TCGCAACGATGTACCGTAGTCCACGATGGCCG	24,79
CGAATCGCGCGAAAATTCACAGTGAGGGTGTATACGAGCTTTTTTTTT	24,95
TTTTTTTTGCTACATGGAGGTAGCTTTTTTTTT	24,111
TTTTTTTTTAGGAGATC	25,112
GCGTTAAAGGTGCTACTTTTTGTCTGGGTGTT	26,15
CCACATGAGGTCTAAATGCTTATCCTGAAGCGGCCCTGTGCGCGCGC	26,31

GGTAGGTTTTAGGATCCGACCATGGCTGTATT	26,47
ACTCTCGTGCTTAGGGATTAATACGACTTGATAGACACTACCCGCTCG	26,63
TCTTGCTTATGCCAGCAATAAGGAACACCGGC	26,79
TTTTTTTTTAGGTTTCACCCGAGATTTTTTTT	26,95
CGGCATGCTTTTTTTTTTTTTTTTATCTATACGCTTCTCGGGTCCCTC	26,127
CCATGAAATTGGACGGATCTGGTCATCCGAAT	28,15
TGATTAGCCATCGCCGTACTTGAATTACTTGGTAAGCGCGCCAACGA	28,31
TACGCTATCTGCCAGCGCCACTTTCCGCCCTAATGAATTTTTTTT	28,47
GGAACCTGGTCCGGTCAATTCATCGTCTCACGCGCCAGATTTTTTTT	28,63
TTTTTTTCCGCCGCA	28,79
TGCTGGTGTTTTTTTTTTTTTTTGGCTAGAAAAAGCTTCTCCAGAAT	28,95
CCAGTCCCGACATCCACTGTACGTCACTTGC	28,111
GTGGGAGACATCTGATGCAGTCCGATGTTGGGAGCACGTATCACCGAA	28,127
TACATACGGAGATAATTTCAACTGCTGAGGAACGACTCTAAAGATAC	30,31
ACTTACGTACCCGTTCACTCGCATCGCGTCGTGTGGGTATAAAAAGC	30,63
TTTTTTTCTACTTCAAACGGCGATTTTTTTT	30,79
GATGCTATTTTTTTT	30,95
CGTCACTTTGTCGAAAAGCAGGTCGTAGTGTACCGGGTTACTCTAGC	30,127
TATCCTTTTTGTAATGCGGGGAGGGCTATTGTCAGGCCAGCACGCA	32,31
ATAGAATACTTAGATCGCCTGGCCGGTCCGGCTCAAGCTGTCTGCAAC	32,63
TTTTTTTATGGTTTCACTACGCTTTTTTTTTT	32,79
CGCGAACGTTAATGCAGTACTGTTTTTTTTTTTTTTTTTTGGACTCAT	32,127
TGCGGCGCTCTTGCCAGTTATACATAATCCCCGTCGTCTCCCACTGT	34,31
CCCATGGAGGTCCGGGAAACCGTTAATGGGTATTCCTTTTAGGTCTAC	34,63
GGAGAACTAGGTCAACAAGTGTGGTGAATGTAACGAATCTTAGT	34,95
TTTTTTTGTGCTGCCATCTCGTTCGTTTTTTTTT	34,111
GAGGAGCGTTTTTTTTT	34,127
AATTCATACGTAGTTC	35,128

S1.5 Z-43H×32B-triangle crystal sequences

CCAGGTTAAGTGGCTC	6,24
AATCATACTCACGGTTAACTGTTGTGTCTATGTTTACTTAGGGATGG	7,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAAGAAGATAGAGAGCATA	9,23
AATTCGCTAAACCGGAAAAGTATCCGCATCTCACTCAGTGATCGAGTA	9,39
TTCATGTGCGCTTTTCGAACGGTGACACACTTGTGTTTCATTAGAGTA	21,23
GCGGAAATATGGCCGCTTCGGTGCGCAGCGGG	21,39
CCGCCTGTAACGCTTAATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	23,39
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	25,23
CCGGGCTAATGAAGCCGTGACCCAGAGACTGTCTGATGCACCGGGAG	25,39
CCAGCCACTTAGCTGTGTGACGTGTGATCGCGAGTTCCTCTAGCTAGG	27,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	27,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGGCGGAGCTACCTGACCT	35,23
CAATCATACTCCACGGAAGGATTCATCCC	35,39
TTAAGAATGATCGCACAGTCTTTGAGATGTT	37,23
GAACATCTTTTGGTTGGCGTAAAGATCTCGCA	37,39
TCTGGTGCCAAAAGTCCGACTCGTTCAAGCACTATTATCTGGCTAT	39,39
AAAAGATGTCTGTACGCCAAGCTTAGCATAA	41,23
GCGGCTGGACGACCCCGCGTGCGACGACTGACCGTCGAGCCCTGCGC	41,39
GACAAACGCATATCTCGGCCGCCAAAATTA	43,23
TAGTCGATTACGCTTCGCCTAAAGGTCCTTCC	43,39
ACGTAATCGGGGTGACTCCGGCTCCTTGGTATATTAGCTTACCCA	45,23
CTCGCGTGGCAGTCTACGACTCGTCGAACGA	45,39
GGACTGTTCTACATAGTGACTTGGACGAGGTTTACTGGGCGCTATAC	49,23
AGGAACTCGAGGGGCTCCTGTCTGTGAGC	49,39
CCAGCGACCACTTCTGGAGAAAGATGCGGTGG	51,23
CAGTAGTTGTGATTAGCTTGGGGGTGATATAC	51,39
CTCACTAAACTCCTTCTAATGTGACTAAGCGT	53,23
TAACTCAAAGGAAACCAGCTATCCATATTC	53,39
GATGTAAGCGGACATCTATGCGCCGATATCCGTTCAAAGTGGGGG	55,39
TTCTGACCAAAGCTCATGAGAATTGTAACAG	57,23
GAACAGCTTAGAGCAGTCAAGTTCGGATACGCTACCTATGGACGGGA	57,39
TATGCGACACCATGATCCGGATGAGTTATGAA	59,23
GATCGTCATTGGGATATACAATCTCGAAGTAA	59,39
AGCATAGCACCCGCGAAGATAGGGTCAACAG	61,23
AGTAATACCTTACCTTGTGGACGTAAGCGT	61,39
GAAATAACGACCAGAAAGCAGGAGGATTATCACGTGTACCTCGAAATA	63,23
AAGTAAACGAGCCACTTAACTGGCCATCCCTAGTTCGTATCCGGTTT	6,15
CACTGAGTGAGATGCGGTATGATTATAGGACACAACAGTTAACCGTGA	8,15
GATACTTTTACTCGATGGGCTGATTAAGCGTT	8,31
ACCCGAGCTATGCTCTCTATCTTCTTGAGACTGACATGAAGCGGCCAT	10,15
CACCGTTCTACTCTGAATGAACACAAGTGTGTGGCTGGACCCTTTT	20,15
GTATTAGCCCCGCTGCAGCGAATTGTGCGTTG	22,15
GCACCGAACGCTCAGCAACAGCATGGCTTCAT	22,31
GCATCAGACAGTCTCTACAGGCGGAAAAGCCC	24,15
GGGGTACCTCCCGGTGAGTCGGCAGTTTGG	24,31
TCAGAAACTTCCAGCTATTCCCGCGAAAAGGC	26,15
CCATATCCGTTCCGGTTTCTTAAACAACAAA	26,31
ACACTGACCCTAGCTAGAGGGAAGTCCGATCCAGAGCCGGTGGGACG	28,15
CCAGGTCAAGGTCAGGTAGCTCCGCCATTATAATTACCGTAGACGTGC	34,15
AAAGACTGGGGGATGAGGCATCACACAGCTAA	36,15
ATCCTTCCAACATCTCCGTTTGTGCAAGCGTA	36,31
ATAATAGTTGCGAGATTAGCCCGGCCGCAAC	38,15
CTTTACGCATAGCCAGCATCTTTTGGGGTTCGT	38,31
CTCGACGGTCAGTCGTCACCAGAAGCTTGAAC	40,15
CGCACGGCGCGCAGGGGGCGCATAGATGTCG	40,31
AGCTTGGGGGAAGGACAGATGTTCTGCGATCA	42,15
CTTTAGGCTTATGCTATTAGTGAGGTTTCCTT	42,31
GCGGGCCGTCGTTTCGATATGATTGCTAGAAAT	44,15
CGAGTCGTTTAAATTTGGTCGCTGGCTAATCAC	44,31
GCCGGAGTTGGGTAAGCTAATATACCAAGGAGAACAGTCCGCCCTCG	46,15
CCAAGTCAGTATAGCG	48,15
CCCAGTGAAACCTCGTGTTATTTCTGATAATCCTCGTGCTTTCTGGTC	48,31
TCTTCTCGCTCGACACACGCGAGCACCCCG	50,15
GACAGGGACCACCGCAGCTATGCTAGGTAGAGGTATTACTCGCAGGGT	50,31
TCACATTAGTATATCAATCGACTAAGGATATG	52,15

CCCCAAGACGCTTAGGTCGCATATATCCCAATGACGATCATCATGGT	52,31
GTTTGAACGAATATGGCCAGCCGCTGACAGA	54,15
GATAGCTGGCCCCCTAGGTCAGAACTGCTCTAAGCTGTTCTGAGCTTT	54,31
GAACTTGATCCCCGTCCATAGGTAGCGTATCCCTTACATCGGATATCG	56,31
AGATTGACTGTTTACAATTCTCATTACTTCGTGGAGTTAGAAGGAGT	58,31
GTCCAACATTCATAACTCATCCGGACGCTTACAACACTGCAGAAGTG	60,31
GGTACACGGCTGTGACCCTATCTTTATTCGAAGTTCCTCTATGTAG	62,31

S1.6 Z-44H×32B-hexagon crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTAACTGTTGTGCCTAT	5,23
GTTTACTTAGGGATGGTACGAACTCAACGCAC	5,39
GCTCGGGTAGTCTCAAGAAGATAGAGAGCATAAATTCGCTAAACCGGA	7,39
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	9,23
TTCATGTCGCCTTTTCGAACGGTGACACACTTGTGTTTCATTTCAGAGTA	9,39
CCGAAATATGGCCGCTTCGGTGCAGCGGGCCCGCTGTAACGCCTA	11,23
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	11,39
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAACCCGGGCTAATGAAGCC	19,23
GTGACCCAGAGACTGTCTGATGCACCGGGAG	19,39
CCAGCCACTTAGCTGTGTGCTGAGTGTGATCGCGA	21,23
GTTCCCTCTAGCTAGGGTGATGCCAAAAGGGT	21,39
GGATATGGAGCTGGAACGGCTCTGATTTCTAGTGACCTGGTATAATGG	23,39
CGGAGCTACCTGACCTCAATCATACTGCCAC	25,23
GGAAAGGATTATCCCCTTAAAGAATGATCGCACAGTCTTTGAGATGTT	25,39
GAACATCTTTTGGTTGGCGTAAAGATCTCGCA	27,23
TTCTGGTGCCAAAACCTGCCACTCGTTCAAGC	27,39
ACTATTATCTGGCTATAAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	29,23
GCGGCTGGACGACCCCGCGTGCAGACTGA	29,39
CCGTCGAGCCCTGCGGACAAAACGCATATCCTCGGCCCGCCAAATTA	33,23
TAGTCGATTACGCTTCGCCTAAAGGTCCTTCC	33,39
ACGGTAATCGGGGGTGACTCCGGCCTCCTTGG	35,23
TATATTAGCTTACCCACTCGCGTGGCACGTCT	35,39
ACGACTCGTCAACGAGGACTGTTCTACATAG	37,23
TGACTTGGACGAGGTTTCACTGGGCGCTATACAGGAACTCGAGGGGG	37,39
TCCCTGTCTGTGAGCCAGCGACCACTTCTG	43,23
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAGCTTGGGGTGATATAC	43,39
CTCACTAAACTCCTTCTAATGTGACTAAGCGT	45,23
TAACCTCAAAGGAAACCAGCTATCCATATTC	45,39
GATGTAAGCGGACATCTATGCGCCGATATCCGTTCAAACCTAGGGGGC	47,23
TTCTGACCAAAGCTCATGAGAATTGTAACAGGAAACAGCTTAGAGCAG	49,23
TCAAAGTTCGGATACGCTACCTATGGACGGGA	49,39
TATGCGACACCATGATCCGGATGAGTTATGAA	51,23
GATCGTCATTGGGATATAAATCTCGAAGTAAAGCATAGCACCCCTGCG	51,39
AAGATAGGGTCACAGCAGTAATACCTCTACCT	61,23
TGTTGGACGTAAGCGTGAATAACGACCAGAAAAGCAGGATTATCA	61,39
CGTGACCTCGAAATAATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	63,23
GTATGATTATAGGACACAACAGTTAACCGTGAATTTCCGAAAAAGCCC	4,15
AGCGAATTGTGCGTTGAGTTTCGTATCCGGTTTGATACTTTGAAAAGGC	6,15
ATGAACACAAGTGTGTACCCGAGCTATGCTCTCTATCTTCTTGAGACT	8,15
CACCGTTTACTCTGACAGAGCCGTTCCAGCT	8,31
CACTGAGTCGCTACGAAAGTAAACGAGCCACTTAACCTGGCCATCCCT	10,15
GTATTAGCTACTCGATGTGGCTGGCCTAGCTA	10,31
GCACCGAATAAGCGTTACAGGCGGCCGCTGCAACAGCATCAGTCTCT	12,15
TCAGAAACGGCTTCATTAGCCCGGTTCCGGTATAATAGTGGGGTCTG	18,15
ACACTGACCTCCCGTGGGCTGATGCGGCCAT	20,15
GCATCAGATCGCGATCAGATGTTCAAGTTTGG	20,31
CCAGGTCAACCCTTTTGACATGAAGAGATGCG	22,15
GGCATCACCCATTATATAGCTCCGGGGATGA	22,31
TTCTTAAAAACATCTCAAAGACTGTGCGATCACCATATCCCTAGAAAT	24,31
TATGATTGGCTTGAACGAGGGAACACAGCTAA	26,15
GAGTCGGCGTGGGACGCGAGTCTGTAACCTCGT	26,31
CTTTACGCTCAGTCGTGGGGTCAACCCGCAAC	28,15
CGCACGGCTGCGAGATATTACCGTTGGGTAAG	28,31
CATCTTTTATGCTAAGCTTGGGCTGACAGACTCGACGGGAAGCGTA	30,15
CGTTTGTCTTAATTTGGCGGGCCGAGGATATGCTTACATCGGATATCG	32,15
GCCGAGTGGAAGGACCCAGCCGATAGCCAG	34,15
CTTTAGGCCAAAGGAGTTAGTGAGGTTTCCTT	34,31
AACAGTCCAGACGTGCCACCAGAACAACCAA	36,15
CACGCGAGCTATGTAGGACAGGGACCCGCA	36,31
CCCAGTGAGCCCCCTGAGTTTCTGTATAGCGATCCTTCCAGGTCAGG	38,31
AACTACTGGTATATACCCCCAAGCTAATCACCCAAGTATCGTTTCGA	42,31
GTCGCTGGGAATATGGCTAATATACACCCCG	44,15
GATAGCTGCAGAAGTGGTGCATATATCCAA	44,31
TCACATTAGCCCCCTAATCGACTAGCGCAGG	46,15
GTTTGAACACGCTTAGGGTCAGAAGCGTATCC	46,31

AATTCTCACTGCTCTAGGCGCATAGATGTCCG	48,15
AGCTGTTCCCTGTTTACGGTACACGTCGAGAACTAACGATTATTTCTGA	48,31
TCATCCGGTCCCCGTCTGGAGTTAGAAGGAGT	50,15
CATAGGTATTCATAACCTATCTTACGCTTACGTCCAACAGCTGTGAC	50,31
AGATTGTACGCAGGGTGCTATGCTTTACTTCGTCTTCTCGCTCGACA	52,31
GTTATTTCTGATAATCCTCGTGCTTTCTGGTCTGACGATCATCATGGT	60,31
CGAACAGAGGTAGAGGTATTACTGCCTGTTTGAACCTTGATGAGCTTT	62,31

S1.7 Z-56H×32B-tunnel crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTAACTGTTGTGCCTAT	1,23
GTTTACTTAGGGATGGTACGAACTCAACGCAC	1,39
GCTCGGGTAGTCTCAAGAAGATAGAGAGCATA	3,23
AATTCGCTAAACCGGAAAAAGTATCCGCATCTC	3,39
ACTCAGTGATCGAGTATTTCATGTGCGCTTTTC	5,23
GAACGGTGACACACTGTGTTTCATTCAGAGTA	5,39
GCGGAAATATGGCCGCTTCGGTGCGCAGCGGGCCGCTGTAACGCTTA	7,39
ATCAGCCCCGGGCTTTTGCTAATACGCTGAGCG	9,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAACCCGGGCTAATGAAGCC	9,39
GTGACCCAGAGACTGTCTGATGCACCGGGAG	11,23
CCAGCCACTTAGCTGTGTCAGTGTGATCGCGA	11,39
GTTCCCTCTAGCTAGGGTGTGCCCCAAAAGGGT	13,23
GGATATGGAGCTGGAACGGCTCTGATTTCTAG	13,39
TGACCTGGTATAATGGCCGAGCTACCTGACCTCAATCATACTGCCCAC	15,23
GGAAAGGATTCATCCCCTTTAAGAATGATCGCACAGTCTTTGAGATGTT	17,23
GAACATCTTTTGGTTGGCGTAAAGATCTCGATTCTGGTGCCAAAAC	17,39
GCCGACTCGTTCAAGCACTATTATCTGGCTATAAAAAGATGTCTGTGAC	21,23
CCCAAGCTTAGCATAAGCGGCTGGACGACCCCGCCGTGCGACGACTGA	23,39
CCGTCGAGCCCTGCGCGACAAACGCATATCCTCGGCCCGCCAAATTA	25,23
TAGTCGATTACGCTTCGCCTAAAGGTCCTTCCACGGTAATCGGGGGTG	25,39
ACTCCGGCCCTCTGGTATATTAGCTTACCCACTCGCGTGGCACGCTCT	29,39
ACGACTCGTCAACGAGGACTGTTCTACATAGTGACTTGGACGAGGTT	31,23
TACTGGGCGCTATACAGGAACTCGAGGGGCTCCCTGTCTGTGCGAGC	33,23
CCAGCGACCCTTCTGGAGAAAGATGCGGTGGCAGTAGTGTGATTAG	33,39
CTTGGGGTGATATACCTCACTAAACTCCTTCTAATGTGACTAAGCGT	37,23
TAACCTCAAAGGAAACAGCTATCCATATTCGATGTAAGCGGACATC	39,39
TATGCGCCGATATCCGTTCAAACCTAGGGGGCTTCTGACCAAAGCTCA	41,23
TGAGAAATTGTAACAGGAACAGCTTAGAGCAGTCAAGTTCGGATACGC	41,39
TACCTATGGACGGGGATATGCGACACCATGATCCGGATGAGTTATGAA	45,39
GATCGTCATTGGGATATACAATCTCGAAGTAAAGCATAGCACCCCTGCG	47,23
AAGATAGGGTACACAGCAGTAATACCTCTACCTTGTGGACGTAAGCGT	49,23
GAAATAACGACCAGAAAGCACGAGGATTATCA	49,39
CGTGTACCTCGAAATAATCGTTAGTTTCTCGA	51,23
CTGTTCCGAAACAGGACGCGGTAGCCTCCCAC	51,39
TTAACCTATGCCTTGGTAACTGATTTTCTCCT	53,23
GGTCCGCTAGCTGATCTATGGTCCTTAATAT	53,39
AACCCTCGGAGGCAAGGGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	55,39
GAGTGCCCCCTCGGCAGCCGCTCGGTTATAC	57,23
TCGTCAAGCCTGCTTTCCATAGCTAACCCGATTGTGCATTCCACGTGA	57,39
GTCGTACTTAAAGCAAACGTGGGAGTGCCCGA	59,23
GCGTCTGAGGTATGGTTTACCCACTATGTTGT	59,39
CTCAAGTGCTAACAGTACTAATTATCCATAAC	61,23
TGTGCACGTCAGGGATTCTCACCGGTGGCCGT	61,39
TGCTACATCAGTTTCTTGTACTCCTGGGGAAACTATACTTACGCACT	63,23
GTATGATTATAGGACACAACAGTAAACCGTGACCAGGTCAAGGTCAGG	0,15
CTATCTCGTGCCTTGAGTTCGTATATGCTCTGAGGGAACCTCCAGCT	2,15
GACATGAAGAGATGCGGATACTTTGAAAAGGCGGGGTCACACAGCTAA	4,15
ACAGGCGTACTCTGAATGAACACTAAGCGTTGGGCTGATCCCGCAAC	6,15
TAGCCCCGGTTCCGGTATTTCCGCCCGCTGCGCACCGAAGCGGCCAT	8,15
TCAGAAAACGGCTTCATCCAGCCGCTTATGCTA	8,31
GTATTAGCTCGCGATCCACCGTTCTACTCGATCACTGAGTAAGTGTGT	10,15
ACACTGACCGCTCAGCGAGTCGGCATAGCCAG	10,31
GTGCTGGCAGTCTCT	11,32
GCATCAGACTAGAAATAGCGAATTTTGAGACTACCCGAGCTCCGGTTT	12,15
CAGAGCCGCTCCCGGT	12,31
GGCATCAGTGGGACGAAAGTAAACGAGCCACTTAACCTGGCCATCCCT	14,15
TATGATTGACCCTTTTATCCTTCCCAACCAA	14,31
TTCTTAAAAACATCTCTAGCTCCGCCATTATA	16,15
AAAGACTGTGCGATCACGAGTCGTCTATGTAG	16,31
CACCAGAATGCGAGATCCATATCCCCTAGCTA	18,15
CTTACGCAAGTTTGGCTAATATACCAAGGAG	18,31
CGCACGGCCTGACAGAAACAGCATAAAAAGCCC	22,15
CATCTTTTTCAGTCGTCTCGACGGGAAGCGTA	22,31
ATTACCGTGGAAAGGACAGCTTGGGGGGTTCGT	24,15
CTTAGGCCACCCCGGATAGCTGGTTTCCTT	24,31

CGTTTGTCTTAATTTGATAATAGTGCTTGAAC	26,15
GCGGGCCGAGGATATGCCCCAAGGAAGGAGT	26,31
CACGCGAGAACCTCGTAGATGTTCCGGGGATGA	30,15
CCAAGTCAAGACGTGCCCCAGTGACAGAAGTG	30,31
AGTTTCCTGCTCGACAAACAGTCTCGTTTCCA	32,15
GACAGGGAGCCCCCTCGTGACGATCTTACTTCG	32,31
AACTACTGCCACCGCAGCCGGAGTTGGGTAAG	34,15
TCTTTCTCCTAATCACGTGCGATATCCCCGTC	34,31
CTTACATCACGCTTAGATCGACTAGCGCAGGG	38,15
TCACATTAGATGTCCGGGGCGCATACTGTTTAC	38,31
GAAC TTGACTGCTCTATGGAGTTAGAATATGG	40,15
AGCTGTTCCGGTATCCCCCTCTCCCCTTGCCTC	40,31
GTTTGAAGT GAGCTTTTTAGTGAGGTATATCA	42,15
GGTCAGAAGCCCCCTATAGGTTAAATCAGCTA	42,31
TCATCCGGGCGCAGGGTGTGCGTGGGTATAGCC	46,15
GCTATGCTTTCATAACCCTATCTTTTCTGGTC	46,31
GTATTACTACGCTTACAGATTGTATATCCCAA	48,15
GTCCAACAAGGTAGAGATGTAGCATTCCCCAGGAGTGCAAAGAAACTG	48,31
CTAACGATTGATAATCCATAGGTAATCATGGT	50,15
CTCGTGCTTCGAGAAAACACTTGAGATCCCTGACGTGCACAACTGTTAG	50,31
GGTACACGGCCTGTTT	51,16
ATCAGTTAGTGGGAGG	52,15
CTACCGCTAGGAGAAAAGTACGACACCATACCTCAGACGCTTGCTTTA	52,31
AGGTGGCCATATTAAGAATTCTCAGGATATCG	54,15
GACCATAGCCCGAGCCGGGCACTCAAAGCAGGCTTGACGATGCCGAGG	54,31
AGCTATGGTCACGTGGAATGCACAATCGGGTTCGAGGGTTTGTTCAC	56,31
GTGGGTAAGTATAACCGAGGCGGCACAACATAGCGGAACCCCAAGGCA	58,31
CGGTGAGATCGGGCACTCCACGTACGGCCACCGGAACAGTATTTTCCA	60,31
AGTATAGTGTATGGATAATTAGTAGTGCGTAGTTATTTGCTGTGAC	62,31

S1.8 Z-60H×64B-tunnel crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTAACTGTTGTGTCCTAT	1,23
GTTTACTTAGGGATGGTACGAACTCAACGCAC	1,39
GCTCGGGTAGTCTCAAGAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,55
AAAGTATCCGCATCTCACTAGTGATCGAGTA	1,71
TTCATGTGCGCTTTTCGAACGGTGACACACTT	3,23
GTGTTCAATCAGAGTAGCGGAAATATGGCCGC	3,39
TTCGGTGCAGCGGGGCCCTGTAACGCTTA	3,55
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	3,71
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	5,23
CCGGGCTAATGAAGCCGTGACCCAGAGACTG	5,39
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	5,55
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGG	5,71
GTGATGCCAAAAGGGTGGATATGGAGCTGGAACGGCTCTGATTTCTAG	7,39
TGACCTGGTATAATGGCGGAGCTACCTGACCTCAATCATACTGCCAC	7,71
GGAAAGGATTATCCCTTTAAGAATGATCGCA	9,23
CAGTCTTTGAGATGTTGAACATCTTTTGGTTGGCGTAAAGATCTCGCA	9,39
TTCTGGTGCCAAAACCTGCCACTCGTTCAAGC	9,55
ACTATTATCTGGCTATAAAGATGTCTGTGACCCAAAGCTTAGCATAA	9,71
GCGGCTGGACGACCCCGCGTGCAGACTGA	11,23
CCGTCGAGCCCTGCGCGACAAAACGCATATCCT	11,39
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	11,55
GCCTAAAGGTCCTTCCACGGTAATCGGGGGTG	11,71
ACTCCGGCCTCCTTGGTATATTAGCTTACCCA	13,23
CTCGCGTGGCAGCTTACGACTCGTCGAACGA	13,39
GGACTGTTCTACATAGTGACTTGGACGAGGTT	13,55
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	13,71
TCCCTGTCTGTGAGCCAGCGACCACTTCTGGAGAAAGATGCGGTGG	15,23
CAGTAGTTGTGATTAGCTTGGGGTGATATACCTCACTAAACTCCTTC	15,55
TAATGTGACTAAGCGTTAACTCCAAAGGAAACCAGCTATCCCATATTC	17,23
GATGTAAGCGGACATCTATGCGCCGATATCC	17,39
GTTCAAACTAGGGGGCTTCTGACCAAAGCTCATGAGAATTGTAACAG	17,55
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	17,71
TACCTATGGACGGGGATATGCGACACCATGAT	19,23
CCGGATGAGTTATGAAGATCGTATTGGGATA	19,39
TACAATCTCGAAGTAAAGCATAGCACCCCTGCG	19,55
AAGATAGGGTACAGCAGTAATACCTTACCT	19,71
TGTTGGACGTAAGCGTGAAATAACGACCAGAA	21,23
AGCACGAGGATTATCACGTGTACCTCGAAATA	21,39
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	21,55
AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	21,71
TAACTGATTTCTCCTGGTCCGCTAGCTGATCTATGGTCTTAATAT	23,39
AACCCTCGGAGGCAAGGGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	23,71
TTTTTTTTGAGTGCCC	24,8
CCTCGGCATTTTTTTTTTTTTTGGCCGCTCGGTTATACTCGTCAAG	25,23
CCTGCTTTCCATAGCTAACCCGATTGTGCATTCCACGTGATTTTTTTTT	25,39
TTTTTTTTGTGCGTACTTAAAGCAATTTTTTTTT	25,55
ACGTGGGAGTGCCCGAGCGTCTGATTTTTTTTTTTTTTTTTTGGTATGGT	29,39
TTTTTTTTTTACCCACTATGTTGTTTTTTTTTT	29,55
CTCAAGTGTTTTTTTTT	31,23
TTTTTTTTCTAACAGTACTAATTATCCATAACTGTGCACGTGAGGGAT	31,55
TCTCACCGTTTTTTTTTTTTTTTTTGTGGCCGTTGCTACATCAGTTTCT	33,23
TGCACTCCTGGGAAAACATACTTACGCACTGGTTTGGATTTTTTTTT	33,39
TTTTTTTTGGGATTAGGCAATTGCTTTTTTTTTT	33,55
TTTTTTTTTAGGTTGC	34,8
ATTGTAGGTTTTTTTTT	37,23
TTTTTTTTCACAAATTTTGTATTCGATCACATACATGGGCAATAAAGCT	37,55
GTAGCCTGAGGCGCGCAGCTGCACTTTTTTTTTTTTTTTTCGTGTCAC	39,39
TTTTTTTTCTTGATATTGAGGGACTTTTTTTTT	39,55
ACCTCGTCATTGCGATAAACCATACTGAGGGC	41,23
AGTGGGCGAGATCGGCTAATCATTAGTGCTCCCTTAGTTAGTTCATAG	41,39
TTCATTAGGGGCGGAAATGGGCTGGTGCCCA	41,55
CGTACAGTAACCAACCGGTGTACCTGTGGGTAGGGCCGAGCGCTGGGC	41,71
TTACATGTGCAAGTGAAATATATGACTTGGTC	43,23
GACCAGATCTGTAGAAAACCAACATCCTC	43,39
CTTGACACCTTCAATTTTTAGTAAACACCCA	43,55
ACAGAGCTGAACTTCCCATGGTCTGTTCTACTG	43,71

TCGTATGATCATAGGATCAAACCTAAATACAGC	45,23
GTACCGCCAGTTCTTGTCCCTATTGGCGATCG	45,39
TGCATTCCAATGTTTGTATGGCCGCGTGGCTTA	45,55
TTAAGACGGCCGGTGTAAACCACATAAAGTCGT	45,71
CCGCCTCCGGTAGTCAACGCGGAACGTAATGGCAGAAAGTCTATACCC	47,23
GACAAAAACAGATTTGTACCGGGTGAACAGCACGTGCGGCTTCTCCT	47,55
GTATCGCCTTGTGTATTATACTCTTGCGGGGGGTTCGAGCGCTCCACT	49,23
GTAGTGGCCGGCCATCGTGGACTAGAAAAGCGC	49,39
CGGCAATCTGAATATCGTACCTCCGATACGCGAACCAGAACCATTTA	49,55
AGAGTAGGGGCAGTGCTCAGCCAAACAGTGGG	49,71
ACATCTCGGAAAGGTGTCCCAAGTGAAGTAA	51,23
AAAAGGAATTATGAGATCATGTGGGATCCTAA	51,39
AGTTTCTGGTAGACCTCGTAGGCTAGAGCGGT	51,55
GATATCCACGGTACATTCTGTTACTGCACGGA	51,71
ACGAGAGTGCTGGCATAAGCAAGAGAAAACCTA	53,23
ACTTGGGGACTAAGATCGTTGCGAATTTTCGC	53,39
GCGATTTCGCATGTAGCCGAACGAGATCGTCT	53,55
AGACGACGGATCTCTGCATGCCGGTAGCACC	53,71
GTCAAATATGCGTGCTTTAACGCTTTAGACCCAGCTTGACGCAAGAC	55,39
GCTAATCACTGGGCAGGGTCTTAGGTTGCAGAAACCTACCCCTAAGC	55,71
AGCGTAGTAAGGGTTACAAGTTCTTGCGGCGG	57,23
CTGTACGAATGAGTCCGGCTTGACATGACATTCTCCACCCGTCCAA	57,39
CACCAGCAGGATGTCGAGCCACAACCTGACA	57,55
GTAGTACAGTATCTTTTTTCATGGCGGCGATGTCGCCGTTGCTCGCG	57,71
TGCGTACGGCTTTTATATAGCGTAGACCGGAC	59,23
AACCCCGTAAATCGTAAGAGTCTGTTATGCCCC	59,39
CCGGTTCTGCTAGAGTGGGACTGGATCAGATG	59,55
TTCAAGTATTCGGTGACCTCCCGCATTACAA	59,71
CGCGTTACCAAGTAACGTATGTACGACGCGA	61,23
TGCGAGTGAACGGGTGGATGAATTTCTGTTCCG	61,39
GGCCAGGCGATCTAAGTCTGGCGCGTGAGGAC	61,55
ACGTAAGTTGAAGTAGGAAGCTTTTTCTAGCC	61,71
ATAGCATCGACACTACGACCTGCTTTTTCGACACGGACTGCATTCTGGA	63,23
CAGTAACTGCATTAACACTAGTGTCTCCCAACATAAGTGACGTCCTCAGC	63,55
GTATGATTTCCGGTTTAGCGAATTTATGCTCTAACTACTGCAGAAAGTG	0,15
CTATCTTATAGGACACAACAGTTAACCGTGAGACAGGGAGTATATCA	0,47
CACCGTTCTACTCGATCACTGAGTTAAGCGTTAACAGTCCGTATAGCG	2,15
ACAGGCGGGTGCCTGAGTTTCGTAAGTGTGTGCCGGAGTAGACGTGC	2,47
TCAGAAACCGCTCAGCGTATTAGCACAGCTAAGCGGGCCGGGAAGGAC	4,15
GTGGCTGGGCGGCCATATTTCCGCGTTCCGGTCCAGCCGCGCGCAGGG	4,47
CAGAGCCGCTAGCTAGAGGGAACGTGGGACGCACCAGAAATAGCCAG	6,15
TATGATTGCACTCTCTGGGGTACCTAGAAATATCCTTCCAACATCTC	6,47
AGCTTGGGCTGACAGACCAGGTCAATCCAGCTCCATATCCACCCTTTT	8,15
AGATGTTCTTATGCTAGCGGAACCAGGAGAAA	8,31
CTTTACGCCAACCAAGGCATCACAGGTGAGGTAGCTCCGCCATTATA	8,47
CATCTTTTTGCGAGATCTCTCCCTTGCTCCGAGGGTTATCAGCTA	8,63
TTCTTAAACACCCCGACACTGACCCCGCAACAACAGCATGGCTTCAT	10,15
CGTTTGTCTGCGATCAGTCCAACATGATAATC	10,31
GAGTCGGCAGGATATGTAGCCCGCTCCCGGTGCATCAGATCGCGATC	10,47
ATTACCGTGTGAAACCTAACGATGTGGGAGGCTACCGCTACGCTTAC	10,63
CGCACGGCGCCCTCGGGGTGATGAAAAGGCGACATGAATACTCTGA	12,15
CGAGTCTGTTAGTTCGTCATAGGTATTTCATAACTCATCCGGTTACTTCG	12,31
ATCGACTATCGTTCGAATGAACACCCCGTGCACCCGAAAAAAGCCC	12,47
AGTTTCTGAAGCGTAAGATTGTAGCTGTGACCCTATCTTTCCCGCTC	12,63
CTAATATAACCACCGCAGATACTTTGAGCCACTTAACCTGGCCATCCCT	14,15
TTAGTGAGTGGTAAAGTCACATTAGATGTCCG	14,31
CCAAGTCAGAAGGAGTAAGTAAACTTGAGACTACCCGAGCGAGATGCG	14,47
TCTTTCTCAACCTCGTGTGTTGAACCTGCTTAAGCTGTTACAGCTTAG	14,63
TGGAGTTACTGTTTACGTGCTGGGCTCGACA	16,15
GATAGCTGGTTTCTTCACTTGAGGTTATGGA	16,31
AATTCTCATGAGCTTTGGTTCAGAAGAATATGGCCCCCAAGCTAATCAC	16,63
GTCGCATAGCGTATCCCCAGTGACCAAGGAG	18,15
GGCGCATAATCATGGTTCAGACGCTCGGGCAC	18,31
GAACCTTGACGCAGGGTGTATGCTGGATATCGCACGCGAGCTATGTAG	18,63
TGACGATCTTCTGGTCTTATTTCAAGTAGAGCTTTAGCGGGGTCGT	20,31
GTATTACTGCCTGTTTCGGAACAGTATCCCAACTCGACGGTTAATTTG	20,63
GACCATAGCCAAGGCAATAATAGTGGGGATGA	22,15
GGTACACGATATTAAGTGCCGAGGAGCTATGG	22,31

TAGGTTAACCCGAGCCAGGTGGCCTATTTTCGAAAAGACTGAGTTTTGG	22,63
ATCGGGTTGGGCACTCGTGCAGCTGCGCGCCT	24,31
TCACGTGGAATGCACAATCAGTTATGTTTCAC	24,47
GTATAACCGAGGCGCCCTACAATTATGTGAT	26,31
TTGCTTTACTTGACGACTCGTGCTTCGAGAAA	26,47
CGTGCACAACCATAACCCGGTGAGATTCCCCAG	30,31
ACAACATAATCCCTGACTTACATCGCCCCCTA	30,47
ATGTAGCAACGGCCACGGAGGGCGGGCTGTTCA	32,31
GCAATTGCAGAACTGTAATTAGTACTGTTAG	32,47
AGTATAGTGCAACCTATCATAACGACAAGAACT	34,31
TCCAAACCAGTGCGTATCCCACGTGTGGGTAA	34,47
TGCCCATGGTGACACGGACGAGGTGCCGATCT	38,31
GTCCCTCAAGCTTTATAAAGCAGGAGTACGAC	38,47
CTCGGCCCTACCCACAGGTACACCTATGAACCTAGGACCCTGCCAG	40,15
AATGATTAGCCCAGCGGGCGTAAAAAGCACGCA	40,31
TAACTAAGGGAGCACTCAGGCTACATATCAAG	40,47
TATGGTTTCAGTAGAACGACCATGTGGGGCACCGAATCGCAGGAGATC	42,15
TGGTGGTTGCCCTCAGACTCTCGTATCTTAGT	42,31
CAGCCCATGAGGATGTCGAATCAAAAATTGTG	42,47
CATATATTACGACTTTATGTGGTTTGGGTGTTTCAGAACTATGTACCG	44,15
TACTAAAACGATCGCCAATAAGGAGACCAAGTCGAGATGTTCTCATAA	44,47
TAGTTTGAGGGTATAGACTTTCTGTAAAGCCACGATTGCCGGCACTGCC	46,15
CCGCACGTGCTGTATTGGCGATACGATGGCCG	46,31
GCGGCCATAGGAGAAGGAGTGCAACTAATCCC	46,47
AGAGTATATAAATGGTTTCCGCGTTGACTACC	48,15
GCTCGACCCCCCGCAGATGCTATATGTTGGGAGCACGTAGTTAATGC	48,31
GAGGTAGCAGTGGAGCCCCGGTACAAATCTGTTTTGTCCCATACG	48,47
TCTGGTTCCGCTATCGAGTACTGTGTGCGAAAAGCAGGTCGTAGTGTC	48,63
ACTTGGGACCCACTGTCTTAATCCTATGA	50,15
TAGTCCACTTACTTGCTAAGCGCGCACCCGTTCACTCGCACTTAGATC	50,31
AGCTACGGCGCTTTCGGCGGTACCAAACATTGGAATGCAACACCGGC	50,47
TTGGCTGAACCGCTCTGCCTGGCCCTACTTCAACTACGTTTACTTGG	50,63
TCTTGCTTTCCGTGCAAGCTCTGTTCACTTGACATGTAATCTAGCAG	52,15
CCACATGATAGGTTTCCGTACGCATACGATTTACGGGGTACTCTAGC	52,31
CTCGTTCGTTAGGATCATCTGGTCATTGAAAGGTGTCAAGGGAAAGTTC	52,47
GTAACGAAGGACGATAGAACCAGTACCGAATACTTGAATAAAAAGC	52,63
TCAAGCTGGGTGCTACACTGTACGATCCGAAT	54,15
TCGCAACGGTCTTGCAGTACGCTGGACTCATTCTGACAGCGACATCC	54,31
GGTAGGTTGCGAAAATCGCCCACTTCCGCCCTAATGAAGTTGGTT	54,47
CGGCATGCGCTTAGGGTGTGGTAAAAGATACTGTACTACTAACCTT	54,63
TCAAGGCCCGCAGCAAACGGCGACATCGCCGTGATTAGCGGTCTAAA	56,31
CCATGAAAATTGGACGGGTGGGAGAATGTCATGATTTGACTCTGCAAC	56,63
ACGACTCTCCGCCGAGGAACCTGTTGTAATGCGTCGTCTATGCCAGC	58,31
CGGGAGGTGTCAAGTTGTGGGCTGGGGCATACCCCAAGTGCTACATG	58,63
AATTCATCGTCCGGTCTACGCTATGGCTAGAATGGATATCCACCTTTC	60,31
AAAGCTTCCATCTGATCCAGTCCCGCAACGATTCCTTTAGGTCTAC	60,63
CGTCACTTTCCGCTCGTACATACGTCAGAAATCCTACTCTATACAAA	62,31
GCAGTCCGGTCTCACGCGCCAGAGCTGAGGAGCCACTACGATATTCA	62,63

S1.9 Z-108H×32B-tunnel crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTAACTGTTGTGCCTAT	1,23
GTTTACTTAGGGATGGTACGAACTCAACGCAC	1,39
GCTCGGGTAGTCTCAAGAAGATAGAGAGCATA	3,23
AATTCGCTAAACCGGAAAAGTATCCGCATCTC	3,39
ACTCAGTGATCGAGTATTCATGTCCCTTTTC	5,23
GAACGGTGACACACTTGTGTTCAATCAGAGTA	5,39
GCGGAAATATGGCCGCTTCGGTGCGCAGCGGG	7,23
CCGCCTGTAACGCTTAATCAGCCCGGGCTTTT	7,39
GCTAATACGCTGAGCGATGCTGTTGTTGCGGG	9,23
GTTTCTGAACCGGAACCCGGGCTAATGAAGCC	9,39
GTGACCCCAGAGACTGTTCTGATGCACCGGGAGCCAGCCACTTAGCTGT	11,39
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGG	13,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAACGGCTCTGATTTCTAG	13,39
TGACCTGGTATAATGGCGGAGCTACCTGACCT	15,23
CAATCATACTGCCACGGAAGGATTCATCCCC	15,39
TTAAGAATGATCGCACAGTCTTTGAGATGTT	17,23
GAACATCTTTTGGTTGGCGTAAAGATCTCGCA	17,39
TTCTGGTGCCAAAAGTCCGACTCGTTCAAGC	19,23
ACTATTATCTGGCTATAAAAGATGCTGTCTCAG	19,39
CCCAAGCTTAGCATAAGCGGCTGGACGACCCC	21,23
GCCGTGCGACGACTGACCGTTCGAGCCCTGCGC	21,39
GACAAAACGCATATCCTCGGCCCGCCAAATTAATAGTCGATTACGCTTC	23,23
GCCTAAAGGTCTTCCACGGTAATCGGGGGTACTCCGGCCTCCTTGG	25,23
TATATTAGCTTACCCACTCGCGTGGCACGTCT	25,39
ACGACTCGTCAACGAGGACTGTTCTACATAG	27,23
TGACTTGGACGAGGTTTACTGGGCGTATAC	27,39
AGGAAACTCGAGGGGCTCCCTGTCTGTCTGAGC	29,23
CCAGCGACCACTTCTGGAGAAAGATGCGGTGG	29,39
CAGTAGTTGTGATTAGCTTGGGGGTGATATAC	31,23
CTCACTAAACTCCTTCTAATGTGACTAAGCGT	31,39
TAACCCAAAGGAAACCAGCTATCCATATTC	33,23
GATGTAAGCGGACATCTATGCGCCCGATATCC	33,39
GTTCAAAGTGGGGCTTCTGACCAAAGCTCATGAGAATTGTAACAG	35,39
GAACAGCTTAGAGCAGTCAAGTTCGGATACGCTACCTATGGACGGGGA	37,23
TATGCGACACCATGATCCGGATGAGTTATGAAGATCGTCATTGGGATA	37,39
TACAATCTCGAAGTAAAGCATAGCACCCCTGCGAAGATAGGGTCAACAG	45,39
AGTAATACCTCTACCTTGTGGACGTAAGCGTGAAATAACGACCAGAA	47,23
AGCAGGAGATTATCACGTGTACCTCGAAATAATCGTTAGTTTCTCGA	49,23
CTGTTCCGAAAACAGGACGCGGTAGCCTCCCACTTAACCTATGCCTTGG	49,39
TAACGTATTTTCTCTGGTTCGGCTAGCTGATCTATGGTCTTAATAT	57,23
AACCTCGGAGGCAAGGGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	59,39
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATACTCGTCAAGCCTGCTTT	61,23
CCATAGCTAACCCGATTGTGCATTCCACGTGAGTTCGTAATAAGCAA	61,39
ACGTGGGAGTGCCCGAGCGTCTGAGGTATGGTTTACCCACTATGTTGT	69,39
CTCAAGTGCTAACAGTACTAATATCCATAACTGTGCACGTCAGGGAT	71,23
TCTACCCGGTGGCCGTTGCTACATCAGTTTCTTTCGACTCCTGGGGAA	73,23
ACTATACTACGCACTGGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	73,39
ATTGTAGGCACAATTTTGTATTCGATCACATACATGGGCAATAAAGCT	81,23
GTAGCCTGAGGCGCGCAGCTGCACCGTGCACCTTGATATTGAGGGAC	83,39
ACCTCGTCAATCGGATAAACCATACTGAGGGCAGTGGGCGAGATCGGC	85,23
TAATCATTAGTGCTCCCTTAGTTAGTTTCATAGTTTCATTAGGGGCGGAA	85,39
ATGGGCTGGTGCCCCACGTACAGTAACCAACCGGTGTACCTGTGGGTA	93,39
GGGCGAGCGCTGGGCTTACATGTGCAAGTGAAATATATGACTTGGTC	95,23
GACCAGATCTGTAGAAACCACCAACATCCTCCTTGACACCTTCAAT	97,23
TTTTAGTAAACACCAACAGAGCTGAACTTCCCATGGTCGTTCTACTG	97,39
TCGTATGATCATAGGATCAAACATAAATACAGCGTACCGCCAGTTCTTG	105,23
TCCTTATTGGCGATCGTGCATTCCAATGTTTGTGGCCGCGTGGCTTA	107,39
TTAAGACGGCCGGTGAACCACATAAAGTCGT	109,23
CCGCCTCCGGTAGTCAACGCGGAACGTAATGGCAGAAAGTCTATACCC	109,39
GACAAAAACAGATTTGTACCGGGTGAACAGC	111,23
ACGTGCGGCTTCTCCTGTATCGCCTTGTGTAT	111,39
TATACTTTGCGGGGGGGTTCGAGCGCTCCACT	113,23
GTAGTGGCCGGCCATCGTGGACTAGAAAGCGC	113,39
CGGCAATCTGAATATCGTACCTCCGATACGC	115,23
GAACCAGAACCATTTAAGAGTAGGGGCAGTGC	115,39
TCAGCCAAACAGTGGGACATCTCGGAAAGGTG	117,23

TCCCAAGTGAAGTAAAAAAGGAATTATGAGA	117,39
TCATGTGGGATCCTAAAGTTCTGGTAGACCTCGTAGGCTAGAGCGGT	119,23
GATATCCACGGTACATTCGTTTACTGCACGGAACGAGAGTGCTGGCAT	121,23
AAGCAAGAGAAACCTAACTTGGGGACTAAGAT	121,39
CGTTGCGAATTTTCGCGCGATTTCGCATGTAGC	123,23
CGAACGAGATCGTCTAGACGACGGATCTCCT	123,39
GCATGCCGGTAGCACCGTCAAATATGCGTGCT	125,23
TTTAAACGCTTTAGACCCAGCTTGACGCAAGAC	125,39
GCTAATCACTGGGCAGGGTCTAGGTTGCAGA	127,23
AACCTACCCCTAAGCAGCGTAGTAAAGGGTTA	127,39
CAAGTTCCTGCGGCGGCTGTACGAATGAGTCC	129,23
GGCCTTGACATGACATTCTCCACCCGTCCA	129,39
CACCAGCAGGATGTCGAGCCACAACCTGACAGTAGTACAGTATCTTT	131,39
TTTCATGGCGCGATGTCGCGCTTTGCTCGCG	133,23
TGCGTACGGCTTTTATATAGCGTAGACCGGACAACCCCGTAAATCGTA	133,39
AGAGTCGTTATGCCCCCGTCTGCTAGAGT	135,23
GGGACTGGATCAGATGTTCAAGTATTCGGTGA	135,39
CCTCCCCGATTACAACGCGCTTACCAAGTAA	137,23
CGTATGTACGACGCGATGCGAGTGAACGGGTG	137,39
GATGAATTTTCGTTTCGGGGCCAGGCGATCTAAG	139,23
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GAAGCTTTTTCTAGCCATAGCATCGACACTAC	141,23
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CAGTAACTGCATTAACCTACGTGCTCCCAACATAAGTGACGTCCTCAGC	143,23
GTATGATTATAGGACACAACAGTTAACCGTGACGTTTGTCTTAATTTG	0,15
CTATCTTCGTGCGTTGAGTTCGTATATGCTCTAGCTTGGGTCAGTCGT	2,15
GACATGAAGAGATGCGGATACTTTGAAAAGGCCACCAGAAATAGCCAG	4,15
GCACCGAATACTCTGAATGAACACCCCGCTGCTTCTTAAACAACAAA	6,15
AACAGCATAAAAGCCCGGGCTGATCCCGCAACCCAGGTCAGTGGGACG	8,15
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CAGAGCCGTTCCAGTGGGGTCACCTCCCGTGCATCAGACAGTCTCT	12,15
CCATATCCCTAGAAATGGTCAGAAGCCCCCTA	12,31
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TAGTCCGTGCGAGATACAGGCGGGCGCCATATTTCCGCTAAGCGTT	16,15
CTTTACGCAAGTACAGGAACCTGGAAGGAGTTAGTGAGCTAATCAC	16,31
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CATCTTTTAAACATCTCAGTTTCCCTCAGAAGTGGTCGCTGGGCCCTCG	18,31
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CTCGACGGGCTTGAACCGAGTCGTAACCTCGTCCAAGTCATCGTTTCA	20,31
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ATTACCGTCCAAGGAGGCGGGCCGAGGATATG	24,15
GCCGGAGTCAACCCCGGTATTACTACGCTTAC	24,31
AACAGTCCAGACGTGCCGACGGCTTATGCTA	26,15
CACGCGAGCTATGTAGGCTATGCTTTACTTCG	26,31
CCCAGTGAGCTCGACAGACAGGGAGTATAGCGATAATAGTAGTTTGG	28,31
TCTTTCTCGTATATACCCCCAAGCCACCGCAAGATGTTCTGCGATCA	30,31
TCACATTAGAAATATGGGATAGCTGACGCTTAGTATGATTGCCATTATA	32,31
AATTCTCAGGATATCGGGCATCACTCGCGATC	34,15
GGCGATACTGTTTACAGCTGTTTATCATGTT	34,31
TGACGATCTCATAACGTTTGAACGAGCTTT	36,15
TCATCCGGTATCCCAACCTCTCCCCTGCCTC	36,31
GAACCTGATCCCGTCTTACATCGTTTCCTT	38,15
CATAGGTAGCGTATCCATCAGTTAATCAGCTA	38,31
CCTATCTTTTCTGGTCTTAATATAGGAAGGAC	46,15
GTTATTTTCGCTGTGACCTCGTGCTGCCTGTTT	46,31
GGTACACGTCGAGAAAGTCCAACAAGGTAGAG	48,15
CTAACGATTATTTGACACTTGAGGTTATGGA	48,31
TAGGTTAAGTGGGAGGAGATTGTACGAGGGT	50,15
CTACCGCTCCAAGGCATCAGACGCTCGGGCAC	50,31
AGGTGGCCATATTAAGGTGCGATACTGCTCTA	58,15
GACCATAGCCGAGCCGGGCACTCATCGGGT	58,31
AGTACGACTACGTGGCGAGGGTTTGTTCAC	60,15
AATGCACATTGCTTTAGTGCAGCTGCGCGCCT	60,31
GAGGCGCAAAGCAGGGCGGAACCAAGGAGAAA	62,15
CTTGACGAGTATAACCCCTACAATTATGTGAT	62,31
GTGGTAAATCCCTGACGGAACAGTGATAATC	70,15

CGTGACAACAACATACGGTGAGAAGTGCCTA	70,31
ATGTAGCATTCCCCAGTAATTAGTACTGTTAG	72,15
GAGTGCAAAGAAACTGCTCGGCCCTCACTTGC	72,31
GCAATTGCCTAATCCCTCCACGTACCATAACC	74,15
TCCAAACCGCAACCTAACTGTACGTGGGGCAC	74,31
ATATCAAGAGCTTTATAGCTATGGTGCCGAGG	82,15
TGCCCATGGTCCCTCAGACGAGGTGGAGCACT	82,31
CTAATGAACTATGAACCAGGCTACGTGACACG	84,15
TAATAAGTTCCGCCCGAATGCACGATCGCC	84,31
TATGGTTTGCCGATCTCGAATCAAAAATTGTG	86,15
CGCCCACTGCCCTCAGTCATACGAGCTGTATT	86,31
GGTACACCGACCAAGTAGTATAGTACGGCCAC	94,15
CATATATTTACCCACAATCTGGTCTGGGTGTT	94,31
TGGTGGTTATTGAAAGACATGTAAGCCCAGCG	96,15
GTGTCAAGGAGGATGTCCACATGAAGGTCTAC	96,31
CGACCATGGGAAGTCCAGCCCATGGTTGGTT	98,15
AGCTCTGTCAGTAGAATTGGCTGATTACTTGC	98,31
GCGGCCATCAAGAACTAATGATTAATCCGAAT	106,15
GGCGGTACTAAGCCACCGTCTTAATGACTACC	106,31
ACTTTCTGCCATTACGAATAAGGACAAAACATT	108,15
TTCCGCGTGGGTATAGTGTGGGCTCGACATCC	108,31
ATGTGGTTATACACAATAGTTTGATCCTATGA	110,15
GGCGATACACGACTTTGGAAGTTGATGTCATG	110,31
CCCCGGTAGCGCTTCTAGTCCACGCTGTTTCATGATTAGCGCTTAGGG	112,15
GCTCGACCGCACTGCCCTACTCTAGTGGAGCCGGCATGCGGTCTAAA	114,15
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CGAGATGTACCGCTCTTACTAAAATCTAGCAG	118,15
AGCCTACGCACCTTTCTGGATATCTAGGTTTC	118,31
GTAAACGAATGCCAGCCAGAAACTTTAGGATC	120,15
ACTCTCGTTCCGTGCAAGTTACTGATGTTGGGAGCACGTAGTTAATGC	120,31
CGAATCGCATCTTAGTACTTGGGACCCACTGT	122,15
CCCCAAGTGCTACATGAAAGCTTCTGTGCGAAAAGCAGGTCGGCTAGAA	122,31
TATTTGACAGGAGATCTCTGGTTCGATATTCAGATTGCCGTAATGGT	124,15
CGTCGTCTAGCACGCAAATTCATCGTCTCACGCGCCAGACCGAACGA	124,31
CTAGGACCGTCTTGCGGCCACTACCCCCGCAAGAGTATAGATGGCCG	126,15
TCAAGCTGTCTGCAACCGGGGAGGTCGCGTCGTACATACGTTGTAATG	126,31
TCGTACAGTAAACCTTCCGCACGTCAAATCTGTTTTTGTACAGGAGAAG	128,15
ACTACGCTGGACTCATACGACTCTCATCTGATCCAGTCCCGGGGCATA	128,31
TGTACTACTTGGACGGGGAGGCGGACACCGGC	130,15
GTGGGAGAAAAAGATACCCATGAAAATAAAAAGCCGTACGCACATCGCCG	130,31
TACGCTATTACGATTTACGGGGTTGTCCGGTCTGCTGGTGTGTCAAGT	132,31
TACTTGAACGCGAGCAAACGGCGATCACCGAATCAAGGCCCCGCCGCA	134,31
CACTCGCAACTTAGCAGAACCGGCACCCGTTGGTAGGTTCTGCCAG	136,31
ACTTACGTTTACTTGGTAAGCGCGCTACTTCAGCGTTAAAGGTGCTAC	138,31
GCAGTCCGCTTAGATCGCCTGGCCTCCAGAATCTCGTTCCGGGAAAAAT	140,31
CGTCACTTGTAGTGTGATGCTATGCTGAGGATCTTGCTTATGTACCG	142,31

S2.1 X-6H×6H×64B-cuboid crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,31
AACTGTTGTGCTATGTTACTTAGGGATGG	1,47
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,63
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,79
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	3,31
TTCATGTCGCCTTTTCGAACGGTGACACACTT	3,47
GTGTTCAITCAGAGTAGCGGAAAATATGGCCGC	3,63
TTCGGTGCGCAGCGGGCCGCTGTAACGCTTA	3,79
ATCAGCCCCGGCTTTTGCTAATACGCTGAGCG	5,31
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	5,47
CCGGGCTAATGAAGCCGTGACCCAGAGACTG	5,63
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	5,79
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGG	7,31
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	7,47
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	7,63
CGGAGCTACCTGACCTCAATCATACTGCCAC	7,79
GGAAGGATTATCCCTTTAAGAATGATCGCA	9,31
CAGTCTTTGAGATGTTGAACATCTTTGGTTG	9,47
GCGTAAAGATCTCGATTCTGGTGCCAAAAC	9,63
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	9,79
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	11,31
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	11,47
CCGTGAGCCCTGCGCGACAAACGCATATCCT	11,63
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	11,79
GCCTAAAGGTCTTCACGGTAATCGGGGGTG	13,31
ACTCCGGCTCCTTGGTATATTAGCTTACCCA	13,47
CTCGCGTGGCACGCTACGACTCGTCGAACGA	13,63
GGACTGTTCTACATAGTGACTTGGACGAGGTT	13,79
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	15,31
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GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	15,63
CTTGGGGGTGATATACCTCACTAAACTCCTTC	15,79
TAATGTGACTAAGCGTAACTCCAAAGGAAAC	17,31
CAGCTATCCATATTCGATGTAAGCGGACATC	17,47
TATGCGCCCGATATCCGTTCAAACCTAGGGGGC	17,63
TTCTGACCAAAGCTCATGAGAATTGTAAACAG	17,79
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	19,31
TACCTATGGACGGGATATGCGACACCATGAT	19,47
CCGGATGAGTTATGAAGATCGTCATTGGGATA	19,63
TACAATCTCGAAGTAAAGCATAGCACCCCTGCG	19,79
AAGATAGGGTACACAGCAGTAATACCTTACCT	21,31
TGTTGGACGTAAGCGTGAAATAACGACCAGAA	21,47
AGCACGAGGATTATCACGTGTACCTCGAAATA	21,63
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	21,79
AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	23,31
TAACTGATTTTCTCCTGGTCCGCTAGCTGAT	23,47
CTATGGTCTTAATATAACCCTCGGAGGCAAG	23,63
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	23,79
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATAC	25,31
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TGTGCATTCCACGTGAGTCGTACTTAAAGCAA	25,63
ACGTGGGAGTGCCCCGAGCGTCTGAGGTATGGT	25,79
TTACCCACTATGTTGTCTCAAGTGCTAACAGT	27,31
ACTAATTATCCATAACTGTGCACGTACAGGGAT	27,47
TCTACCCGGTGGCCGTTGCTACATCAGTTTCT	27,63
TTGCACTCCTGGGGAAACTACTTACGCACT	27,79
GGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	29,31
ATTGTAGGCACAATTTTGATTGATCACATA	29,47
CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	29,63
AGCTGCACCGTGTACCTTGATATTGAGGGAC	29,79
ACCTCGTCATTCGGATAAACCATACTGAGGGC	31,31
AGTGGGCGAGATCGGCTAATCATTAGTGCTCC	31,47
CTTAGTTAGTTCATAGTTCATTAGGGGCGGAA	31,63
ATGGGCTGGTGCCCCACGTACAGTAACCAACC	31,79
GGTGACTGTGGGTAGGGCCGAGCGCTGGGC	33,31
TTACATGTGCAAGTGAATATATGACTTGCTC	33,47

GACCAGATCTGCTAGAAACCACCAACATCCTC	33,63
CTTGACACCTTCAATTTTAGTAAACACCCA	33,79
ACAGAGCTGAACTTCCCATGGTCTTCTACTG	35,31
TCGTATGATCATAGGATCAAATAAATACAGC	35,47
GTACCGCCAGTCTTGTCCCTATTGGCGATCG	35,63
TGCATTCCAATGTTTGTATGGCCGCTGGCTTA	35,79
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CACTGAGTTTTTTTT	2,23
ATTTCCGCCATCCCCTAAGTAAACTACTCGATATCCTTCCAACATCTC	2,55
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TTTTTTTAAAGCGTTACAGGCGGCAGTCTCTCAGAGCCGAGGTCAGG	4,87
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TATGATTGAGGATATGGCGCATATGAGCTTT	6,71
TTTTTTTGTGGGACGGCATCAGATTTTTTTT	6,87
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AGATGTTCCCTAGCTACCCAGTGTGAGCTCGACA	8,39
CCAGGTCACAACCAAGACATGAATACTCTGAATGAACACCCCGCTGC	8,55
ATAATAGTCCATTATATCTTCTCGTATATCA	8,71
TTTTTTTATAGCCAGGCACCGAATTTTTTTT	8,87
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CACCAGAATCAGTCGTCAACAGTTGTGCGTTGAGTTCGTATATGCTCT	10,55
ATCGACTAAGTTTGGCACGCGAGCTATGTAG	10,71
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CTTACATCCACCCCGCTACCGCTAGGAGAAA	12,39
CGAGTCGTGATGTCGCCAGCCGCGCAGGG	12,55
AATCTCATCGTTCGAGACCATAGTGTTCAC	12,71
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AACTACTGTGGGTAAGAAAGACTGTGCGAGAT	14,55
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GTCGCTGGGTTTCTTAGCTGTTCTCCCGTC	16,39
GTTTGAACCAGAAGTGGGCATCACCTAGAAAT	16,55
TTAGTGAGGCCCTATCATCCGGTACTTCG	16,71
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TAGGTTAATTTTTTTTTTTTTTTTACGCTTAG	18,23
GTCGCATACCAAGGCATCAAACCAAATGTG	18,39
CGAGGGTATCATGGTGATAGCTGGGATATCG	18,55
GCTATGCTCTGCCTCTGCCATGGTGACACG	18,71
TTTTTTTTCGAGGGTGGTCAGAATTTTTTTT	18,87
GAACCTGATTTTTTTTTTTTTTTTGTATAGCG	20,23
GTTATTTTCGCGTATCCGTGGGTAAGTTATGGA	20,39
TGACGATCTTCTGGTCGACAGGGACCACCGCA	20,55
CGGAACAGTATCCAACGGTGAGATCCCCAG	20,71
TTTTTTTGCCTGTTTCCCCAAGTTTTTTTT	20,87
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GCGGAACCAGGTAGAGGGGCACTCAAAGCAGG	22,39
GGTACACGATCAGCTAGCCGGAGTAGACGTGC	22,55
AGGTGGCCTATTCGAAATGCACATCGGGCAC	22,71
TTTTTTTCCCAGCCAACAGTCTTTTTTTTT	22,87
GAGGCGCTTTTTTTTTTTTTTTTGTGGGAGG	24,23
CGAATCAAGTATAACCAGCTCTGTTCTATGATCATACGACAAGAAT	24,39
AGTACGACTATGTGATATCAGTTAATATTAAG	24,55
ATATCAAGTTGCTTAGGCGGTACCAAACATTGGAATGCATTTTTTTT	24,71
TTTTTTTGTCCCTCACCTCTCCCTTTTTTTT	24,87
CACTTGAGTTTTTTTTTTTTTTTGTGTGAC	26,23
AGCTATGGACTGTTAGGGTACACCTCACTTGACATGTAATCTAGCAG	26,39
ATGTAGCAATCGGTTGTCCAACATGATAATC	26,55

TCAGACGCAGAAACTGATCTGGTCATTGAAAGGTGCAAGTTTTTTTT	26,71
TTTTTTTTACCATACCCTAACGATTTTTTTTT	26,87
GCAATTGCTTTTTTTTTTTTTCTGCTCTA	28,23
CGTGACAGCAACCTAGACGAGGTGCCGATCTCGCCACTCTATGAAC	28,39
CAGGCTACATCCCTGACATAGGTATTCATAAC	28,55
AGTATAGTGC GCGCCTTAACTAAGTGGGGCACCAGCCATTTTTTTTT	28,71
TTTTTTTTAGTGC GTAAGATTGATTTTTTTTT	28,87
AATGATTACAGTAGAACGACCATGTTTTTTTTTTTTTTCTAATCCC	30,39
ACTGTACGCGATCGCCAATAAGGAGGAGCACTCCTACAATAGCTTTAT	30,71
TTTTTTTTGGTTGGTTGTGCAGCTTTTTTTTT	30,87
TTTTTTTTATCCGAAT	31,8
CATATATTGCCCTCAGTATGGTTTTTTTTTTTTTTTTTACAACATA	32,39
TACTAAAATTCCGCCCTAATGAAGACCAAGTTAATTAGTACGGCCAC	32,71
TTTTTTTTGGGTGTTGAGTGCAATTTTTTTTT	32,87
TTTTTTTTTACCCACA	33,8
TAGTTTGAGCCAGCGCTCGGCCCTTTTTTTTTTTTTTTTGCCGAGG	34,39
GCGCCATGAGGATGTTGGTGGTTGCTGTATTCTTGACGATCACGTGG	34,71
TTTTTTTTAAGCCACTCCACGTTTTTTTTTT	34,87
TTTTTTTTGGAAGTTC	35,8

S2.2 X-32H×64B-pore crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,31
AACTGTTGTGTCCTATGTTTACTTAGGGATGG	1,47
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,63
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,79
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	3,31
TTCATGTCGCCTTTTCGAACGGTGACACACTT	3,47
GTGTTCAITCAGAGTAGCGGAAATATGGCCGC	3,63
TTCGGTGCGCAGCGGGCCGCTGTAACGCTTA	3,79
ATCAGCCCCGGCTTTTGCTAATACGCTGAGCG	5,31
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	5,47
CCGGGCTAATGAAGCCGTGACCCAGAGACTG	5,63
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	5,79
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGG	7,31
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	7,47
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	7,63
CGGAGCTACCTGACCTCAATCATACGTCCCAC	7,79
GGAAGGATTATCCCCTTTAAGAATGATCGCA	9,31
CAGTCTTTGAGATGTTGAACATCTTTTGGTTG	9,47
GCGTAAAGATCTCGCATTCTGGTGCCAAAAC	9,63
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	9,79
AAAAGATGTCGTGTCAGCCCAAGCTTAGCATAA	11,31
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	11,47
CCGTGAGCCCTGCGCGACAAACGCATATCCT	11,63
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	11,79
GCCTAAAGGTCCTCCACGGTAATCGGGGGTACTCCGGCCTCCTGG	13,47
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AGGAACTCGAGGGGCTCCCTGTCTGTCGAGC	17,47
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CTTGGGGGTGATATACCTCACTAAACTCCTTC	17,79
TAATGTGACTAAGCGT	19,31
TAACTCAAAGGAAACCAGCTATCCCATATTCGATGTAAGCGGACATC	19,63
TATGCGCCGATATCCGTTCAAACCTAGGGGGC	19,79
TTCTGACCAAAGCTCA	22,16
TGAGAATTGTAAACAGGAACAGCTTAGAGCAG	23,31
TCAAGTTCGGATACGCTACCTATGGACGGGGATATGCGACACCATGAT	23,47
CCGGATGAGTTATGAAGATCGTCATTGGGATA	23,63
TACAATCTCGAAGTAAAGCATAGCACCTGCG	23,79
AAGATAGGGTACAGCAGTAATACCTCTACCT	25,31
TGTTGGACGTAAGCGTAAATAACGACCAGAA	25,47
AGCACGAGGATTATCAGTGTACCTCGAAATA	25,63
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	25,79
AGCGGTAGCCTCCACTTAACCTATGCCTTGG	27,31
TAACTGATTTTCTCCTGGTTCGGCTAGCTGAT	27,47
CTATGGTCTTAATATAACCCTCGGAGGCAAG	27,63
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	27,79
GAGTGCCCCCTCGGCAGCCGCTCGGTTATAC	29,31
TCGTCAAGCCTGCTTCCATAGCTAACCCGAT	29,47
TGTGCATTCCACGTGAGTCTGACTTAAAGCAA	29,63
ACGTGGGAGTGCCCGAGCGTCTGAGGTATGGT	29,79
TTACCCACTATGTTGTCTCAAGTGCTAACAGT	31,31
ACTAATTATCCATAACTGTGCACGTCAGGGAT	31,47
TCTACCGGTGGCCGTTGCTACATCAGTTTCT	31,63
TTGCACTCCTGGGAAAATACTACTACGCACT	31,79
GGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	33,31
ATTGTAGGCACAATTTTGAITCGATCACATA	33,47
CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	33,63
AGCTGCACCGTGTACCTTGATATTGAGGGAC	33,79
ACCTCGTCATTCGGATAAACCATACTGAGGGC	35,31
AGTGGGCGAGATCGGCTAATCATTAGTGCTCC	35,47
CTTAGTTAGTTCATAGTTCATTAGGGGCGGAA	35,63
ATGGGCTGGTGCCCCACGTACAGTAACCAACC	35,79
GTATGATTTTTTTTT	0,23
ACCCGAGCGTTCCGGTTTCAGAAACAACCGTGACATCTTTTGGGGTCGT	0,55
TTTTTTTTACAGCTAAGTGGCTGGTTGAGACTCTCGACGGTTAATTTG	0,87

CACTGAGTTTTTTTTT	2,23
ATTTCCGCCATCCCTAAGTAAACTACTCGATATCCTTCCAACATCTC	2,55
TTTTTTTTTCCGGTTTAGCGAATTGCGGCCATCTTACGCGCTTGAAC	2,87
GTATTAGCTTTTTTTT	4,23
GGGGTCACAAGTGTGTACCGTTCGGCTCAGCACACTGACACCCTTTT	4,55
TTTTTTTTTAAAGCGTTACAGGCGGCAGTCTCTCAGAGCCGAGGTCAGG	4,87
AGCTTGGGTTTTTTTTTTTTTTTTTTTTTAAAGCCCGGGCTGATCCCGCAAC	6,23
CCATATCCTTATGCTAAACAGTCCGCCCTCG	6,39
CGTTTGTCTTCCAGCTAACAGCATGGCTTATTAGCCCGGCTCCCGGT	6,55
TATGATTGAGGATATGGTCTGGGTATATCA	6,71
TTTTTTTTGTGGGACGGCATCAGATTTTTTTTT	6,87
GAGGGAACTTTTTTTTTTTTTTTTTGGAGATGCGGATACTTTGAAAAGGC	8,23
AGATGTTCCCTAGCTA	8,39
CCAGGTCACAACCAAAGACATGAATACTCTGAATGAACACCCCGCTGC	8,55
ATAATAGTCCATTATA	8,71
TTTTTTTTATAGCCAGGCACCGAATTTTTTTTT	8,87
TTTTTTTTTGGGGATGA	9,8
AAAGACTGTGCGAGAT	9,40
GAGTCGGCTTTTTTTTT	9,72
TTCTTAAATTTTTTTTTTTTTTTTTTGGAGCCACTTAACCTGGATAGGACA	10,23
CGCACGGCTGCGATCAATTACCGTGAAGGAC	10,39
CACCAGAATCAGTCGTCAACAGTTGTGCGTTGAGTTCGTATATGCTCT	10,55
ATCGACTAAGTTTTGGCACGCGAGTGGGTAAG	10,71
TTTTTTTTGAAGCGTACTATCTCTTTTTTTTT	10,87
GCCGGAGTTTTTTTTTTTTTTTTTCTGACAGA	12,23
GACAGGGACCAAGGAGAATCTCAGCGTATCC	12,39
CGAGTCGTGCTCGACACCCAGCCGCGCAGGG	12,55
TTAGTGAGTCGTTTCGATCATCCGGTACTTCG	12,71
TTTTTTTTGAAGGAGTGCAGGCGCTTTTTTTTT	12,87
CCAAGTCATTTTTTTTTTTTTTTTTTCGCGATC	16,23
CCCAGTGAAACCTCGTTCACATTAGAATATGG	16,39
TCTTTCGTATAGCGGGCATCACCTAGAAAT	16,55
AACTACTGCCACCGCATGGAGTTAGGATATCG	16,71
TTTTTTTTCTAATCACTAGCTCCGTTTTTTTTT	16,87
AGCTGTTCTTTTTTTTTTTTTTTCTATGTAG	18,23
CTACATCTGCTCTAGGGCACTCAAAGCAGG	18,39
TGACGATCGATGTCCGAGTTTCTCAGAAGTG	18,55
GTTTGAAGTATCCAAAATGCACATCGGGCAC	18,71
TTTTTTTTGCCCCCTACCCCAAGTTTTTTTTT	18,87
GGTCAGAAATTTTTTTTTTTTTTTTACCCCGG	22,23
CATAGGTATGAGCTTTCCTATCTACGTTAC	22,39
GTCGCATATCCCGTCTCTTAGGCAGACGTGC	22,55
GCTATGCTATCATGGTCTCGTGCTTCGAGAAA	22,71
TTTTTTTTCGCAGGGTCTAATATATTTTTTTT	22,87
GTATTACTTTTTTTTTTTTTTTCTGTTTAC	24,23
AGCTATGGAGGTAGAGGACGAGGTGCGGATCTCGCCACTCTATGAAC	24,39
GGTACACGATCGGGTTGAACCTTGATTCAAAC	24,55
TCAGACGCTATTTGATAACTAAGTGGGGCACCAGCCATTTTTTTTTT	24,71
TTTTTTTTACCATACCAGATTGATTTTTTTTT	24,87
TAGGTTAATTTTTTTTTT	26,23
GTTATTTCCCAAGGCATCCAAACCAAATTGTGCCTACAATAGCTTTAT	26,39
CGAGGGTTTTCTGGTC	26,55
CGAACAGCTTGCCCTGCCCATGGTGACACGGTGCAGCTTTTTTTTTT	26,71
TTTTTTTTGCCTGTTT	26,87
CTACCGCTAGGAGAAA	27,24
GACCATAGTGTTCAC	27,56
GAGGCGGCTTTTTTTTTTTTTTTTACGCTTAG	28,23
GCGGAACCGTATAACCGTGGGTAAGTTATGGATAATTAGTACGGCCAC	28,39
AGTACGACATCAGCTAGATAGCTGGTTTCCTT	28,55
AGGTGGCCTTGCTTACGGTGAGATTCGCCAGGAGTGCAATTTTTTTTTT	28,71
TTTTTTTTCCCGAGCCGCGCATATTTTTTTTT	28,87
CGTGACAGCCCTCAGTATGGTTTTTTTTTTTTTTTTTTTGGCGAGG	30,39
AGTATAGTTCCGCCCCAATGAAATCCCTGACTTGACGATCACGTGG	30,71
TTTTTTTTAGTGCGTATCCCACGTTTTTTTTTT	30,87
TTTTTTTTTACAACATA	31,8
CGAATCAAACGTGTAGCACTTGAGTTTTTTTTTTTTTTTTTGTGGGAGG	32,39
ATATCAAGAGAAAAGTATGTAGCATATGTGATATCAGTTAATATTAAG	32,71
TTTTTTTTGTCCCTCACCTCTCCCTTTTTTTTT	32,87

TTTTTTTCTAATCCC	33,8
AATGATTAGCAACCTAGCAATTGCTTTTTTTTTTTTTTTGCTGTGAC	34,39
ACTGTACGGCGCGCCTCAGGCTACGGAGCACTGTCCAACATGATAATC	34,71
TTTTTTTGGTTGGTTCTAACGATTTTTTTTT	34,87
TTTTTTTATCCGAAT	35,8

S3.1 ZX-4H×4H×32B-cuboid crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGTCCTATGTTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	3,23
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	3,39
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	5,23
TTCATGTCGCCTTTTCGAACGGTGACACACTT	5,39
GTGTTCAITCAGAGTAGCGGAAATATGGCCGC	7,23
TTCGGTGCGCAGCGGGCCGCTGTAACGCTTA	7,39
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	9,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	9,39
CCGGGCTAATGAAGCCGTGACCCAGAGACTG	11,23
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	11,39
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGG	13,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGA	13,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	15,23
CGGAGCTACCTGACCTCAATCATACTGCCAC	15,39
GTATGATTCCGGTTTAGCGAATTAACCGTGAATGAACACCCCGCTGC	0,15
ACCCGAGCCCATCCCTAAGTAACTTGAGACTGATACTTTGAAAAGGC	2,15
ATTTCCGCAAGTGTGTCTATCTTCGTGCGTTGAGTTCGTATATGCTCT	4,15
CACCGTTTCGCGGCCATTAGCCCGGCTCCCGGT	4,31
CACTGAGTTAAGCGTTCAACAGTTGAGCCACTTAACCTGGATAGGACA	6,15
ACAGGCGGTACTCGATGGGCTGATCCCGCAAC	6,31
GTATTAGCACAGCTAAGCACCGAATACTCTGA	8,15
GTGGCTGGCGCTCAGCCAGAGCCGAGGTCAGGTAGCTCCGCTAGAAAT	8,31
GGGGTCACGTTCCGGTGACATGAAGAGATGCG	10,15
TCAGAAACCAGTCTTACACTGACACCCTTTTGGCATCACTCGCGATC	10,31
CCATATCCCATTTATACCAGGTCATTCCAGCTGCATCAGAGGCTTCAT	12,31
TATGATTGCCTAGCTAGAGGGAACGTGGGACGAACAGCATAAAAAGCCC	14,31

S3.2 ZX-4H×6H×32B-cuboid crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGCTATGTTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	3,23
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	3,39
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	5,23
TTCATGTCGCCTTTTCGAACGGTGACACACTT	5,39
GTGTTTCAATCAGAGTAGCGGAAATATGGCCGC	7,23
TTCGGTGCGCAGCGGGCCGCTGTAACGCTTA	7,39
ATCAGCCCCGGGCTTTTGCTAATACGCTGAGCG	9,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	9,39
CCGGGCTAATGAAGCCGTGACCCAGAGACTG	11,23
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	11,39
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGG	13,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	13,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	15,23
CGGAGCTACCTGACCTCAATCATACTGCCAC	15,39
GGAAGGATTCATCCCTTTAAGAATGATCGCA	17,23
CAGTCTTTGAGATGTTGAACATCTTTTGGTTG	17,39
GCGTAAAGATCTCGCATTCTGGTGCCAAAAC	19,23
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	19,39
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	21,23
GCGGCTGGACGACCCCGCGTGCGACGACTGA	21,39
CCGTCGAGCCCTGCGCGACAAACGCATATCCT	23,23
CGGCCCCGCAAATTAATAGTCGATTACGCTTC	23,39
GTATGATTTCCGGTTTAGCGAATTAACCGTGAATGAACACCCCGCTGC	0,15
ACCCGAGCCCATCCCTAAGTAACTTGAGACTGATACTTTGAAAAGGC	2,15
ATTTCCGCAAGTGTGTCTATCTTCGTGCGTTGAGTTCGTATATGCTCT	4,15
CACCGTTCGCGGCCATTAGCCCGGCTCCCGGT	4,31
CACTGAGTTAAGCGTTCAACAGTTGAGCCACTTAACCTGGATAGGACA	6,15
ACAGGCGGTAICTGATGGGCTGATCCCGCAAC	6,31
GTATTAGCACAGCTAAGCACCGAATACTCTGA	8,15
GTGGCTGGCGCTCAGCCAGAGCCGAGGTCAGG	8,31
GGGGTCACGTTCCGGTGACATGAAGAGATGCG	10,15
TCAGAAACCAGTCTCTACACTGACACCTTTT	10,31
CCAGGTCATTCCAGCTGCATCAGAGGCTTCAT	12,15
CCATATCCCATTATACTTTACGCGCTTGAAC	12,31
GAGGGAACGTGGGACGAACAGCATAAAAGCCC	14,15
TATGATTGCCTAGCTAATCCTTCCAACATCTC	14,31
TTCTTAAAATAGCCAGTAGCTCCGCTAGAAAT	16,15
ATAATAGTTGCGATCACTCGACGGTTAATTTGGCGGGCCGGCGCAGGG	16,31
CACCAGAACAACCAAGGCATCACTCGCGATC	18,15
AGATGTTCAAGTTTGGCATCTTTTGGGGTTCGTCCAGCCGCTGACAGA	18,31
CGCACGGCAGGATATGCGTTTGTCTCAGTCGTGAGTCGGCTGCGAGAT	20,31
ATCGACTATATGCTAAGCTTGGGGAAGCGTAAAAGACTGGGGGATGA	22,31

S3.3 ZX-4H×10H×32B-cuboid crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGTCCTATGTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	3,23
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	3,39
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	5,23
TTCATGTCGCCTTTTCGAACGGTGACACACTT	5,39
GTGTTCAITCAGAGTAGCGGAAAATATGGCCGC	7,23
TTCGGTGCGCAGCGGGCCGCTGTAACGCTTA	7,39
ATCAGCCCCGGCTTTTGCTAATACGCTGAGCG	9,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	9,39
CCGGGCTAATGAAGCCGTGACCCAGAGACTG	11,23
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	11,39
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGG	13,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	13,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	15,23
CGGAGCTACCTGACCTCAATCATACTGCCAC	15,39
GGAAGGATTATCCCTTTAAGAATGATCGCA	17,23
CAGTCTTTGAGATGTTGAACATCTTTGGTTG	17,39
GCGTAAAGATCTCGCATCTGGTGCCAAAAC	19,23
GCCGACTCGTTCAAGCACTATATCTGGCTAT	19,39
AAAAGATGTCTGTCAGCCAAAGCTTAGCATAA	21,23
GCGGCTGGACGACCCCGCGTGCGACGACTGA	21,39
CCGTGAGCCCTGCGCGACAAACGCATATCCT	23,23
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	23,39
GCCTAAAGGTCTTCACGGTAATCGGGGGTG	25,23
ACTCCGGCTCCTTGGTATATTAGCTTACCCA	25,39
CTCGCGTGGCACGCTACGACTCGTCGAACGA	27,23
GGACTGTTCTACATAGTGACTTGGACGAGGTT	27,39
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	29,23
TCCCTGTCTGTGAGCCAGCGACCACTTCTG	29,39
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	31,23
CTTGGGGGTGATATACCTCACTAAACTCCTTC	31,39
TAATGTGACTAAGCGTAACTCCAAAGGAAAC	33,23
CAGCTATCCATATTCGATGTAAGCGGACATC	33,39
TATGCGCCCGATATCCGTTCAAACCTAGGGGGC	35,23
TTCTGACCAAAGCTCATGAGAATTGTAAACAG	35,39
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	37,23
TACCTATGGACGGGATATGCGACACCATGAT	37,39
CCGGATGAGTTATGAAGATCGTATTGGGATA	39,23
TACAATCTCGAAGTAAAGCATAGCACCCCTGCG	39,39
GTATGATTCCGGTTTAGCGAATTAACCGTGAATGAACCCCCGCTGC	0,15
ACCCGAGCCCATCCCTAAGTAAACTTGAGACTGATACTTTGAAAAGGC	2,15
ATTTCCGCAAGTGTGCTATCTTCGTGCGTTGAGTTCGTATATGCTCT	4,15
CACCGTTCCGGGCCATTAGCCCGGCTCCCGGT	4,31
CACTGAGTTAAGCGTTCAACAGTTGAGCCACTTAACCTGGATAGGACA	6,15
ACAGGCGGTACTCGATGGGCTGATCCCGCAAC	6,31
GTATTAGCACAGCTAAGCACCGAATACTCTGA	8,15
GTGGCTGGCGCTCAGCCAGAGCCGAGGTCAGG	8,31
GGGGTACGTTCCGGTGACATGAAGAGATGCG	10,15
TCAGAAACCAGTCTTACACTGACACCCTTTT	10,31
CCAGGTCATTCCAGCTGCATCAGAGGCTTCAT	12,15
CCATATCCCATTATACTTTACGCGCTTGAAC	12,31
GAGGGAACGTGGGACGAACAGCATAAAAGCCC	14,15
TATGATTGCCTAGCTAATCCTTCCAACATCTC	14,31
TTCTTAAAATAGCCAGTAGTCCGCTAGAAAT	16,15
ATAATAGTTGCGATCACTCGACGGTTAATTTG	16,31
CACCAGAACAACCAAAGGCATCACTCGCGATC	18,15
AGATGTTCAAGTTTGGCATCTTTGGGGTTCGT	18,31
CGTTTGTCTCAGTCTGAGTCCGCTGCGAGAT	20,15
CGCACGGCAGGATATGCACGCGAGCTATGTAG	20,31
AGCTTGGGGAAGCGTAAAAGACTGGGGGATGA	22,15
ATCGACTATTATGCTACTTTAGGCCAAAGGAG	22,31
ATTACCGTAACTCGTGCGGGCCGGCGCAGGG	24,15
CCAAGTCAACCCCCGTCTTTCTCGTATATCA	24,31
CGAGTCGTTGGGTAAGCCAGCCGCTGACAGA	26,15
CTAATATATCGTTTCGACCCAGTGAGCTCGACA	26,31

AACTACTGCAGAAGTGAACAGTCCAGACGTGC	28,15
GTCGCTGGCTAATCACGGCGCATATGAGCTTT	28,31
AGTTTCCTGAAGGAGTGCCGGAGTGAAGGAC	30,15
TTAGTGAGGCCCTCGTCACATTAGAATATGG	30,31
TGGAGTTACTGTTACCCCCAAGCCACCGCA	32,15
AATTCTCAGTTTCCTTTCATCCGGTACTTCGAGATTGTATTCATAAC	32,31
GTTTGAACGATGTCCGGACAGGGAGTATAGCG	34,15
CTTACATCGCCCCCTAAGCTGTTCTCCCCGTCCATAGGTAAGTACTGCTCTA	34,31
GTCGCATATATCCCAATGACGATCATCATGGTGGTCAGAAGGATATCG	36,31
GCTATGCTGCGTATCCGAACCTTGACGCAGGGTGATAGCTGACGCTTAG	38,31

S3.4 ZX-4H×20H×32B-cuboid crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGTCCTATGTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	3,23
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	3,39
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	5,23
TTCATGTCGCCTTTTCGAACGGTGACACACTT	5,39
GTGTTCAITCAGAGTAGCGGAAAATATGGCCGC	7,23
TTCGGTGCGCAGCGGGCCGCTGTAACGCTTA	7,39
ATCAGCCCCGGGCTTTTGCTAATACGCTGAGCG	9,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	9,39
CCGGGCTAATGAAGCCGTGACCCAGAGACTG	11,23
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	11,39
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGG	13,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	13,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	15,23
CGGAGCTACCTGACCTCAATCATACTGCCAC	15,39
GGAAGGATTATCCCTTTAAGAATGATCGCA	17,23
CAGTCTTTGAGATGTTGAACATCTTTGGTTG	17,39
GCGTAAAGATCTCGCATTCTGGTGCCAAAAC	19,23
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	19,39
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	21,23
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	21,39
CCGTGAGCCCTGCGCGACAAACGCATATCCT	23,23
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	23,39
GCCTAAAGGTCTTCACGGTAATCGGGGGTG	25,23
ACTCCGGCTCCTTGGTATATTAGCTTACCCA	25,39
CTCGCGTGGCACGTCTACGACTCGTCGAACGA	27,23
GGACTGTTCTACATAGTGACTTGGACGAGGTT	27,39
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	29,23
TCCCTGTCTGTCGAGCCAGCGACCACTTCTG	29,39
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	31,23
CTTGGGGGTGATATACCTCACTAAACTCCTTC	31,39
TAATGTGACTAAGCGTAACTCCAAAGGAAAC	33,23
CAGCTATCCATATTCGATGTAAGCGGACATC	33,39
TATGCGCCCGATATCCGTTCAAACCTAGGGGGC	35,23
TTCTGACCAAAGCTCATGAGAATTGTAAACAG	35,39
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	37,23
TACCTATGGACGGGATATGCGACACCATGAT	37,39
CCGGATGAGTTATGAAGATCGTCATTGGGATA	39,23
TACAATCTCGAAGTAAAGCATAGCACCCCTGCG	39,39
AAGATAGGGTCACAGCAGTAATACCTTACCT	41,23
TGTTGGACGTAAGCGTGAAATAACGACCAGAA	41,39
AGCACGAGGATTATCACGTGTACCTCGAAATA	43,23
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	43,39
AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	45,23
TAACTGATTTTCTCCTGGTCCGCTAGCTGAT	45,39
CTATGGTCTTAATATAACCCTCGGAGGCAAG	47,23
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	47,39
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATAC	49,23
TCGTCAAGCCTGCTTTCCATAGCTAACCCGAT	49,39
TGTGCATTCCACGTGAGTCGTAATAAGCAA	51,23
ACGTGGGAGTGCCCCGAGCGTCTGAGGTATGGT	51,39
TTACCCACTATGTTGTCTCAAGTGCTAACAGT	53,23
ACTAATTATCCATAACTGTGCACGTCAGGGAT	53,39
TCTCACCGGTGGCCGTTGCTACATCAGTTTCT	55,23
TTGCACTCCTGGGGAAACTATACTTACGCACT	55,39
GGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	57,23
ATTGTAGGCACAATTTTGTTCGATCACATA	57,39
CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	59,23
AGCTGCACCGTGTACCTTGATATTGAGGGAC	59,39
ACCTCGTCATTCGGATAAACCATACTGAGGGC	61,23
AGTGGGCGAGATCGGCTAATCATTAGTGCTCC	61,39
CTTAGTTAGTTCATAGTTCATTAGGGGCGGAA	63,23
ATGGGCTGGTGCCCCACGTACAGTAACCAACC	63,39
GGGTACCTGTGGGTAGGGCCGAGCGCTGGGC	65,23
TTACATGTGCAAGTGAATATATGACTTGCTC	65,39

GACCAGATCTGCTAGAAAACCAACATCCTC	67,23
CTTGACACCTTCAATTTTAGTAAACACCCA	67,39
ACAGAGCTGAACTTCCCATGGTCTTCTACTG	69,23
TCGTATGATCATAGGATCAAATAAATACAGC	69,39
GTACCGCCAGTCTTGTCTTATTGGCGATCG	71,23
TGCATTCCAATGTTTGATGGCCGCGTGGCTTA	71,39
TAAAGACGGCCGGTGAACACATAAAAGTCGT	73,23
CCGCCTCCGGTAGTCAACGCGGAACGTAATGG	73,39
CAGAAAGTCTATACCCGACAAAACAGATTG	75,23
TACCGGGGTGAACAGCAGTGC GGCTTCTCCT	75,39
GTATCGCCTTGTGTATTATACTTTGCCGGGG	77,23
GGTCGAGCGCTCCACTGTAGTGGCCGGCCATC	77,39
GTGGACTAGAAAGCGCCGCAATCTGAATATC	79,23
GTACTCCTCCGATACGCGAACAGAACCATTTA	79,39
GTATGATTTCCGGTTTAGCGAATTAACCGTGAATGAACACCCCGCTGC	0,15
ACCCGAGCCCATCCCTAAGTAACTTGAGACTGATACTTTGAAAAGGC	2,15
ATTTCCGCAAGTGTGTCTATCTTCGTGCGTTGAGTTCGTATATGCTCT	4,15
CACCGTTCCGGGCCATTAGCCCGGCTCCCGGT	4,31
CACTGAGTTAAGCGTTCAACAGTTGAGCCACTTAACCTGGATAGGACA	6,15
ACAGGCGGTACTCGATGGGCTGATCCCGCAAC	6,31
GTATTAGCACAGCTAAGCACCGAATACTCTGA	8,15
GTGGCTGGCGCTCAGCCAGAGCCGAGGTCAGG	8,31
GGGGTCACGTTCCGGTGACATGAAGAGATGCG	10,15
TCAGAAACCAGTCTCTACACTGACCCCTTTT	10,31
CCAGGTCATTCAGCTGCATCAGAGGCTTCAT	12,15
CCATATCCCATTATACTTTACGCGCTTGAAC	12,31
GAGGGAACGTGGGACGAACAGCATAAAAAGCCC	14,15
TATGATTGCCTAGCTAATCCTTCCAACATCTC	14,31
TTCTTAAAATAGCCAGTAGTCCGCTAGAAAT	16,15
ATAATAGTTGCGATCACTCGACGGTTAATTTG	16,31
CACCAGAACAACAAAGGCATCACTCGCGATC	18,15
AGATGTTCAAGTTTTGGCATCTTTTGGGGTCGT	18,31
CGTTTGTCTCAGTCGTGAGTCGGCTGCGAGAT	20,15
CGCACGGCAGGATATGCACGCGAGCTATGTAG	20,31
AGCTTGGGGAAGCGTAAAAGACTGGGGGATGA	22,15
ATCGACTATTATGCTACTTTAGGCCAAAGGAG	22,31
ATTACCGTAACTCGTGC GGCGCCGGCGCAGGG	24,15
CCAAGTCACACCCCGTCTTTCTCGTATATCA	24,31
CGAGTCGTTGGGTAAGCCAGCCGCTGACAGA	26,15
CTAATATATCGTTCCGACCCAGTGAGCTCGACA	26,31
AACTACTGCAGAAGTGAACAGTCCAGACGTGC	28,15
GTCGCTGGCTAATCACGGCGCATATGAGCTTT	28,31
AGTTTCTGAAGGAGTGCCGGAGTGAAGGAC	30,15
TTAGTGAGGCCCTCGTCACATTAGAATATGG	30,31
TGGAGTTACTGTTTACCCCCAAGCCACCGCA	32,15
AATFTCTAGTTTCTTTTATCCGGTTACTTCG	32,31
GTTTGAACGATGTCCGGACAGGGAGTATAGCG	34,15
CTTACATCGCCCCCTAAGCTGTTCTCCCGTC	34,31
TGACGATCATCATGGTGGTCAAGGATATCG	36,15
GTCGCATATATCCCAACTCGTGCTTCGAGAAA	36,31
GAACCTTGACGCAGGGTGATAGCTGACGCTTAG	38,15
GCTATGCTGCGTATCCCTATCTTACGCTTAC	38,31
GTATTACTGCCTGTTTAGATTGTATTATAAC	40,15
CGGAACAGAGGTAGAGGACCATAGTGTTCAC	40,31
GGTACACGTTCTGGTCCATAGGTAAGTCTCTA	42,15
GTTATTCTATTTTCGACTACCGCTAGGAGAAA	42,31
CGAGGGTTATCAGCTACTAACGATTGATAATC	44,15
GCGGAACCCCTTGCCTCAATGCACATCGGGCAC	44,31
TAGGTAAACCCGAGCCGTCCAACAGCTGTGAC	46,15
AGGTGGCCCCAAGGCAGGGCACTCAAAGCAGG	46,31
GAGGCGCACCATACCCCTCTCCATATTAAG	48,15
TCAGACGCGTATAACCCGGTGAGATTCCCCAG	48,31
AGTACGACATCGGGTTATCAGTTAGTGGGAGG	50,15
AGCTATGGTTGCTTTAGTGGGTAAGTTATGGA	50,31
ATGTAGCAATCCCTGATCCCACGTTACAGTGG	52,15
CGTGCACAAGAAACTGTGCCATGGTGACACG	52,31
CACTTGAGAGTGCGTACTTGACGATGCCGAGG	54,15
AGTATAGTACTGTTAGTCCAAACCAAATTGTG	54,31

GCAATTGCGTCCCTCAGAGTGCAAACGGCCAC	56,15
ATATCAAGGCAACCTATAACTAAGTGGGGCAC	56,31
CAGGCTACTATGTGATTAATTAGTACAACATA	58,15
CGAATCAAGCGCGCCTGACGAGGTGCCGATCT	58,31
CTAATGAAGGAGCACTGTGCAGCTAGCTTTAT	60,15
AATGATTATTCGCCCCTCTGGTCATTGAAAG	60,31
TATGGTTTGGTTGGTTCCTACAATCTAATCCC	62,15
ACTGTACGGCCCTCAGGGTACACCTCACTTGC	62,31
CTCGGCCCTGGGTGTTTCAGCCCATCTATGAAC	64,15
TACTAAAAGCCCAAGCGGGCGGTACCAAACATT	64,31
TGGTGGTTGACCAAGTCGCCCACTATCCGAAT	66,15
CATATATTGAGGATGTAGCTCTGTTCTATGA	66,31
AATAAGGAGCTGTATTGTGTCAAGTCTAGCAG	68,15
TAGTTTGACGATCGCCACTTCTGGCTGTCA	68,31
CGACCATGTAAGCCACACATGTAATACCCACA	70,15
GCGGCCATCAGTAGAACGTCTTAATGACTACC	70,31
ATGTGGTTAGGAGAAGGGAATGCACAAGAACT	72,15
CCGCACGTACGACTTTTAGTCCACGCGTATCGGAGGTAGCGCGCTTTC	72,31
TTTTGTCCCATTACGTCATACGAGGAAGTTC	74,15
TCCCGGTCAAATCTGGGCGATACAGTGGAGCGCTCGACCATACACAA	74,31
GCCACTACGATATTCAGATTGCCGGATGGCCGCCCGGTAGGGTATAG	76,31
TCTGGTTCCCCCGCAAGAGTATATAAATGGTGGAGGCGGACACCGGC	78,31

S3.5 ZX-32H×64B-channel crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTAACTGTTGTGTCTAT	1,47
GTTTACTTAGGGATGGTACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,79
GAAGATAGAGAGCATAAATTCGCTAAACCGGAAAAGTATCCGCATCTC	5,31
ACTCAGTGATCGAGTATTCATGTCCCTTTTC	5,47
GAACGGTGACACACTTGTGTTCAATCAGAGTAGCGGAAATATGGCCGC	5,63
TTCGGTGCAGCGGGCCGCTGTAACGCTTA	5,79
ATCAGCCCGGGCTTTTGTCTAATACGCTGAGCGATGCTGTTGTTGCGGG	7,31
GTTTCTGAACCGGAAACCGGGCTAATGAAGCCGTGACCCAGAGACTG	7,63
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	11,31
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGGGTGATGCCAAAAGGGT	11,47
GGATATGGAGCTGGAACGGCTCTGATTTCTAG	11,63
TGACCTGGTATAATGGCGGAGCTACCTGACCTCAATCATACTGCCAC	11,79
GGAAGGATTCATCCCTTTAAGAATGATCGCA	13,31
CAGTCTTTGAGATGTTGAACATCTTTTGGTTG	13,47
GCGTAAAGATCTCGCATTCTGGTGCCAAAAC	13,63
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	13,79
AAAAGATGTCTGTACGCCAAGCTTAGCATAA	15,31
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	15,47
CCGTCGAGCCCTGCGCGACAAACGCATATCCT	15,63
CGGCCCGCAAATTAATAGTCGATTACGCTTC	15,79
GCCTAAAGGTCCTTCCACGGTAATCGGGGGTG	17,31
ACTCCGGCCTCCTTGGTATATTAGCTTACCCA	17,47
CTCGGTGGCACGTCTACGACTCGTCGAACGA	17,63
GGACTGTTCTACATAGTGACTTGGACGAGGTT	17,79
TCACTGGGCGCTATACAGGAACTCGAGGGGC	19,31
TCCCTGTCTGTCGAGCCAGCGACCACTTCTG	19,47
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	19,63
CTGGGGGTGATATACCTCACTAAACTCCTTC	19,79
TAATGTGACTAAGCGTTAACTCCAAAGGAAAC	21,31
CAGCTATCCCATATTCGATGTAAGCGGACATC	21,47
TATGCGCCGATATCCGTTCAAACCTAGGGGGC	21,63
TTCTGACCAAAGCTCATGAGAATTGTAACAG	21,79
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	23,31
TACCTATGGACGGGGATATGCGACACCATGAT	23,47
CCGGATGAGTTATGAAGATCGTCATTGGGATA	23,63
TACAATCTCGAAGTAAAGCATAGCACCCCTGCG	23,79
AAGATAGGGTCACAGCAGTAATACCTCTACCT	25,31
TGTTGGACGTAAGCGTGAATAACGACCAGAA	25,47
AGCACGAGGATTATCACGTGTAACCTCGAAATA	25,63
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	25,79
AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	27,31
TAACTGATTTTCTCCTGGTTCGCTAGCTGAT	27,47
CTATGGTCTTAATATAACCCTCGGAGGCAAG	27,63
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	27,79
GAGTGCCCCCTCGGCAGCCGCTCGGTTATAC	29,31
TCGTCAAGCCTGCTTCCATAGCTAACCGAT	29,47
TGTGCATTCCACGTGAGTCGTAATAAGCAA	29,63
ACGTGGGAGTGCCGAGCGTCTGAGGTATGGT	29,79
TTACCCACTATGTTGTCTCAAGTGTAACAGT	31,31
ACTAATTATCCATAACTGTGCACGTCAGGGAT	31,47
TCTCACCGGTGGCCGTTGCTACATCAGTTTCT	31,63
TTGCACTCCTGGGAAACTATACTTACGCACT	31,79
GGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	33,31
ATTGTAGGCACAATTTTGTATTGATCACATA	33,47
CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	33,63
AGCTGCACCGTGTACCTTGATATTGAGGGAC	33,79
ACCTCGTCATTGCGATAAACATACTGAGGGC	35,31
AGTGGGCGAGATCGGCTAATCATTAGTGCTCC	35,47
CTTAGTTAGTTCATAGTTCATTAGGGGCGGAA	35,63
ATGGGCTGGTGCCCCAGTACAGTAACCAACC	35,79
CAACAGTTTAAAGCGTTACAGGCGGTTGAGACTCCATATCCCCATTATA	0,23
ACCCGAGCGAAAAGGCGACATGAAATAGGACAGCATCAGATCGCGATC	0,55
AGCGAATTGCGGCCATATTTCCGCTACTCTGATCAGAAACCGCTCAGC	4,23
ATGAAACACGAGATGCGGATACTTTCCGGTTTGGGCTGATGGCTTCAT	4,55
GTGGCTGGCCCGAACGCACCGAATATGCTCTCTACTCGAT	6,23
GGGTACACACAGCTAACTTTAGGCCCAAGGAG	6,39

CAGAGCCGAGTCTCTACTGAGTAAGTGTGTCACCGTTCCCCGCTGC	6,55
AACAGCATCTAGAAATCACGCGAGCTATGTAG	6,71
TATGATTGAGGTCAGGAAGTAAACAACCGTGAGTATGATTGAGCCACT	10,23
GAGGGAACGTGGGACGATCCTTCCAACATCTC	10,39
GGCATCACCTAGCTATAACCTGGGTGCGTTGAGTTCGTACCATCCCT	10,55
TAGCTCCGACCCTTTTCTTTACGCGCTTGAAC	10,71
TTCTTAAAAAACCTCGTCCAGGTCACCTCCCGGT	12,23
CTAATATATGCGATCAAGCTGTTCTCCCCGTC	12,39
CACCAGAATGGGTAAGACACTGACTTCCAGT	12,55
CCAAGTCAAGTTTGGTCATCCGGTACTTCG	12,71
AGCTTGGGATAGCCAGATAATAGTAGGATATGGGCGCATATGAGCTTT	14,23
CGTTTGTCCAACCAAAAAGATGTTCTTATGCTATCACATTAGAATATGG	14,55
ATTACCGTGAAGCGTAGTATTAGCAAAAAGCCC	16,23
CGCACGGCCACCCCGCCAGTGAGCTCGACA	16,39
CGAGTCGTTTCAGTCGTTAGCCCGGGTTCCGGT	16,55
ATCGACTATCGTTCGATCTTTCTCGTATATCA	16,71
GAACTTGAGAAGGAGTAAACAGTCCGGAAGGAC	18,23
GTCGCTGGGCGTATCCGGGCACTCAAAGCAGG	18,39
TGACGATCCAGAAGTGCCCGGAGTAGACGTGC	18,55
TTAGTGAGTATCCAAAATGCACATCGGGCAC	18,71
AGTTTCTCTGTTTACGCGGGCCGCTGACAGACATCTTTTGGGGTTCGT	20,23
CTTACATCGCCCTCGCTACCCTAGGAGAAA	20,39
AACTACTGGATGTCCGCCAGCCGCGCGCAGGGCTCGACGGTTAATTTG	20,55
AATTCTCATAATCACGACCATAGTGTTCAC	20,71
TGGAGTTACGCAGGGTGAGTCGGCGGGGATGA	22,23
GTCGCATAGTTTCTTCTATCTTACGCTTAC	22,39
GTTTGAACATCATGGTAAAGACTGTGCGAGAT	22,55
GCTATGCTGCCCCCTACTCGTGCTTCGAGAAA	22,71
GTATTACTACCATACCAGATTGTAAGTCTA	24,23
AGCTATGGAGGTAGAGGACGAGGTGCCGATCTCGCCCACTCTATGAAC	24,39
GGTACACGATCGGGTTCATAGGTATTCATAAC	24,55
TCAGACGCTATTTTCGATAACTAAGTGGGGCACCCAGCCATATCCGAAT	24,71
TAGGTTAAGCCTGTTTGGTCAGAAAACGCTTAG	26,23
GTTATTTCCCAAGGCATCCAAACCAAATTGTGCCTACAATAGCTTTAT	26,39
CGAGGGTTTTCTGGTCGATAGCTGGGATATCG	26,55
CGGAACAGCTTGCCCTGCCCATGGTGACACGGTGCAGCTCTAATCCC	26,71
GAGGCGGCCCCGAGCCCCCAAGGTATAGCG	28,23
GCGGAACCGTATAACCGTGGGTAAGTTATGGATAATTAGTACGGCCAC	28,39
AGTACGACATCAGCTAGACAGGGACCACCGCA	28,55
AGGTGGCCTTGCTTTACGGTGAGATTCCCCAGGAGTGCAAACAACATA	28,71
CGTGACAGCCCTCAGTATGGTTTGTGCGTATCCCACGTTGCCGAGG	30,39
AGTATAGTTTCCGCCCCAATGAAATCCCTGACTTGACGATCACGTGG	30,71
CGAATCAAACCTGTTAGCACTTGAGGTCCCTCACCTCTCCCGTGGGAGG	32,39
ATATCAAGAGAACTGATGTAGCATATGTGATATCAGTTAATATTAAG	32,71
AATGATTAGCAACCTAGCAATTGCGGTTGGTTCTAACGATGCTGTGAC	34,39
ACTGTACGGCGCGCTCAGGCTACGGAGCACTGTCCAACATGATAATC	34,71

S3.6 ZX-32H×64B-cross-channel crystal sequences

CCAGGTTAAGTGGCTC	1,47
AATCATACTACGGTTAACTGTTGTGTCTAT	1,63
GTTTACTTAGGGATGG	4,32
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	5,47
GAAGATAGAGAGCATAAAATTCGCTAAACCGGA	5,63
AAAGTATCCGCATCTCACTAGTATCGAGTA	7,47
TTCATGTCGCCTTTTC	7,63
GAACGGTGACACACTT	10,48
GTGTTCAATTCAGAGTAGCGGAAATATGGCCGC	11,47
TTCGGTGCAGCGGGCCGCTGTAACGCTTA	11,63
ATCAGCCCGGGCTTTTGTAAATACGCTGAGCG	13,31
ATGCTGTTGTGCGGGTTTCTGAACCGGAAC	13,47
CCGGGCTAATGAAGCCGTGACCCAGAGACTG	13,63
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	13,79
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGG	15,31
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	15,47
CGGCTCTGATTCTAGTGACCTGGTATAATGG	15,63
CGGAGCTACCTGACCTCAATCATACTGCCAC	15,79
GGAAGGATTATCCCTTTAAGAATGATCGCA	17,31
CAGTCTTTGAGATGTTGAACATCTTTTGGTTG	17,47
GCGTAAAGATCTCGATTCTGGTGCCAAAAC	17,63
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	17,79
AAAAGATGTCTGTCAGCCAAAGCTTAGCATAA	19,31
GCGGCTGGACGACCCCGCGTGCACGACTGA	19,47
CCGTCGAGCCCTGCGGACAAAACGCATATCCT	19,63
CGGCCCGCCAAATTAATAGTGCATTACGCTTC	19,79
GCCTAAAGGTCTTCCACGGTAAATCGGGGGTG	21,31
ACTCCGGCCTCCTTGGTATATTAGCTTACCCA	21,47
CTCGCGTGGCAGCTTACGACTCGTCGAACGA	21,63
GGACTGTTCTACATAGTGACTTGGACGAGGTT	21,79
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	23,31
TCCCTGTCTGTCGAGCCAGCGACCACTTCTG	23,47
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	23,63
CTTGGGGGTGATATACCTCACTAAACTCCTTC	23,79
TAATGTGACTAAGCGTTAACTCCAAAGGAAAC	25,31
CAGCTATCCCATATTCGATGTAAGCGGACATC	25,47
TATGCGCCGATATCCGTTCAAACCTAGGGGGC	25,63
TTCTGACCAAAGCTCATGAGAATTGTAAACAG	25,79
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	27,31
TACCTATGGACGGGATATGCGACACCATGAT	27,47
CCGGATGAGTTATGAAGATCGTCATTGGGATA	27,63
TACAATCTCGAAGTAAAGCATAGCACCCCTGCG	27,79
AAGATAGGGTCACAGCAGTAATACCTCTACCT	29,31
TGTTGGACGTAAGCGTGAAATAACGACCAGAA	29,47
AGCACGAGGATTATCACGTGTACCTCGAAATA	29,63
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	29,79
AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	31,31
TAAGTATTTCTCCTGGTTCGGCTAGCTGAT	31,47
CTATGGTCTTAATATAACCCTCGGAGGCAAG	31,63
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	31,79
GAGTGCCCCCTCGGCAGCCCTCGGTTATAC	33,31
TCGTCAAGCCTGCTTTCCATAGCTAACCCGAT	33,47
TGTGCATTCCACGTGAGTCGTAATAAGCAA	33,63
ACGTGGGAGTGCCCGAGCGTCTGAGGTATGGT	33,79
TTACCCACTATGTTGTCTCAAGTGCTAACAGT	35,31
ACTAATTATCCATAACTGTGCACGTCAAGGAT	35,47
TCTCACCGGTGGCCGTTGCTACATCAGTTTCT	35,63
TTGCACTCCTGGGAAACTATACTTACGCACT	35,79
CAACAGTTTTGAGACTACCCGAGCTTTTTTTTTTTTACTCTGA	0,55
TTTTTTTTTATAGGACAGCACCGAATTTTTTTTT	0,71
TTTTTTTTTGAGCCACT	1,24
AGCGAATTCATCCCTAAGTAAACTTTTTTTTTTTTTTTGAGATGCG	4,55
TTTTTTTTTCCGGTTTGACATGAATTTTTTTTT	4,71
TTTTTTTTTGTCGTTG	5,24
CACTGAGTTTTTTTTATCCTTCCAACATCTC	6,39
ACAGGCGGTACTCGATAGTTCGTATATGCTCTCTAICTTTTTTTTT	6,55

TTTTTTTTTAAGCGTCTTTACGCGCTTGAAC	6,71
ATTTCCGCTTTTTTTGGGCTGATCCCGCAAC	10,39
CACCGTTCGCGGCCATTAACCTGGAACCGTGAGTATGATTTTTTTTTT	10,55
TTTTTTTTAAGTGTGTAGCCCGGCTCCCGGT	10,71
GTATTAGCATAGCCAGATAATAGTCAGTCTCTTCTTCTCGTATATCA	12,23
AGATGTTCCGCTCAGCCCCAGTGAGCTCGACA	12,39
GGGGTCAACCAACCAAAATGAACACCCCGCTGC	12,55
GAGGGAACACAGCTAAGTGGCTGGCCATTATACACGCGAGCTATGTAG	14,23
CCAGGTCAGTTCGGTTCAGAAACCTAGCTACTTTAGGCCCAAGGAG	14,55
TTCTTAAAGTGGGACGTATGATTGAGTTTTGGCTCGACGGTTAATTG	16,23
CCATATCCTGCGATCACATCTTTTGGGGTCGT	16,39
CACCAGAATTCCAGCTGATACTTTGAAAAGGC	16,55
AGTTTCCTGAAGCGTAGAGTCGGCGGGGATGA	18,23
CGCACGGCGCCCCTCGCCTATCTACGCTTAC	18,39
AACTACTGTCAGTCGTAAGACTGTGCGAGAT	18,55
ATCGACTACTAATCACCTCGTGTTCGAGAAA	18,71
AGCTTGGGAACCTCGTTAGCTCCGTCGCGATCACACTGACACCCTTT	20,23
CTAATATATTATGCTAAGCTGTTCTCCCGTC	20,39
CGTTTGTCTGGTAAAGGGCATACCTAGAAAATCAGAGCCGAGGTCAGG	20,55
CCAAGTCAAGGATATGTCATCCGGTTACTTCG	20,71
ATTACCGTGAAGGAGTGCATCAGAAAAAGCCC	22,23
GTCGCTGGCACCCCGTCACATTAGAATATGG	22,39
CGAGTCGTCAGAAGTGAACAGCATGGCTTCAT	22,55
TTAGTGAGTCGTTTCGAGGCGCATATGAGCTT	22,71
TGGAGTTAGCCTGTTTCCCCAAGGTATAGCG	24,23
GTTATTTTCGTTTCCCTTGTGGGTAAGTTATGGATAATTAGTACGGCCAC	24,39
GTTTGAACCTCTGGTCGACAGGGACCACCGCA	24,55
CGGAACAGGCCCTACGGTGAGATTCCCAGGAGTGCAAACAACATA	24,71
GAACCTGACTGTTTACAACAGTCCGGAAGGAC	26,23
CTTACATCGCGTATCCGGGCACTCAAAGCAGGCTTGACGATCACGTGG	26,39
TGACGATCGATGTCCGGCCGAGTAGACGTGC	26,55
AATTCTCATATCCAAAATGCACATCGGGCACTCCACGTTGCCGAGG	26,71
GTATTACTCGCAGGGTGCGGGCCGCTGACAGA	28,23
GTCGCATAAGGTAGAGCTACCGCTAGGAGAAAATCAGTTAATATTAAG	28,39
GGTACACGATCATGGTCCAGCCGCGCGCAGGG	28,55
GCTATGCTTATTTGAGACCATAGTGTTCACCTCTCCCGTGGGAGG	28,71
GCGGAACCACTGTTAGCACTTGAGCCCGAGCCCTAACGATGCTGTGAC	30,39
AGGTGGCCAGAACTGATGTAGCAATCAGCTAGTCCAACATGATAATC	30,71
AGCTATGGCCAAGGCATAGGTTAAACCATACCAGATTGTACTGCTCTA	32,39
TCAGACGCCTTGCCCTCCGAGGGTTATCGGGTTCATAGGTATTCATAAC	32,71
CGTGCACAGTATAACCGAGGCGGCAGTGCCTAGGTCAGAAACGCTTAG	34,39
AGTATAGTTTGCTTTAAGTACGACATCCCTGAGATAGCTGGGATATCG	34,71

S3.7 ZX-6H×6H×64B-pore crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,31
AACTGTTGTGCCTATGTTACTTAGGGATGG	1,47
TACGAACTCAACGCACGCTCGGGTAGTCTCAAGAAGATAGAGAGCATA	1,79
AATTCGCTAAACCGGAAAAGTATCCGCATCTC	3,47
ACTCAGTGATCGAGTATTATGTCGCCTTTTC	3,63
GAACGGTGACACACTTGTGTTCAATCAGAGTA	5,31
GCGGAAATATGGCCGCTTCGGTGCGCAGCGGG	5,47
CCGCTGTAAACGTTAATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	5,63
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	5,79
CCGGGCTAATGAAGCCGTGACCCAGAGACTGTCTGATGCACCGGGAG	7,31
CCAGCCACTTAGCTGTGTCAGTGTGATCGCGA	7,47
GTTCCCTCTAGCTAGGGTGATGCCAAAAGGGT	7,63
GGATATGGAGCTGGAACGGCTCTGATTTCTAG	9,47
TGACCTGGTATAATGGCGGAGCTACCTGACCT	9,63
CAATCATACTGCCACGGAAGGATTATCCCC	11,31
TTAAGAATGATCGCACAGTCTTTGAGATGTT	11,47
GAACATCTTTGGTTGGCGTAAAGATCTCGCA	11,63
TTCTGGTGCCAAAAGTCCGACTCGTTCAAGCACTATTATCTGGCTAT	11,79
AAAAGATGTCTGTACGCCAAAGCTTAGCATAA	13,31
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	13,47
CCGTCGAGCCCTGCGCGACAAACGCATATCCTCGCCCGCCAAATTA	13,79
TAGTCGATTACGCTTCGCCTAAAGGTCCTTCC	15,47
ACGGTAATCGGGGGTACTCCGGCCTCCTTGG	15,63
TATATTAGCTTACCCACTCGCGTGGCAGCTCT	17,31
ACGACTCGTGAACGAGGACTGTTCTACATAG	17,47
TGACTTGGACGAGGTTTACTGGGCGTATACAGGAACTCGAGGGGC	17,63
TCCCTGTCTGTGAGCCAGCGACCACTTCTG	17,79
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAGCTTGGGGGTGATATA	19,31
CTACTAAACTCCTTCTAATGTGACTAAGCGT	19,47
TAAC TCAAAGGAAACCAGCTATCCCATATTC	19,63
GATGTAAGCGGACATCTATGCGCCCGATATCC	21,47
GTTCAAAGTGGGGGCTTCTGACCAAAGCTCA	21,63
TGAGAATTGTAACAGGAACAGCTTAGAGCAG	23,31
TCAAAGTTCGGATACGCTACCTATGGACGGGGA	23,47
TATGCGACACCATGATCCGGATGAGTTATGAA	23,63
GATCGTCATTGGGATATACAATCTCGAAGTAAAGCATAGCACCCCTGCC	23,79
AAGATAGGGTCACAGCAGTAATACCTCTACCT	25,31
TGTTGGACGTAAGCGTGAATAACGACCAGAA	25,47
AGCACGAGGATTATACGTGTACCTCGAAATAATCGTTAGTTTCTCGA	25,79
CTGTTCCGAAACAGGCAGCGGTAGCCTCCCAC	27,47
TTAACCTATGCCTTGGTAACTGATTTCTCCT	27,63
GGTTCGCTAGCTGATCTATGGTCCTTAATAT	29,31
AACCCTCGGAGGCAAGGGGAGAGGGTGAACA	29,47
GGCCACTGGCTCGGGGAGTGCCCCCTCGGCAGCCGCTCGGTTATAC	29,63
TCGTCAAGCCTGCTTTCCATAGCTAACCCGAT	29,79
TGTGCATTCCACGTGAGTCGTAATAAGCAAACGTGGGAGTGCCCGA	31,31
GCGTCTGAGGTATGGTTTACCCACTATGTTGT	31,47
CTCAAGTGCTAACAGTACTAATTATCCATAAC	31,63
TGTGCACGTCAGGGATTCTACCGGTGGCCGT	33,47
TGCTACATCAGTTTCTTGTCACTCCTGGGGAA	33,63
ACTATACTTACGCACTGGTTTGGAGGGATTAG	35,31
GCAATTGCTAGGTTGCATTGTAGGCACAATTT	35,47
TTGATTCGATCACATACATGGGCAATAAAGCT	35,63
GTAGCCTGAGGCGCGCAGCTGCACCGTGTACCTTGATATTGAGGGAC	35,79
GTATGATTGTTCCGGTTCAGAAACTATGCTCTAGATGTTTCAAGTTTGG	0,23
CTATCTCCCGCTGCGCACCGAAAACCGTATGATGTTGTGCGATCA	0,55
GACATGAACCATCCCTAAGTAAACTTTTTTTTTTTTTTTTTTCCAGCT	2,55
TTTTTTTTGAAAAGGCCAGGTCATTTTTTTT	2,71
TTTTTTTTTCCGGTTT	3,24
ATGAACACCGCTCAGCGTATTAGCAAAAAGCCCGAGGGAACCAGTCTCT	4,23
GGGCTGATGAGATGCGGATACTTTACTCTGATAGCCCGACAGCTAA	4,55
ATCCTTCCCTCCCGGTAACAGCATAAGTGTGTCACCGTTCGCGGCCAT	6,23
ACACTGACGGGGATGACTAATATATCGTTCGA	6,39
CTTTACGCTCGCGATCATTCCGCTAAGCGTTACAGGCGGCCCGCAAC	6,55
GCATCAGATGCGAGATCCAAGTCAGCTCGACA	6,71
CAGAGCCGTTTTTTTTTTTTTTTTTGAAGCGTA	8,39

GGCATCACCTAGAAATAGCGAATTTACTCGATCACTGAGTTTTTTTTT	8,55
TTTTTTTACCCTTTTATACCGTTTTTTTTT	8,71
ATAATAGTGCTTGAACAGTTCGTAGAGCCACTTAACCTGGATAGGACA	10,23
AAAGACTGATAGCCAGCATCTTTGGGGTCGT	10,39
TAGCTCCGAACATCTCCAACAGTTTTGAGACTACCCGAGCGTGCGTTG	10,55
GAGTCGGCAGGTCAGGCGTTTGTCCGCGAGGG	10,71
AGCTTGGGCAGAAGTGCACCAAGAAGTGGGACG	12,23
AACAGTCCTTATGCTAAATTCTCAGCGTATCC	12,39
GCGGGCCGCTATGTAGTTCTTAAACAACCAA	12,55
GTCGCTGGTTAATTTGGTCGCATATATCCAA	12,71
CGCACGGCTTTTTTTTTTTTTTTTGTATGTCGG	14,39
GCCGGAGTTCAGTCGTCCATATCCCATTATA	14,55
TTTTTTTTCCAAGGAGGTTTGAACTTTTTTTT	14,71
CACGCGAGGCCCTCGGGGTCACGGCTTCAT	16,23
CTTAGGCAGACGTGCTCTTCTCGAAGGAGT	16,39
CCCAGTGAGGAAGGACGTGGCTGGCCTAGCTA	16,55
AGTTTCTGTATAGCGTGGAGTTACTAATCAC	16,71
AGCTGTTCTGTATATCAGACAGGGATGGGTAAG	18,23
TCACATTACTGCTCTAGCGGAACCTTGCCCTC	18,39
TCATCCGGACGCTTAGCGAGTCGTAACCTCGT	18,55
CCCCAAGTTCATAACAGGTGGCCAAAGCAGG	18,71
GGCGCAIATTTTTTTTTTTTTTTTGCCTGTTT	20,39
GATAGCTGGGATATCGATCGACTACACCCCG	20,55
TTTTTTTTGAATATGGTAGGTTAATTTTTTTT	20,71
GCTATGCTTTACTTCGCTCGACGGCTGACAGA	22,23
CATAGGTACGCAGGGTCTATCTTACGCTTAC	22,39
GGTCAGAATCCCGTCCAGCCGCAGGATATG	22,55
AGATTGTATGAGCTTTGGTACACGTGATAATC	22,71
GTATTACTATCGGGTTGACGATCCTGTTTAC	24,23
CCTCTCCCAGGTAGAGAGTATAGTGCAACCTAGCAATTGCTATGTGAT	24,39
CTAACGATTGTTTCACGAACTTGAATCATGGT	24,55
AGCTATGGTCGAGAAACGAATCAAGCGCGCCTCAGGCTACAGTGCGTA	24,71
GTTATTTCTTTTTTTTTTTTTTTTATCCCTGACGTGCACAAGAACTG	26,39
ATCAGTTATCTGGTCTTACATCGCCCCCTA	26,55
TTTTTTTTAGGAGAAAATGTAGCATTTTTTTTT	26,71
GACCATAGGTATAACCAACTACTGCCACCGCA	28,23
CTACCGCTATATTAAGAATGCACAACCATACTCAGACGCACTGTTAG	28,39
GGGCACTCGTGGGAGGTTAGTGAGGTTTCCTT	28,55
GAGGCGCTGCCGAGGCACTTGAGTTGCTTTAAGTACGACTCACGTGG	28,71
GTGGGTAACATAATCCCTCCAAACCTCGGGCACCTTGACGAATCAGCTA	30,39
TCCCACGTAGCTTATTGCCCATGACAACATACGAGGGTTCCCGAGCC	30,71
CGGTGAGATTTTTTTTT	32,39
TTTTTTTTGTTATGGATAATTAGTACGGCCACCGGAACAGCCAAGGCA	32,71
CCTACAATGTCCCTCAATATCAAGGTGACACGCTCGTGCTGCTGTGAC	34,39
GTGCAGCTTTCCCGAGGAGTGCAAAAATTGTGGTCCAACATATTTTGA	34,71

S3.8 ZX-96H×64B-cross-tunnel crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGTCCTATGTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,55
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,71
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	3,23
TTCATGTCGCCTTTTCGAACGGTGACACACTT	3,39
GTGTTCAITCAGAGTAGCGGAAATATGGCCGC	3,55
TTCGGTGCGCAGCGGGCCGCTGTAACGCTTA	3,71
ATCAGCCCCGGGCTTTTGCTAATACGCTGAGCG	5,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	5,39
CCGGGCTAATGAAGCCGTGACCCAGAGACTG	5,55
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	5,71
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGG	7,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	7,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	7,55
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S3.9 ZX-4H×6H×96B-channel crystal sequences

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TAAGTATTTCTCCTGGTTCGGCTAGCTGAT	17, 103
CTATGGTCTTAATATAACCCTCGGAGGCAAG	19, 23
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	19, 39
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATAC	19, 55
TCGTCAAGCCTGCTTCCATAGCTAACCCGAT	19, 71
TGTGCATTCACGTGAGTCGTACTTAAAGCAA	19, 87
ACGTGGGAGTGCCCGAGCGTCTGAGGTATGGT	19, 103
TTACCCACTATGTTGTCTCAAGTGCTAACAGT	21, 23
ACTAATTATCCATAACTGTGCACGTCAGGGAT	21, 39
TCTACCCGGTGGCCGTTGCTACATCAGTTTCT	21, 55
TTGCACTCCTGGGGAAACTATACTTACGCACT	21, 71
GGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	21, 87
ATTGTAGGCACAATTTTTGATTCGATCACATA	21, 103
CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	23, 23
AGCTGCACCGTGTACCTTGATATTGAGGGAC	23, 39
ACCTCGTCATTCGGATAAACCATACTGAGGGC	23, 55
AGTGGCGGAGATCGGCTAATCATTAGTGCTCC	23, 71

CTTAGTTAGTTCATAGTTCATTAGGGGCGGAA	23, 87
ATGGGCTGGTGCCCCACGTACAGTAACCAACC	23, 103
AGTTCGTAGAAAAGGCGACATGAAGAGCCACTACACTGACCCTAGCTA	0, 47
TCCGGTTTCCCCTGCGCACCGAAGTGCGTTGCCATATCCCATTATA	0, 79
TAACCTGGAACCGTGA	1, 16
ATGAACACATAGGACAACAAGTTGAGATGCGGGGCTGATCGCTCAGC	2, 47
TAAGCGTTTATGCTCTCTATCTTCTACTCTGATCAGAAACCAGTCTCT	2, 79
GATACTTTTACTCGAT	3, 16
AACAGCATTTCGCGATCCTCGACGGTTAATTG	4, 31
CAGAGCCGCCCGCAACCACTGAGTAAGTGTGTCACCGTTCGCGGCCAT	4, 47
GCATCAGACTAGAAATCTTTAGGCCAAGGAG	4, 63
GTGGGACGCTCCCGTATTTCCGCACAGGCGG	4, 79
GGCATCACAAAAGCCCATCCTTCCAACATCTC	6, 31
TAGCCCGGACCCTTTGTATGATTCCATCCCTAAGTAAACTTGAGACT	6, 47
TAGCTCCGGGCTTCATCTTTACGCGCTTGAAC	6, 63
ACAGCTAAAGGTCAGGACCCGAGCAGCGAATT	6, 79
TTCTTAAAAACCTCGTCCAAGTCATTATGCTATCATCCGGTTACTTCG	8, 15
ATCGACTATGCGATCAGGGCATATGAGCTTT	8, 31
CACCAGAAGAAGCGTAGAGGGAAGTCCAGCT	8, 47
CTAATATAAGTTTTGGAGCTGTTCTCCCCGTC	8, 63
AGCTTGGGTGGGTAAGCCAGGTCATATGATTG	8, 79
CGTTTGTCTCAGTCGTCGCACGGCTCGTTTCGATCACATTAGAATATGG	10, 15
AGATGTTTCAGGATATGCCAGTGAGCTCGACA	10, 31
ATTACCGTCAACCAAAGTATTAGCGTTCGGT	10, 47
ATAATAGTCACCCCGCTTTTCTCGTATATCA	10, 63
CGAGTCGTATAGCCAGGGGGTCACGTGGCTGG	10, 79
GTTTGAACGATGTCCGAACAGTCCGCGCAGGG	12, 15
GTCGCTGGGCCCCCTAGACCATAGTGTTCAC	12, 31
GAACCTGACAGAAGTGGCGGGCCGGGAAGGAC	12, 47
TTAGTGAGGCGTATCCGGGCACTCAAAGCAGG	12, 63
TGACGATCGAAGGAGTGCCGGAGTAGACGTGCCACGCGAGCTATGTAG	12, 79
CTTACATCTATCCCAAATGCACATCGGGCAC	12, 95
AGTTTCTCGCAGGGTCCAGCCGCGGGGATGA	14, 15
AATTCTCAGCCCTCGCCTATCTTACGCTTAC	14, 31
AACTACTGCTGTTTACAAAGACTGTGCGAGAT	14, 47
GTCGATACTAATCACCTCGTTCGAGAAA	14, 63
TGGAGTTAATCATGGTGAGTCGGCTGACAGACATCTTTTGGGGTCTG	14, 79
GCTATGCTGTTTCTTCTACCGCTAGGAGAAA	14, 95
GTATTACTACCATAACAGATTGTAGGATATCG	16, 15
AGGTGGCCAGGTAGAGTGCCCATGGTGACACGGTGCAGCTATCCGAAT	16, 31
GGTACACGCCCGAGCCGGTCAGAAGTCTCTA	16, 47
AGCTATGGTATTTTCGAGACGAGGTGCCGATCTCGCCACTCTATGAAC	16, 63
TAGGTAAATCGGGTTCATAGGTATTCATAAC	16, 79
TCAGACGCCAAAGGCATAACTAAGTGGGGCACCAGCCCATAGCTTTAT	16, 95
CGAGGGTTATCAGCTAGATAGCTGGTATAGCG	18, 15
GTTATTTCTTGCCTCGTGGGTAAGTTATGGATAATTAGTACGGCCAC	18, 31
GAGGCGGCTTCTGGTCGACAGGGACCACCGCA	18, 47
CGGAACAGGTATAACCCGGTGAGATTCCCCAGGAGTGCAACTAATCCC	18, 63
AGTACGACGCCTGTTTCCCCAAGACGCTTAG	18, 79
GCGGAACCTTGCTTTATCCAAACAAATTGTGCCTACAATACAACATA	18, 95
CGTGCACAGCGCGCTCAGGCTACTATGTGATTCCCAGTATATTAAG	20, 31
AGTATAGTGCCCTCAGTATGGTTTATCCCTGACCTCTCCCTGCCGAGG	20, 63
CGAATCAATCCGCCCTAATGAAAGTGCCTACTTGACGATCACGTGG	20, 95
ATATCAAGACTGTTAGCACTTGAGGGTGGTTATCAGTTAGCTGTGAC	22, 31
AATGATTAAGAAACTGATGTAGCAGTCCCTCAGTCCAACATGATAATC	22, 63
ACTGTACGGCAACCTAGCAATTGCGGAGCACTAACGATGTGGGAGG	22, 95

S4.1 XY-48H×64B-pore crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGCTATGTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,55
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,71
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	3,23
TTCATGTCGCCTTTTCGAACGGTGACACACTT	3,39
GTGTTCAITCAGAGTAGCGGAAAATATGGCCGC	3,55
TTCGGTGCGCAGCGGGCCGCTGTAACGCTTA	3,71
ATCAGCCCCGGCTTTTGCTAATACGCTGAGCG	5,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	5,39
CCGGGCTAATGAAGCCGTGACCCAGAGACTG	5,55
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	5,71
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGG	7,23
GTGATGCCAAAAGGGTGATATGGAGCTGGAA	7,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	7,55
CGGAGCTACCTGACCTCAATCATACTGCCAC	7,71
GGAAGGATTCATCCCTTTAAGAATGATCGCA	9,23
CAGTCTTTGAGATGTTGAACATCTTTGGTTG	9,39
GCGTAAAGATCTCGCATTCTGGTGCCAAAAC	9,55
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	9,71
AAAAGATGTCTGTCAGCCAAAGCTTAGCATAA	11,23
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	11,39
CCGTGAGCCCTGCGCGACAAACGCATATCCT	11,55
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	11,71
GCCTAAAGGTCTTCACGGTAATCGGGGGTG	13,23
ACTCCGGCTCCTTGGTATATTAGCTTACCCA	13,39
CTCGCGTGGCACGTCTACGACTCGTCGAACGA	13,55
GGACTGTTCTACATAGTGACTTGGACGAGGTT	13,71
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	15,23
TCCCTGTCTGTCGAGCCAGCGACCACTTCTG	15,39
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	15,55
CTTGGGGGTGATATACCTCACTAAACTCCTTC	15,71
TAATGTGACTAAGCGTAACTCCAAAGGAAAC	17,23
CAGCTATCCATATTCGATGTAAGCGGACATC	17,39
TATGCGCCCGATATCCGTTCAAACCTAGGGGGC	17,55
TTCTGACCAAAGCTCATGAGAATGTAAACAG	17,71
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	19,23
TACCTATGGACGGGATATGCGACACCATGAT	19,39
CCGGATGAGTTATGAAGATCGTCATTGGGATA	19,55
TACAATCTCGAAGTAAAGCATAGCACCCCTGCG	19,71
AAGATAGGGTCACAGCAGTAATACCTTACCT	21,23
TGTTGGACGTAAGCGTGAAATAACGACCAGAA	21,39
AGCACGAGGATTATCACGTGTACCTCGAAATA	21,55
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	21,71
AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	23,23
TAACTGATTTTCTCCTGGTCCGCTAGCTGAT	23,39
CTATGGTCTTAATATAACCCTCGGAGGCAAG	23,55
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	23,71
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATAC	25,23
TCGTCAAGCCTGCTTTCCATAGCTAACCCGAT	25,39
TGTGCATTCCACGTGAGTCGTAATAAGCAA	25,55
ACGTGGGAGTGCCCCGAGCGTCTGAGGTATGGT	25,71
TTACCCACTATGTTGTCTCAAGTGCTAACAGT	27,23
ACTAATTATCCATAACTGTGCACGTCAAGGAT	27,39
TCTACCCGGTGGCCGTTGCTACATCAGTTTCT	27,55
TTGCACTCCTGGGAAAACATACTTACGCACT	27,71
GGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	29,23
ATTGTAGGCACAATTTTGATTGATCACATA	29,39
CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	29,55
AGCTGCACCGTGTACCTTGATATTGAGGGAC	29,71
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AGTGGGCGAGATCGGCTAATCATTAGTGCTCC	31,39
CTTAGTTAGTTCATAGTTCATTAGGGGCGGAA	31,55
ATGGGCTGGTGCCCCACGTACAGTAACCAACC	31,71
GGGTACCTGTGGGTAGGGCCGAGCGCTGGGCTTACATGTGCAAGTGA	33,23
AATATATGACTTGGTCGACCAGATCTGCTAGA	33,39

AACCACCAACATCCTCTTGACACCTTTCAATTTTTAGTAAACACCCA	33,55
ACAGAGCTGAACTTCCCATGGTCGTCTACTG	33,71
TCGTATGATCATAGGATCAAACATAACAGCGTACCGCCAGTTCTTG	35,39
TCCTTATTGGCGATCGTGCATTCCAATGTTTGATGGCCGCGTGGCTTA	35,71
TTAAGACGGCCGGTGT	44,8
AACCACATAAAGTCGTCCGCCTCCGGTAGTCA	45,23
ACGCGGAACGTAATGGCAGAAAGTCTATACCCGACAAAAACAGATTTG	45,39
TACCGGGGTGAACAGCACGTGCGGCTTCTCCT	45,55
GTATCGCCTTGTGTATATACTCTTGCGGGGG	45,71
GGTCGAGCGCTCCACT	47,23
GTAGTGGCCGGCCATCGTGGACTAGAAAGCGCCGGAATCTGAATATC	47,55
GTACCTCCGATACGCGAACCCAGAACCATTTA	47,71
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TCCAAGTGCAAGTAAAAAAGGAATTATGAGA	49,39
TCATGTGGGATCCTAAAGTTTCTGGTAGACCTCGTAGGGCTAGAGCGGT	49,55
GATATCCACGGTACATTCTGTTACTGCACGGA	49,71
ACGAGAGTGCTGGCATAAGCAAGAGAAAACCTAACTTGGGGACTAAGAT	51,39
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AGACGACGGATCTCCT	60,8
GCATGCCGGTAGCACCGTCAAATATGCGTGCT	61,23
TTAACGCTTTAGACCCAGCTTGACGCAAGACGCTAATCACTGGGCAG	61,39
GGTCTAGGTTGCAGAAAACCTACCCCTAAGC	61,55
AGCGTAGTAAGGGTTACAAGTTCTGCGGCGG	61,71
CTGTACGAATGAGTCC	63,23
GGCCTTGACATGACATTTCTCCACCCGTCCAACACCAGCAGGATGTGC	63,55
AGCCACAACCTGACAGTAGTACAGTATCTTT	63,71
GTAIGATTTTTTTTTTTTTTTTTTTGGACTCAT	0,15
CCATATCCAACCGTGACCCAGTGAGCTCGACA	0,31
ACCGGAGCTTCCAGCTGTGGGAGAATGTCATG	0,47
TATGATTGTTGAGACTCTTTCTCGTATATCA	0,63
TTTTTTTTGTGGGACGTGTGGGCTTTTTTTTT	0,79
CACTGAGTTTTTTTTTTTTTTTTTTGGTGCTAC	2,15
AAGTAACTACTCGATCTTTAGGCCAAAGGAG	2,31
ATTTCCGCCATCCCTGCGTTAAATCTGCAAC	2,47
AGCGAATTGCGGCCATCACGCGAGCTATGTAG	2,63
TTTTTTTTCCGGTTACTACGCTTTTTTTTT	2,79
GTATTAGCTTTTTTTTT	4,15
GGGGTCACAAGTGTGTACCGTCCGCTCAGCCATCTTTTGGGGTCGT	4,47
TTTTTTTTAAGCGTTACAGGCGGCAGTCTCTCGACGGTTAATTG	4,79
GAGGGAACTTTTTTTT	6,15
CCAGGTCAGTCCGGTTCAGAAAACCTAGCTAATCCTTCCAACATCTC	6,47
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AGTTTCCTTTTTTTTTTTTTTTTTTCGCGATCACACTGACACCCTTTT	8,15
AGATGTTCCGCCCTCGCTACCGCTAGGAGAAA	8,31
AACTACTGCAACAAAGGCATCACCTAGAAATCAGAGCCGAGGTCAGG	8,47
ATAATAGTCTAATCACGACCATAGTGTTCAC	8,63
TTTTTTTTATAGCCAGTAGCTCCGTTTTTTTT	8,79
TTCTTAAATTTTTTTTTTTTTTTTTTAAAAGCCGGGCTGATCCCGCAAC	10,15
CGCACGGCTGCGATCACCTATCTTACGCTTAC	10,31
CACCAGAATCAGTCGTAACAGCATGGCTTCATTAGCCCGGCTCCCGGT	10,47
ATCGACTAAGTTTTGGCTCGTGTTCGAGAAA	10,63
TTTTTTTTGAAGCGTAGCATCAGATTTTTTTTT	10,79
AGCTTGGGTTTTTTTTTTTTTTTTTTGAGATGCG	12,15
CTAATATATTATGCTAAGCTTCTCCCGTTC	12,31
CGTTGTCTGGGTAAGGACATGAATACTCTGA	12,47
CCAAGTCAAGGATATGTCATCCGGTACTTCG	12,63
TTTTTTTTAACCTCGTGCACCGAATTTTTTTTT	12,79
ATTACCGTTTTTTTTTTTTTTTTTTGAGCCACT	14,15
GTCGCTGGCACCCCGTACATTAGAATATGG	14,31
CGAGTCGTCAGAAGTGAACAGTTGTGCGTTG	14,47
TTAGTGAGTCGTTTCGAGGCGCATATGAGCTTT	14,63
TTTTTTTTGAAGGAGTCTATCTTCTTTTTTTTT	14,79
TGGAGTTATTTTTTTTTTTTTTTTGTATAGCG	16,15
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AGTTGGCCGCCCTATAACTAAGTGGGGCAC	16,63
TTTTTTTTCCCGAGCCCCCAAGTTTTTTTT	16,79
GAACCTGATTTTTTTTTTTTTTTTGAAGGAC	18,15

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TGACGATCGATGTCCGGCCGGAGTAGACGTGC	18,47
AATTCTCATATCCCAATGCCCATGGTGACACG	18,63
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GTATTACTTTTTTTTTTTTTTTTCTGACAGA	20,15
GTCGCATAAGGTAGAGGTGGGTAAGTTATGGATAATTAGTACGGCCAC	20,31
GGTACACGATCATGGTCCAGCCGCGCGCAGGG	20,47
GCTATGCTTATTTGACGGTGAGATTTCCCAGGAGTGCAATTTTTTTTT	20,63
TTTTTTTTCGCAGGGTGC GGCCGTTTTTTTTT	20,79
TAGGTTAATTTTTTTTTTTTTTTGGGGATGA	22,15
GTTATTTCCAAGGCAGGGCACTCAAAGCAGGCTTGACGATCACGTGG	22,31
CGAGGGTTTTCTGGTCAAAGACTGTGCGAGAT	22,47
CGGAACAGCTTGCCTCAATGCACATCGGGCACTCCCACGTTTTTTTTT	22,63
TTTTTTTGCCTGTTGAGTCGGCTTTTTTTTT	22,79
AGCTATGGGCCCTCAGTATGGTTTTTTTTTTTTTTTTTTTGTGGGAGG	24,31
TCAGACGCTTCCGCCCTAATGAAATCGGGTTATCAGTTAATATAAG	24,63
TTTTTTTACCATACCCCTCTCCCTTTTTTTTT	24,79
TTTTTTTTCGCGAGG	25,0
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AGTATAGTTTGCTTTAAGTACGACATCCCTGAGTCCAACATGATAATC	26,63
TTTTTTTAGTGCGTACTAACGATTTTTTTTTT	26,79
TTTTTTTACAACATA	27,0
CACTTGAGTTTTTTTTTTTTTTTTCTGCTCTA	28,15
CGAATCAAACCTGTTAGTAGTTTGATCCTATGA	28,31
ATGTAGCATATGTGATCATAGGTATTCATAAC	28,47
ATATCAAGAGAACTGGGAATGCACGATCGCC	28,63
TTTTTTTGTCCCTCAAAGATTGATTTTTTTTT	28,79
GCAATTGCTTTTTTTTTTTTTTTTACGCTTAG	30,15
AATGATTAGCAACCTAGGTACACCGACCAAGT	30,31
CAGGCTACGGAGCACTGATAGCTGGGATATCG	30,47
ACTGTACGGCGCGCTTGGTGGTTGGAAGTTC	30,63
TTTTTTTGGTTGGTTGGTTCAGAATTTTTTTTT	30,79
CTCGGCCCTTTTTTTTTTTTTTTTATCCGAAT	32,15
ACATGTAAGCCAGCGGCTCGACCGCGCTTTC	32,31
GTGTCAAGTCACTTGCCGCCCACTCTATGAAC	32,47
TACTAAAAATTGAAAGGCCACTACGCGTATCG	32,63
TTTTTTTGGGTGTTCAAGCCATTTTTTTTTT	32,79
GGCGGTACTTTTTTTTTTTTTTTTCTAATCCC	34,15
ATCTGGTCCAAGAACTATGGTTCATTACG	34,31
GCGGCCATTCTAGCAGCCTACAATAGCTTTAT	34,47
CGACCATGTAAGCCACCCCGTAATACACAA	34,63
TTTTTTTTCAGTAGAAGTGCAGCTTTTTTTTTT	34,79
CGTCTTAATTTTTTTTTTTTTTTTGTGCTGATT	44,15
ACTTCTGACACCGGCTCTTGCTTATGCCAGC	44,31
TTTTTGTCCGGTATAGTCATACGACAAACATT	44,47
AGAGTATACAAATCTGCGAATCGCGCGAAAAT	44,63
TTTTTTTCCCCCGCAAATAAGGATTTTTTTTT	44,79
GGAGGCGGTTTTTTTTTTTTTTTACCCACA	46,15
GATTGCCGTGACTACCCCTACTCTTACTTGC	46,31
CCGCACGTGATATCACATATATTGAGGATGT	46,47
TCTGGTTCAGGAGAAGCCACATGAATGTACCG	46,63
TTTTTTTAAATGGTAGCTCTGTTTTTTTTT	46,79
TGGCTGATTTTTTTTTTTTTTTTAGTGGAGC	48,15
CGAGATGTCCCACTGTTCGTACAGTTGGACGG	48,31
CAGAAACTCACCTTTCTAGTCCACGATGGCCG	48,47
AGCTACGAGGTCTACTCAAGGCCTGTCAAGT	48,63
TTTTTTTACCCTCTGAGGTAGCTTTTTTTTTT	48,79
CCCCAAGTTTTTTTTTTTTTTTACGACTTT	50,15
TTCCTTTTATCTTAGTCGGCATGCGGTCTAAA	50,31
CTCGTTCGTCTCATAATTCGCGTGCTGTTCA	50,47
GTAACGGAAGGACGATCTAGGACCTAACCCCTT	50,63
TTTTTTTTCGCTGCAGGCGATACTTTTTTTTT	50,79
CGTCGTCTTTTTTTTTTTTTTTTAGGTTTC	60,15
TCAAGCTGAGGAGATCGATACTTGAAAAGGC	60,31
TGATTAGCGTCTTGCGACTCTCGTGCTACATG	60,47
GGAACCTGTGTCAGATGAACACCCCGCTGC	60,63
TTTTTTTTCGCGCATCGAACGTTTTTTTTT	60,79
TATTTGACTTTTTTTTTTTTTTTTGCCTGCC	62,15

TGCTGGTGAGCACGCATAACCTGGATAGGACA
GGTAGGTTGACATCCAATTGGGATTAGGATC
TGTACTACGCTTAGGGAGTTCGTATATGCTCT
TTTTTTTAAAGATACTGGATATCTTTTTTTT

62,31
62,47
62,63
62,79

S4.2 XY-64H×64B-pore crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGTCCTATGTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,55
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,71
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	3,23
TTCATGTCGCCTTTTCGAACGGTGACACACTT	3,39
GTGTTCAITCAGAGTAGCGGAAAATATGGCCGC	3,55
TTCGGTGCGCAGCGGGCCGCTGTAACGCTTA	3,71
ATCAGCCCCGGCTTTTGCTAATACGCTGAGCG	5,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	5,39
CCGGGCTAATGAAGCCGTGACCCAGAGACTG	5,55
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	5,71
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGG	7,23
GTGATGCCAAAAGGGTGATATGGAGCTGGAA	7,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	7,55
CGGAGCTACCTGACCTCAATCATACTGCCAC	7,71
GGAAGGATTCATCCCTTTAAGAATGATCGCA	9,23
CAGTCTTTGAGATGTTGAACATCTTTGGTTG	9,39
GCGTAAAGATCTCGCATTCTGGTGCCAAAAC	9,55
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	9,71
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	11,23
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	11,39
CCGTGAGCCCTGCGCGACAAACGCATATCCT	11,55
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	11,71
GCCTAAAGGTCTTCACGGTAATCGGGGGTG	13,23
ACTCCGGCTCCTTGGTATATTAGCTTACCCA	13,39
CTCGCGTGGCACGTCTACGACTCGTCGAACGA	13,55
GGACTGTTCTACATAGTGACTTGGACGAGGTT	13,71
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	15,23
TCCCTGTCTGTCGAGCCAGCGACCACTTCTG	15,39
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	15,55
CTTGGGGGTGATATACCTCACTAAACTCCTTC	15,71
TAATGTGACTAAGCGTAACTCCAAAGGAAAC	17,23
CAGCTATCCATATTCGATGTAAGCGGACATC	17,39
TATGCGCCCGATATCCGTTCAAACCTAGGGGGC	17,55
TTCTGACCAAAGCTCATGAGAATTGTAAACAG	17,71
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	19,23
TACCTATGGACGGGATATGCGACACCATGAT	19,39
CCGGATGAGTTATGAAGATCGTCATTGGGATA	19,55
TACAATCTCGAAGTAAAGCATAGCACCCCTGCG	19,71
AAGATAGGGTCACAGCAGTAATACCTTACCT	21,23
TGTTGGACGTAAGCGTGAAATAACGACCAGAA	21,39
AGCACGAGGATTATCACGTGTACCTCGAAATA	21,55
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	21,71
AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	23,23
TAACTGATTTTCTCCTGGTCCGCTAGCTGAT	23,39
CTATGGTCTTAATATAACCCTCGGAGGCAAG	23,55
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	23,71
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATAC	25,23
TCGTCAAGCCTGCTTTCCATAGCTAACCCGAT	25,39
TGTGCATTCCACGTGAGTCGTAATAAGCAA	25,55
ACGTGGGAGTGCCCCGAGCGTCTGAGGTATGGT	25,71
TTACCCACTATGTTGTCTCAAGTGCTAACAGT	27,23
ACTAATTATCCATAACTGTGCACGTACGGGAT	27,39
TCTACCCGGTGGCCGTTGCTACATCAGTTTCT	27,55
TTGCACTCCTGGGAAAACATACTTACGCACT	27,71
GGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	29,23
ATTGTAGGCACAATTTTGATTGATCACATA	29,39
CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	29,55
AGCTGCACCGTGTACCTTGATATTGAGGGAC	29,71
ACCTCGTCATTCGGATAAACCCATACTGAGGGC	31,23
AGTGGGCGAGATCGGCTAATCATTAGTGCTCC	31,39
CTTAGTTAGTTCATAGTTCATTAGGGGCGGAA	31,55
ATGGGCTGGTGCCCCACGTACAGTAAACCAACC	31,71
GGTGACTGTGGGTAGGGCCGAGCGCTGGGC	33,23
TTACATGTGCAAGTGAATATATGACTTGCTC	33,39

GACCAGATCTGCTAGAAACCACCAACATCCTC	33,55
CTTGACACCTTCAATTTTAGTAAACACCCA	33,71
ACAGAGCTGAACTTCCCATGGTCTTCTACTG	35,23
TCGTATGATCATAGGATCAAATAAATACAGC	35,39
GTACCGCCAGTCTTGTCTTATTGGCGATCG	35,55
TGCATTCCAATGTTTGTATGGCCGCTGGCTTA	35,71
TAAAGACGGCCGGTGAACACATAAAGTCGT	37,23
CCGCCTCCGGTAGTCAACGCGGAACGTAATGG	37,39
CAGAAAGTCTATACCCGACAAAAACAGATTG	37,55
TACCGGGGTGAACAGCACGTGCGGCTTCTCCT	37,71
GTATCGCCTTGTGTATTATACTTTCGCGGGG	39,23
GGTCGAGCGCTCCACTGTAGTGGCCGCCATC	39,39
GTGGACTAGAAAGCGCCGCAATCTGAATATC	39,55
GCTACCTCCGATACGCGAACAGAACCATTTA	39,71
AGAGTAGGGGCAGTGCTCAGCCAAACAGTGGGACATCTCGGAAAGGTG	41,23
TCCCAAGTGCAAGTAAAAAAGGAATTATGAGA	41,39
TCAATGTGGGATCCTAAAGTTCTGGTAGACCTCGTAGGCTAGAGCGGT	41,55
GATATCCACGGTACATTCGTTTACTGCACGGA	41,71
ACGAGAGTGTGGCATAAGCAAGAGAAACCTAACTTGGGGACTAAGAT	43,39
CGTTGCGAATTTTCGCGGATTCGCATGTAGCCGAACGAGATCGTCTC	43,71
AGACGACGGATCTCCT	56,8
GCATGCCGGTAGCACCGTCAAATATGCGTGCT	57,23
TTTAAACGCTTAGACCCAGCTTGACGCAAGACGCTAATCACTGGGCAG	57,39
GGTCTAGGTTGCAGAAACCTACCCCTAAGC	57,55
AGCGTAGTAAGGGTTACAAGTTCCTGCGGCGG	57,71
CTGTACGAATGAGTCC	59,23
GGCCTTGACATGACATTCTCCACCCGTCCAACACCAGCAGGATGTGCG	59,55
AGCCCACTTGGACAGTAGTACAGTATCTTT	59,71
TTTCATGGCGGATGTCGCGGTTTGCTGCGGTGCGTACGGCTTTTAT	61,23
ATAGCGTAGACCGGACAACCCCGTAAATCGTA	61,39
AGAGTCGTTATGCCCCCGTCTGCTAGAGTGGGACTGGATCAGATG	61,55
TTCAAGTATTCGGTGACCTCCCGCATTACAA	61,71
CGCGCTTACCAAGTAACGTATGTACGACGCGATGCGAGTGAACGGGTG	63,39
GATGAATTTGTTTCGGGGCCAGGCGATCTAAGTCTGGCGGTGAGGAC	63,71
ACGTAAGTTGAAGTAG	76,8
GAAGCTTTTCTAGCCATAGCATCGACACTAC	77,23
GACCTGCTTTTCGACACGGACTGCATTCTGGACAGTAACTGCATTAAC	77,39
TACGTGCTCCCAACATAAGTGACGTCTCAGC	77,55
AGTTGAAAATATCTCGATAAGCAGAAGGACC	77,71
TGTATAACTGGCAAGA	79,23
GACAAGCGCGCTTCAGAAAGGATAGCCGGACCGTATTAATGCCGCGCC	79,55
AACGGTTTCCCGGACCTAGTGTCTATCAAGTC	79,71
TATTCTATGAAACCATTTCTCGGGTCGAGCGGGTCACTGTTGTGACCTA	81,23
CGAGAAGCGTATAGATGTTCCGCGCAATAGC	81,39
TCACAGGCGAACTACGTATGAATTTGGTTTAAACGCTCCTCGGGAATTA	81,55
ATACGACAGGTGGCAAACCACTCCGATGTCA	81,71
GCGCGCATACCACTACTGTGAATTTCCACACCGAGGATTCGCGAGG	83,39
TCCATGGGATTCACCAAGCTCGTATACACCCTGATTCTCCATGGCAGC	83,71
GCTTCGGTACAGGTCT	96,8
GAACGGTAGATCACCATTAGTGTACCCAGCA	97,23
GTTCCGGTCCCTGTGGACTCGGATACCCGGTCTGCTGTAATGCTG	97,39
TTCCGGGGTAAATCAAGCTTTATAAATTTCCG	97,55
ACGCTCTGTTCCAACTTTAGAGCCCGGCGGT	97,71
AATCTCGGATTCCTTA	99,23
AAAACCAGGCGCAATCTCATGGCATAAACGAAACCAATCATAACGAGC	99,55
GTGGAGGGAAGTTATTCTACTGGCGTTTTCAT	99,71
GTATGATTTTTTTTTTTTTTTTTTTTAAAGGAAT	0,15
AGATGTTCAACCGTGAAGCTGTTCTCCCCGTC	0,31
ACCCGAGCCAACCAAATGCCATGAGATTGCGC	0,47
ATAATAGTTGAGACTTCATCCGGTTACTTCG	0,63
TTTTTTTATAGCCAGCCCTCCACTTTTTTTTT	0,79
CACTGAGTTTTTTTTTTTTTTTTTTGGTGATCT	2,15
AAGTAACTACTCGATTCACATTAGAATATGG	2,31
ATTTCCGCCATCCCTAGCCGAACTTGATTTA	2,47
AGCGAATTGCGGCCATGGCGCATATGAGCTTT	2,63
TTTTTTTTTCCGGTTCAGAGCGTTTTTTTTTT	2,79
GTATTAGCTTTTTTTTT	4,15
GGGGTACAAGTGTGTACCGTTCGCTCAGCCCCAGTGAGCTCGACA	4,47

TTTTTTTTTAAGCGTTACAGGGCGCAGTCTCTTCTTCTCGTATATCA	4,79
GAGGGAACTTTTTTTT	6,15
CCAGGTCAGTTCGGGTTACAGAAACCCTAGCTACTTTAGGCCCAAGGAG	6,47
TTTTTTTTACAGCTAAGTGGCTGGCCATTATACACGCGAGCTATGTAG	6,79
TTCTTAAATTTTTTTT	8,15
CACCAGAATCCAGCTCCATATCTCGGATCACATCTTTGGGGTCGT	8,47
TTTTTTTTGTGGGACGTATGATTGAGTTTTGGCTCGACGGTTAATTTG	8,79
GAACTTGATTTTTTTTTTTTTTTTTGGGGATGAATCCTTCCAACATCTC	10,15
CGCACGGCGCGTATCCTCCAAACCAATTGTG	10,31
TGACGATCTCAGTCGTAAAGACTGTGCGAGATCTTTACGCGCTTGAAC	10,47
ATCGACTATATCCCAATGCCCATGGTGACACG	10,63
TTTTTTTTGAAGCGTAGAGTCGGCTTTTTTTTT	10,79
AGCTTGGGTTTTTTTTTTTTTTTTTCGCGATCACACTGACACCCTTTT	12,15
CTAATATATTAGCTAGTGGGTAAGTTATGGA	12,31
CGTTTGTCTGGGTAAGGGCATCACCTAGAAAATCAGAGCCGAGGTCAGG	12,47
CCAAGTCAAGGATATGCGGTGAGATTTCCCGAG	12,63
TTTTTTTTAACCTCGTAGCTCCGTTTTTTTTT	12,79
ATTACCGTTTTTTTTTTTTTTTTTAAAAAGCCGGGCTGATCCCGCAAC	14,15
GTCGCTGGCACCCCGGGGCACTCAAAGCAGG	14,31
CGAGTCGTCAGAAGTGAACAGCATGGCTTCATTAGCCCGGCTCCCGGT	14,47
TTAGTGAGTCGTTCGAAATGCACATCGGGCAC	14,63
TTTTTTTTGAAGGAGTGCATCAGATTTTTTTTT	14,79
AGTTTCTTTTTTTTTTTTTTTTTTGGAGATGCGGATACTTTGAAAAGGC	16,15
CTTACATCGCCCTCGCTACCGCTAGGAGAAA	16,31
AACTACTGGATGTCCGGACATGAATACTCTGAATGAACACCCCGCTGC	16,47
AATTCTCACTAATCACGACCATAGTGTTCAC	16,63
TTTTTTTTCTGTTTACGACCCGAATTTTTTTTT	16,79
TGGAGTTATTTTTTTTTTTTTTTTTTGGCCACTTAACTGGATAGGACA	18,15
GTCGCATAGTTTCTTCTATCTTACGCTTAC	18,31
GTTTGAACATCATGGTCAACAGTTGTGCGTTGAGTTTCGTATATGCTCT	18,47
GCTATGCTGCCCTACTCGTCTCGAGAAA	18,63
TTTTTTTTTCGCAGGGTCTATCTTCTTTTTTTTT	18,79
GTATTACTTTTTTTTTTTTTTTTTTCTGCTCTA	20,15
CGAATCAAAGGTAGAGGGCGATACAGTGGAGC	20,31
GGTACACGTATGTGATCATAGGTATTCATAAC	20,47
ATATCAAGTATTTTCGATAGTCCACGCGTATCG	20,63
TTTTTTTTGTCCCTCAAGATTGATTTTTTTTT	20,79
TAGGTTAATTTTTTTTTTTTTTTTTTACGCTTAG	22,15
GTATTTCCCAAGGCACGTCTTAATGACTACC	22,31
CGAGGGTTTTCTGGTCGATAGCTGGGATATCG	22,47
CGAACAGCTTGCCTCACTTCTGGCTGTTC	22,63
TTTTTTTTGCTGTTTGGTTCAGAAATTTTTTTTT	22,79
GAGGCGCTTTTTTTTTTTTTTTTTTGTATAGCG	24,15
GCGGAACCGTATAACCAGCTCTGTTCCTATGATCATACGACAAGAACT	24,31
AGTACGACATCAGCTAGACAGGGACCACCGCA	24,47
AGTGGCCTTGCTTTAGGCGGTACCAAACATTGGAATGCATTTTTTTT	24,63
TTTTTTTTCCCGAGCCCCCAAGTTTTTTTTT	24,79
CACCTGAGTTTTTTTTTTTTTTTTTGGAAAGGAC	26,15
AGCTATGGACTGTAGGGTACACCTCACTTGACATGTAATCTAGCAG	26,31
ATGTAGCAATCGGGTTGCCGGAGTAGACGTGC	26,47
TCAGACGCAGAAACTGATCTGGTCATTGAAAGGTGCAAGTTTTTTTT	26,63
TTTTTTTTACCATAACACAGTCTTTTTTTTT	26,79
GCAATTGCTTTTTTTTTTTTTTTTTTCTGACAGA	28,15
CGTGACAGCAACCTAGACGAGGTGCCGATCTCGCCACTCTATGAAC	28,31
CAGGCTACATCCCTGACCAGCCGCGCAGGG	28,47
AGTATAGTGCAGCCTTAACTAAGTGGGGCACCAGCCATTTTTTTTT	28,63
TTTTTTTTAGTGCAGTGGGCGCTTTTTTTTT	28,79
AATGATTACCCCGCAAGAGTATATTTTTTTTTTTTTTCTAATCCC	30,31
ACTGTACGGATATCAGATTGCCGGGAGCACTCTACAATAGCTTTAT	30,63
TTTTTTTTGGTGGTGTGACGCTTTTTTTTT	30,79
TTTTTTTTATCCGAAT	31,0
CATATATTGCCCTCAGTATGGTTTTTTTTTTTTTTTTTTTACAACATA	32,31
TACTAAAATCCGCCCTAATGAAGACCAAGTTAATTAGTACGGCCAC	32,63
TTTTTTTTTGGGTGTGAGTGAATTTTTTTTT	32,79
TTTTTTTTTACCACA	33,0
TAGTTTGAAGCCAGCGCTCGGCCCTTTTTTTTTTTTTTTTGGCCGAGG	34,31
GCGGCCATGAGGATGTTGGTGGTGTCTGATTTCTTGACGATCACGTGG	34,63
TTTTTTTTTAAGCCACTCCCAGTTTTTTTTT	34,79

TTTTTTTTGGAAGTTC	35,0
CGACCATGTTTTTTTTTTTTTTGTGGGAGG	36,15
TTCCGCGTCAGTAGAATCTTGCTTATGCCAGC	36,31
AATAAGGACCATTACGATCAGTTAATATTAAG	36,47
CCGCACGTCGATCGCCCGAATCGCGCGAAAAAT	36,63
TTTTTTTTTAGGAGAAGCCTCTCCCTTTTTTTT	36,79
ATGTGGTTTTTTTTTTTTTTTTTTGCTGTGAC	38,15
GCCACTACACGACTTTCCTACTCTTTACTTGC	38,31
TTTTGTGTCGATGGCCGGTCCAACATGATAATC	38,47
TCTGGTTCCAAATCTGCCACATGAATGTACCG	38,63
TTTTTTTTTAAATGGTCTAACGATTTTTTTTT	38,79
TGGCTGATTTTTTTTTTTTTTTTTTATACACAA	40,15
CGAGATGTCCCACTGTTCTGACAGTTGGACGG	40,31
CAGAACTCACCTTTCGCTCGACCGCTTTC	40,47
AGCCTACGAGGTCTACTCAAGGCCTGTCAAGT	40,63
TTTTTTTTTACCGCTCTGAGGTAGCTTTTTTTT	40,79
CCCAAGTTTTTTTTTTTTTTTTTACACCGGC	42,15
TTCCTTTTATCTTAGTCGGCATGCGGTCTAAA	42,31
CTCGTTCGTCTCATAAGGAGCGGGGGTATAG	42,47
GTAAACGAAGGACGATCTAGGACCTAACCTT	42,63
TTTTTTTTTCCGTGCACCCCGGTATTTTTTTT	42,79
CGTCGTCTTTTTTTTTTTTTTTTTTIAAGTTTC	56,15
TCAAGCTGAGGAGATCTACATACGTTACTTGG	56,31
TGATTAGCGTCTTGCAGCTCTCGTGTACATG	56,47
GGAACTTGCTGCCAGGCCTGGCCCCGAACGA	56,63
TTTTTTTTTCCGCCGCATCGCAACGTTTTTTTT	56,79
TAITTGACTTTTTTTTTTTTTTTTTTGCAGTCC	58,15
TGCTGGTGAGCACGCACCATGAAAGTCCGGTC	58,31
GGTAGGTTGACATCCACTTGGGATTAGGATC	58,47
TGTACTACGCTTAGGGACGACTCTTACCGAA	58,63
TTTTTTTTTAAAGATACTGGATATCTTTTTTTT	58,79
AACGGCGATTTTTTTTTTTTTTTTTTGGACTCAT	60,15
CGTACGCACGCGAGCAGTTATACAGGTCCGGC	60,31
AGAACCGGATAAAAAGCGTGGGAGAATGTCATG	60,47
CCAGTCCCCTCTAGCGCCTTGTCCGTCCGGG	60,63
TTTTTTTTTCACTGATTGTGGGCTTTTTTTTTT	60,79
CACTCGCATTTTTTTTTTTTTTTTTTGGTGCTAC	62,15
ACGGGGTTCACCCGTTAAAGCTTCTGTGCAAA	62,31
GCGCCAGATACGATTTGCGTTAAATCTGCAAC	62,47
CGGGGAGGGTCTCACAGCACGTAGAGATAAT	62,63
TTTTTTTTTTGTAATGACTACGCTTTTTTTTTT	62,79
ACTTACGTTTTTTTTTTTTTTTTTTCGCGTCG	76,15
GCAGTCCGCTACTTCATCACAGTGAATGGGTA	76,31
AGTFACTGTCCAGAATTAAGCGCGCTTAGATC	76,47
TGCTTATCGTTAATGCTACGAGCTTGGTGAAT	76,63
TTTTTTTTTGGTCCCTCAATTCATCTTTTTTTT	76,79
GATGCTATTTTTTTTTTTTTTTTTCATCGCCG	78,15
ATTAATACGTAGTGCATAGAATAATCTATAC	78,31
CGTCACTTGGCGCGCTACGCTATGGGGCATA	78,47
AGACACTAGCTGAGGAGCCTGTGATTGCCACC	78,63
TTTTTTTTGACTTGATTACTIONGAAATTTTTTTT	78,79
ACCCGAGATTTTTTTTTTTTTTTTCTTGCCA	80,15
AACAGTGACCCGCTCGCCGAGATTTTCGTTTA	80,31
AATTCATATAGGTCACATCCTTCTGAAGCG	80,47
GAGGAGCGTTAAACCCTGGTTTAATAACTT	80,63
TTTTTTTTTAAATCCCAAACCGTTTTTTTTTTT	80,79
TCCTCGTTTTTTTTTTTTTTTTTTGGCTAGAA	82,15
CGCGAAACCCTGCGAAACCAGTTCACAAGGG	82,31
GGAGAAATCGCTATTCGAGCAGGTATGTTGGG	82,47
GAGGTGGTGTGCCATCCCCGGAAGTTGGAA	82,63
TTTTTTTTTGACATCGTTTCAACTTTTTTTTTT	82,79
CCCGAGTCAGACCTGTACCGAAGCTTTTTTTTTTTT	96,31
GCTCTAAACAGCATTACACGACGACCGGGTATTGCGGCGCAGGGTGT	96,63
TTTTTTTTTACGGCCGGCCATGGATTTTTTTTTT	96,79
GATTGGGTGTGCTGGGTACACTAAATTTTTTTTTTTT	98,31
GCCAGTAGCGGGAATTTATAAAGCGCTCGTATGCTTCTCGCGTAGTTC	98,63
TTTTTTTTTATGAAAACGTGCTATTTTTTTTTT	98,79

S4.3 XY-4H×4H×32B-tube crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGTCCTATGTTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	3,23
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	3,39
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	5,23
TTCATGTCGCCTTTTCGAACGGTGACACACTT	5,39
GTGTTCAITCAGAGTAGCGGAAATATGGCCGC	7,23
TTCGGTGCGCAGCGGGCCGCTGTAACGCTTA	7,39
ATCAGCCCCGGCTTTTGCTAATACGCTGAGCG	9,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	9,39
CCGGGCTAATGAAGCCGTGACCCAGAGACTG	11,23
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	11,39
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGG	13,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	13,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	15,23
CGGAGCTACCTGACCTCAATCATACTGCCAC	15,39
GTATGATTTTTTTTTTTTTTTTTCTAGAAAT	0,15
AGCGAATTAACCGTGAATGAACACCCCGCTGC	0,31
TTTTTTTTCCGGTTTTAGCTCCGTTTTTTTT	0,47
ACCCGAGCTTTTTTTTTTTTTTTTCGCGATC	2,15
AAGTAACTTGAGACTGATACTTGAAAAGGC	2,31
TTTTTTTTCCATCCCTGGCATCACTTTTTTTT	2,47
ATTTCCGCTTTTTTTTTTTTTTTGTGCGTTG	4,15
CACCGTTCCGGGCCATTAGCCCGCTCCCGGT	4,31
TTTTTTTTAAGTGTGCTATCTTTTTTTTTT	4,47
CACTGAGTTTTTTTTTTTTTTTGTGAGCCACT	6,15
ACAGGCGGTAICTGATGGGCTGATCCCGCAAC	6,31
TTTTTTTTAAGCGTTCAACAGTTTTTTTTTT	6,47
GTATTAGCTTTTTTTTTTTTTTTACTCTGA	8,15
GTGGCTGGCGCTCAGCCAGAGCCGAGGTCAGG	8,31
TTTTTTTTACAGCTAAGCACCGAATTTTTTTT	8,47
GGGGTCACTTTTTTTTTTTTTTTGAGATGCG	10,15
TCAGAAACCAGTCTTACACTGACACCCTTTT	10,31
TTTTTTTTGTTCCGGTGACATGAATTTTTTTT	10,47
CCAGGTCATTTTTTTTTTTTTTTGGCTTCAT	12,15
CCATATCCCATTATAAGTTCGTATATGCTCT	12,31
TTTTTTTTTCCAGCTGCATCAGATTTTTTTT	12,47
GAGGGAACTTTTTTTTTTTTTTAAAAGCCC	14,15
TATGATTGCCTAGCTATAACCTGGATAGGACA	14,31
TTTTTTTTGTGGGACGAACAGCATTTTTTTTT	14,47

S4.4 XY-4H×4H×32B-cuboid crystal using alternating DNA-bricks sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGCCTATGTTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	3,23
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	3,39
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	4,8
TTCATGTCGCCTTTTCGAACGGTGACACACTT	4,24
GTGTTCAITCAGAGTAGCGGAAATATGGCCGC	6,8
TTCGGTGCGCAGCGGGCCGCTGTAACGCTTA	6,24
ATCAGCCCCGGGCTTTTGCTAATACGCTGAGCG	9,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	9,39
CCGGGCTAATGAAGCCGTGACCCAGAGACTG	11,23
TCTGATGCACCGGAGCCAGCCACTTAGCTGT	11,39
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGG	12,8
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	12,24
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	14,8
CGGAGCTACCTGACCTCAATCATACTGCCAC	14,24
GTATGATTTTTTTTTTCCATTATA	0,15
AGCGAATTAACCGTGAATTTCCGCAAGTGTGT	0,31
TTTTCCGGTTTCCATATCCTTTT	0,43
TTTTGAGCCACTCAGAGCCGTTTT	1,4
TAACCTGGATAGGACAGCACCGAATACTCTGA	1,16
CAACAGTTTTTTTTTTAGGTCAGG	1,32
ACCCGAGCTTTTTTTTCCCTAGCTA	2,15
AAGTAAACTTGAGACTCACTGAGTTAAGCGTT	2,31
TTTTCCATCCCTTATGATTGTTTT	2,43
TTTTGTGCGTTGACACTGACTTTT	3,4
AGTTCGTATATGCTCTGACATGAAGAGATGCG	3,16
CTATCTTCTTTTTTTTACCCTTTT	3,32
GTATTAGCTTTTTTTTTCGGCCAT	8,15
GTGGCTGGCGCTCAGCCAGGTCATTCCAGCT	8,31
TTTACAGCTAACACCGTTCTTTT	8,43
TTTTAAAAGCCCATGAACACTTTT	9,4
GGGCTGATCCCGCAACTAGCTCCGCTAGAAAT	9,16
AACAGCATTTTTTTTTCCCGCTGC	9,32
GGGGTCACTTTTTTTTACTCGAT	10,15
TCAGAAACCAGTCTCTGAGGGAACGTGGGACG	10,31
TTTTGTCCGGTACAGGCGGTTTT	10,43
TTTTGGCTTCATGATACTTTTTTT	11,4
TAGCCCGGCTCCCGGTGGCATCACTCGCGATC	11,16
GCATCAGATTTTTTTTGAAAAGGC	11,32

S4.5 XY-4H×4H×64B-cuboid crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGCTATGTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,55
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,71
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	3,23
TTCATGTCGCCTTTTCGAACGGTGACACACTT	3,39
GTGTTCAITCAGAGTAGCGGAAATATGGCCGC	3,55
TTCGGTGCGCAGCGGGCCGCTGTAACGCTTA	3,71
ATCAGCCCCGGCTTTTGCTAATACGCTGAGCG	5,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	5,39
CCGGGCTAATGAAGCCGTGACCCAGAGACTG	5,55
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	5,71
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGG	7,23
GTGATGCCAAAAGGGTGATATGGAGCTGGAA	7,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	7,55
CGGAGCTACCTGACCTCAATCATACTGCCAC	7,71
GGAAGGATTCATCCCTTTAAGAATGATCGCA	9,23
CAGTCTTTGAGATGTTGAACATCTTTGGTTG	9,39
GCGTAAAGATCTCGCATCTGGTGCCAAAAC	9,55
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	9,71
AAAAGATGCTGTGACGCCAAGCTTAGCATAA	11,23
GCGGCTGGACGACCCGCGCTGCGACGACTGA	11,39
CCGTGAGCCCTGCGCGACAAACGCATATCCT	11,55
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	11,71
GCCTAAAGGTCTTCACGGTAATCGGGGGTG	13,23
ACTCCGGCTCCTTGGTATATTAGCTTACCCA	13,39
CTCGCGTGGCAGTCTACGACTCGTCGAACGA	13,55
GGACTGTTCTACATAGTGACTTGGACGAGGTT	13,71
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	15,23
TCCCTGTCTGTCGAGCCAGCGACCACTTCTG	15,39
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	15,55
CTTGGGGGTGATATACCTCACTAAACTCCTTC	15,71
GTATGATTTTTTTTTTTTTTTTGTATAGCG	0,15
CACCGTTCAACCGTGAACACTGACACCTTTT	0,31
ACCCGAGCAAGTGTGTGACAGGGACCACCGCA	0,47
ACAGGCGGTTGAGACTCAGAGCCGAGGTCAGG	0,63
TTTTTTTTTAAGCGTTCCCCAAGTTTTTTTTT	0,79
CACTGAGTTTTTTTTTTTTTTTTGGAAGGAC	2,15
AAGTAAACTACTCGATGGGCTGATCCCGCAAC	2,31
ATTTCCGCCATCCCTGCCGGAGTAGACGTGC	2,47
AGCGAATTGCGGCCATTAGCCCGCTCCCGGT	2,63
TTTTTTTTTCCGGTTAACAGTCTTTTTTTTTT	2,79
GAGGAACTTTTTTTTTTTTTTTGAGATGCG	4,15
TCAGAAACCCTAGCTACATCTTTGGGGTCTG	4,31
CCAGGTCAGTTCGGTGACATGAATACTCTGA	4,47
GTGGCTGGCCATTATACGACGCTTAATTG	4,63
TTTTTTTTTACAGCTAAGCACCGAATTTTTTTT	4,79
GTATTAGCTTTTTTTTTTTTTTTGAGCCACT	6,15
CCATATCCCGCTCAGCATCTTCCAACATCTC	6,31
GGGGTCACTTCCAGCTCAACAGTTGTGCGTTG	6,47
TATGATTGCAGTCTCTTTACGCGCTTGAAC	6,63
TTTTTTTTTGTGGGACGCTATCTTTTTTTTTT	6,79
TTCTAAATTTTTTTTTTTTTTTTTCGCGATC	8,15
CGCACGGCTGCGATACCCAGTGAGCTCGACA	8,31
CACCAGAATCAGTCGTGGCATCACCTAGAAAT	8,47
ATCGACTAAGTTTGGTCTTCTCGTATATCA	8,63
TTTTTTTTTGAAGCGTATAGCTCCGTTTTTTTTT	8,79
AGCTTGGGTTTTTTTTTTTTTTTAAAAGCCC	10,15
AGATGTTCTTATGCTACTTTAGGCCAAAGGAG	10,31
CGTTTGTCCAACAAAAACAGCATGGCTTCAT	10,47
ATAATAGTAGGATATGCACGCGAGCTATGTAG	10,63
TTTTTTTTTATAGCCAGGCATCAGATTTTTTTTTT	10,79
AGTTTCCTTTTTTTTTTTTTTTTCTGACAGA	12,15
CTAATATAGCCCCTCGGATACTTTGAAAAGGC	12,31
AACTACTGTGGGTAAGCCAGCCGCGCAGGG	12,47
CCAAGTCACTAATCAGATGAACACCCCGCTGC	12,63

TTTTTTTAACTCGTGCGGGCCGTTTTTTTT	12,79
ATTACCGTTTTTTTTTTTTTTTTGGGGATGA	14,15
GTCGCTGGCACCCCGTAACTGGATAGGACA	14,31
CGAGTCGTCAGAAGTAAAAGACTGTGCGAGAT	14,47
TTAGTGAGTCGTTCGAAGTTCGTATATGCTCT	14,63
TTTTTTTGAAGGAGTGAGTCGGCTTTTTTTTT	14,79

S4.6 XY-4H×4H×128B-cuboid crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGCTATGTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,55
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,71
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	1,87
TTCATGTCGCCTTTTCGAACGGTGACACACTT	1,103
GTGTTCAITCAGAGTAGCGGAAAATATGGCCGC	1,119
TTCGGTGCGCAGCGGGCCGCTGTAACGCTTA	1,135
ATCAGCCCCGGGCTTTTGCTAATACGCTGAGCG	3,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	3,39
CCGGGCTAATGAAGCCGTGACCCAGAGACTG	3,55
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	3,71
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGG	3,87
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	3,103
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	3,119
CGGAGCTACCTGACCTCAATCATACTGCCAC	3,135
GGAAGGATTATCCCTTTAAGAATGATCGCA	5,23
CAGTCTTTGAGATGTTGAACATCTTTGGTTG	5,39
GCGTAAAGATCTCGCATTCTGGTGCCAAAAC	5,55
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	5,71
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	5,87
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	5,103
CCGTGAGCCCTGCGCGACAAAACGCATATCCT	5,119
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	5,135
GCCTAAAGGTCTTCACGGTAATCGGGGGTG	7,23
ACTCCGGCCCTCTGGTATATTAGCTTACCCA	7,39
CTCGCGTGGCAGTCTACGACTCGTCGAACGA	7,55
GGACTGTTCTACATAGTGACTTGGACGAGGTT	7,71
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	7,87
TCCCTGTCTGTCGAGCCCAGCGACCACTTCTG	7,103
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	7,119
CTTGGGGGTGATATACCTCACTAAACTCCTTC	7,135
TAATGTGACTAAGCGTAACTCCAAAGGAAAC	9,23
CAGCTATCCATATTCGATGTAAGCGGACATC	9,39
TATGCGCCCGATATCCGTTCAAACCTAGGGGGC	9,55
TTCTGACCAAAGCTCATGAGAATGTAAACAG	9,71
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	9,87
TACCTATGGACGGGATATGCGACACCATGAT	9,103
CCGGATGAGTTATGAAGATCGTATTGGGATA	9,119
TACAATCTCGAAGTAAAGCATAGCACCCCTGCG	9,135
AAGATAGGGTCACAGCAGTAATACCTTACCT	11,23
TGTTGGACGTAAGCGTGAAATAACGACCAGAA	11,39
AGCACGAGGATTATCACGTGTACCTCGAAATA	11,55
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	11,71
AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	11,87
TAACTGATTTTCTCCTGGTCCGCTAGCTGAT	11,103
CTATGGTCTTAATATAACCCTCGGAGGCAAG	11,119
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	11,135
GAGTGCCCCCTCGGCAGCCGCCTCGGTATAC	13,23
TCGTCAAGCCTGCTTTCCATAGCTAACCCGAT	13,39
TGTGCATTCCACGTGAGTCGTAATAAGCAA	13,55
ACGTGGGAGTGCCCCGAGCGTCTGAGGTATGGT	13,71
TTACCCACTATGTTGTCTCAAGTGCTAACAGT	13,87
ACTAATTATCCATAACTGTGCACGTACGGGAT	13,103
TCTACCCGGTGGCCGTTGCTACATCAGTTTCT	13,119
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14,143

S4.7 XY-4H×4H×192B-cuboid crystal sequences

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S4.8 XY-4H×4H×256B-cuboid crystal sequences

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AACGGTTTCCCGACCTAGTGTCTATCAAGTC	13,263
TATTCATGAAACCATTCTCGGGTTCGAGCGGG	15,23
TCACTGTTGTGACCTACGAGAAGCGTATAGAT	15,39
GTCCGCGCGAATAGCTCACAGGCGAACTACC	15,55
TATGAATTGGTTTAAACGCTCCTCGGGAATTA	15,71
ATACGACAGGTGGCAAACCACTCCGATGTCA	15,87
GCGCCGCATACCCATTCACTGTGAATTTCCAC	15,103
ACCGAGGATTCGCAGGTCCATGGGATTCACCA	15,119
AGCTCGTATACACCCTGATCTCCATGGCAGC	15,135
GCTTCGGTACAGGTCTGAACTGGTAGATCACC	15,151
ATTAGTGTACCCAGCAGTTCGGCTCCCTGTG	15,167
GACTCGGGATAACCCGGTCGTCGTGAATGCTG	15,183
TTCCGGGGTAAATCAAGCTTTATAAATCCCG	15,199
ACGCTCTGTTCCAAACTTTAGACCCCGCCGT	15,215
AATCTCGGATTCCTTAAAAACCAGGCGCAATC	15,231
TCATGGCATAAACGAAACCCAATCATACGAGC	15,247
GTGGAGGGAAGTTATTCTACTGGCGTTTTTCAT	15,263
GTATGATTTTTTTTTTTTTTTTTTATGGTTTC	0,15
AGATGTTCAACCGTGAGGGCACTCAAAGCAGG	0,31
ACCCGAGCCAACCAAAAACAGTGAGCTATTCG	0,47
ATAATAGTTTGAGACTAATGCACATCGGGCAC	0,63
CACTGAGTATAGCCAGAATTCATATTGCCACC	0,79
CGCACGGCTACTCGATGTGGGTAAGTTATGGA	0,95

ATTTCCGCTCAGTCGTTGCGGCGCCCTGCGAA	0,111
ATCGACTAGCGGCCATCGGTGAGATTCCCCAG	0,127
GTATTAGCGAAGCGTATACGAGCTAGACCTGT	0,143
CTAATATACGCTCAGTCCAAACCAAATTGTG	0,159
GGGGTCACTGGGTAAAGACACTAATCCGGGTAT	0,175
CCAAGTCACAGTCTCTTGCCCATGGTGACACG	0,191
GAGGGAACAACCTCGTCCCCGGAAGTTTGAA	0,207
GTCGCTGGCCTAGCTAGACGAGGTGCCGATCT	0,223
CCAGGTCACAGAAGTGCCGAGATTTTCGTTA	0,239
TTAGTGAGCCATTATATAACTAAGTGGGGCAC	0,255
TTTTTTTTGAAGGAGTCCCTCCACTTTTTTTT	0,271
TTCTAAAATTTTTTTTTTTTTTTCATCGCCG	2,15
AAGTAAACTGCGATCATCACATTAGAATATGG	2,31
CACCAGAACCATCCCTCGTACGCATACGATTT	2,47
AGCGAATTAGTTTTGGGGCGCATATGAGCTTT	2,63
AGCTTGGGTCCGGTTTAGAACCGGTCACCGAA	2,79
CACCGTTCTATGCTAAGCTGTTCTCCCCGTC	2,95
CGTTTGTCAAGTGTGTTAAGCGCGCACCCGTT	2,111
ACAGGCGGAGGATATGTCATCCGTTACTTCG	2,127
ATTACCGTTAAGCGTTGCGCTGGCCCTACTTCA	2,143
TCAGAAACCACCCCGCCTATCTTACGCTTAC	2,159
CGAGTCGTGTTCCGGTGATGCTATTCCAGAAAT	2,175
GTGGCTGGTTCGACTCGTGTCTCGAGAAA	2,191
AGTTTCTACAGCTAAAGCACGTAGAGATAAT	2,207
CCATATCCGCCCTCGCTACCGCTAGGAGAAA	2,223
AACTACTGTTCCAGCTGTTATACAGGTCCGGC	2,239
TATGATTGCTAATCACGACCATAGTGTTCAC	2,255
TTTTTTTTGTGGGACGAAACCGTTTTTTTTTT	2,271
GAGGCGGCTTTTTTTTTTTTTTTGGGGATGA	4,15
CTTACATCGTATAACCCTACTCTCACCTTC	4,31
AGTACGACGATGCCGAAAGACTGTGCGAGAT	4,47
AATTCTCATTGCTTTATTCCTTTTAGGCTAC	4,63
CACCTGAGCTGTTACGAGTCGGCCTGACAGA	4,79
GTCGCATAACTGTTAGTGGATATCATGCCAGC	4,95
ATGTAGCAATCATGGTCCAGCCGCGCGCAGGG	4,111
GCTATGCTAGAAACTGCCCAAGTGCTACATG	4,127
GCAATTGCCGCAAGGTTGCGGGCCGGGAAGGAC	4,143
GTTATTTGCAACCTACGTCGTCTAGCACGCA	4,159
CAGGCTACTTCTGGTCGCCGAGTAGACGTGC	4,175
CGGAACAGGCGCGCCTCAAGCTGTCTGCAAC	4,191
TATGGTTTGCCTGTTAACAGTCCGTATAGCG	4,207
GCGGAACCGCCCTCAGACTACGCTGGACTCAT	4,223
CTAATGAAATCAGCTAGACAGGGACCACCGCA	4,239
AGGTGGCCTTCCGCCCGTGGGAGATGTCAAAT	4,255
TTTTTTTTCCCGAGCCCCCAAGTTTTTTTTT	4,271
TGGAGTTATTTTTTTTTTTTTTTGAGCCACT	6,15
AGCTATGGGTTTCTTGGTACACCTCACTTGC	6,31
GTTTGAACATCGGGTTCAACAGTTGTGCGTTG	6,47
TCAGACGCGCCCCCTAATCTGGTCATTGAAAG	6,63
GAAC TTGAACCATACCCTATCTTCGAGATGCG	6,79
CGTGACACAGCGTATCCAGCTCTGTTCTATGA	6,95
TGACGATCATCCCTGAGACATGAATACTCTGA	6,111
AGTATAGTTATCCCAAGGCGGTACCAAACATT	6,127
GTATTACTAGTGCGTAGACCGAAAAAGCCC	6,143
CGAATCAAAGGTAGAGCGTCTTAATGACTACC	6,159
GGTACACGTATGTGATAACAGCATGGCTTCAT	6,175
ATATCAAGTATTTCGAACTTTCTGGCTGTTCA	6,191
TAGGTTAAGTCCCTCAGCATCAGATCGCGATC	6,207
AATGATTACCAAGGCAGGCGATACAGTGGAGC	6,223
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ACTGTACGCTTGCCCTAGTCCACGCGTATCG	6,255
TTTTTTTTGGTTGGTTTAGCTCCGTTTTTTTTT	6,271
CTCGGCCCTTTTTTTTTTTTTTTTGGCGAGG	8,15
ACTTGGGAGCCCAGCGATAGAATATAGGTCAC	8,31
TGGTGGTTTTACTTGCCTTGACGATCACGTGG	8,47
AGCCTACGGAGGATGTCGCGGAACTTAAACC	8,63
CGACCATGACCGCTCTTCCACGTACAACATA	8,79
TCTTGCTTCAGTAGAATGTCGTATAATGGGTA	8,95

AATAAGGATAGGTTTCTAATAGTACGGCCAC	8,111
CTCGTTCGCGATCGCCTCCTCGGTAGGGTGTA	8,127
ATGTGGTTAGGACGATGAGTGCACCTAATCCC	8,143
GCGTAAAACGACTTTACCGAAGTGCTGGGT	8,159
TTTTTGTGGTCTAAACCTACAATAGCTTTAT	8,175
GGTAGGTTCAAATCTGCCGAGTCTTGATTA	8,191
AGAGTATAGCTTAGGGGTGCAGCTATCCGAAT	8,207
TCAAGGCCCCCCCGCACAGAGCGTTAAGGAAT	8,223
GATTGCCGATGTCATGCGCCACTCTATGAAC	8,239
TGTAACGATATTCATGCCATGAAATAACTT	8,255
TTTTTTTTAAAGATAACCAGCCATTTTTTTTT	8,271
TTGGCTGATTTTTTTTTTTTTTTTACGCTTAG	10,15
CATATATCCCCTGTCCATGAAAATAAAAAGC	10,31
CCACATGAGACCAAGTGATAGCTGGGATATCG	10,47
TACTAAAATTAGGATCACGGGGTACTCTAGC	10,63
GTAACGATGGGTGTTGGTCCAGAACTGCTCTA	10,79
TAGTTTGATCCGTGCATACTTGAATTACTTGG	10,95
TCGCAACGGCTGTATTCATAGGTATTCATAAC	10,111
GCGGCCATGCGAAAATCACTCGCACTTAGATC	10,127
CGGCATGCTAAGCCACAGATTGTAGCTGTGAC	10,143
TTCCGCGTGGTGTACACTTACGTGTAGTGTCT	10,159
TGATTAGCCATTACGGTCCAACATGATAATC	10,175
CCGCACGTCTGCCAGGCAGTCCGATGTTGGG	10,191
GGAACTTGAGGAGAAGCTAACGATGTGGGAGG	10,207
GCCACTACCCGCCGCAATTCAACTTCTTGCCA	10,223
TGCTGGTGGATGGCCGATCAGTTAATATAAG	10,239
TCTGGTTCGGACATCCTATCCTTTGGTCCGGG	10,255
TTTTTTTTAAATGGTCTCTCCCTTTTTTTTT	10,271
ACCCGAGATTTTTTTTTTTTTTTGCACTGCC	12,15
TACGCTATCCCCTCGATCCTTCCAACATCTC	12,31
GCCTGTGAGTCCGGTCCGAGATGTTCTCATAA	12,47
CCAGTCCCCGTAGTTCCCTTACGCGCTTGAAC	12,63
GAGGTGGTCATCTGATCAGAACTATGTACCG	12,79
TACATACGTGACATCGCATCTTTGGGGTCTGT	12,95
CCCATGGATCGCGTGCAGTCTCGTATCTTAGT	12,111
GCGCCAGATGGTGAATCTCGACGGTTAATTTG	12,127
ACCAGTTCGTCTCACCGAATCGCAGGAGATC	12,143
AGCAGGTCCGGTATCTTTTAGGCCCAAGGAG	12,159
CACGACGATGTCGAAATATTGACGTCTTGCG	12,175
CGTCACTTCAGCATTACACGCGAGCTATGTAG	12,191
GCTCTAAAGCTGAGGACTAGGACCTAACCCCTT	12,207
GCCTTGTACGGCCGCCCCAGTGAGCTCGACA	12,223
GATTGGGTCTGAAGCGTCTGACAGTTGGACGG	12,239
AGACACTAGCTCGTATTCTTCTCGTATATCA	12,255
TTTTTTTTGACTTGATTGTGGGCTTTTTTTTT	12,271
AACGGCGATTTTTTTTTTTTTTTTACCACA	14,15
GCTTCTCGCGGAGCATAACCTGGATAGGACA	14,31
ACGACTCTATCTATACACATGTAATCTAGCAG	14,47
GAGGAGCGGGGCATAAGTTCGTATATGCTCT	14,63
CGGGGAGGTAATCCCGTGTCAAGGGAAGTTC	14,79
TCACAGTGTGTAATGGATACTTTGAAAAGGC	14,95
AATTCATCGTGAAAATTCATACGACAAGAAT	14,111
GGAGAATCCCGAACGAATGAACACCCCGCTGC	14,127
AAAGCTTCGCTGCCATGGAATGCAACACCGGC	14,143
AGCCGAACGGCTAGAAGGGCTGATCCCGCAAC	14,159
AGTTACTGCACAAGGGGGAGGCGGGGGTATAG	14,175
TATAAAGCGTTAATGCTAGCCCGGCTCCCGGT	14,191
TGCTTATCCGGGAATCCCGGTAATACAAA	14,207
CTGGTTTTGGTCTTCACTGACACCCTTTT	14,223
ATTAATACGATTGCGCGCTCGACCCGCTTTC	14,239
GCCAGTAGGGCGCGGCCAGGCCGAGGTCAGG	14,255
TTTTTTTTATGAAAACGAGGTAGCTTTTTTTTT	14,271

S4.9 XY-32H×64B-pore crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,31
AACTGTTGTGCTATGTTACTTAGGGATGG	1,47
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,63
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,79
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	3,31
TTCATGTCGCCTTTTCGAACGGTGACACACTT	3,47
GTGTTCAITCAGAGTAGCGGAAATATGGCCGC	3,63
TTCGGTGCGCAGCGGGCCGCTGTAACGCTTA	3,79
ATCAGCCCCGGCTTTTGCTAATACGCTGAGCG	5,31
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	5,47
CCGGGCTAATGAAGCCGTGACCCAGAGACTG	5,63
TCTGATGCACCGGAGCCAGCCACTTAGCTGT	5,79
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGG	7,31
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	7,47
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	7,63
CGGAGCTACCTGACCTCAATCATACTGCCAC	7,79
GGAAGGATTATCCCTTTAAGAATGATCGCA	9,31
CAGTCTTTGAGATGTTGAACATCTTTGGTTG	9,47
GCGTAAAGATCTCGCATTCTGGTGCCAAAAC	9,63
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	9,79
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	11,31
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	11,47
CCGTCGAGCCCTGCGCGACAAACGCATATCCT	11,63
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	11,79
GCCTAAAGGTCTTCACGGTAATCGGGGTGACTCCGGCCTCCTGG	13,47
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GGACTGTTCTACATAAGTGACTTGGACGAGGTTCACTGGGCGCTATAC	17,31
AGGAACTCGAGGGGCTCCTGTCTGTGAGC	17,47
CCAGCGACCCTTCTGGAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	17,63
CTTGGGGGTGATATACCTCACTAAACTCCTTC	17,79
TAATGTGACTAAGCGT	19,31
TAACTCAAAGGAAACCAGCTATCCCATATTCGATGTAAGCGGACATC	19,63
TATGCGCCGATATCCGTTCAAACCTAGGGGGC	19,79
TTCTGACCAAAGCTCA	22,16
TGAGAATTGTAAACAGGAACAGCTTAGAGCAG	23,31
TCAAGTTCGGATACGCTACCTATGGACGGGATATGCGACACCATGAT	23,47
CCGGATGAGTTATGAAGATCGTCATTGGGATA	23,63
TACAATCTCGAAGTAAAGCATAGCACCCCTGCG	23,79
AAGATAGGGTCACAGCAGTAATACCTCTACCT	25,31
TGTTGGACGTAAGCGTGAATAACGACCAGAA	25,47
AGCACGAGGATTATACGTGTACCTCGAAATA	25,63
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	25,79
AGCGGTAGCCTCCACTTAACCTATGCCTTGG	27,31
TAACTGATTTTCTCCTGGTTCGGTAGCTGAT	27,47
CTATGGTCCCTAATATAACCCTCGGAGGCAAG	27,63
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	27,79
GAGTGCCCCCTCGGCAGCCGCTCGGTTATAC	29,31
TCGTCAAGCCTGCTTCCATAGCTAACCCGAT	29,47
TGTGCATTCACCGTGAGTCGTAATAAGCAA	29,63
ACGTGGGAGTGCCCGAGCGTCTGAGGTATGGT	29,79
TTACCCACTATGTTGTCTCAAGTGCTAACAGT	31,31
ACTAATTATCCATAACTGTGCACGTCAGGGAT	31,47
TCTACCGGTGGCCGTTGCTACATCAGTTTCT	31,63
TTGCACTCCTGGGAAAATACTACTACGCACT	31,79
GGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	33,31
ATTGTAGGCACAATTTTGATTTCGATCACATA	33,47
CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	33,63
AGCTGCACCGTGTACCTTGATATTGAGGGAC	33,79
ACCTCGTCATTCGGATAAACCATACTGAGGGC	35,31
AGTGGGCGAGATCGGCTAATCATTAGTGCTCC	35,47
CTTAGTTAGTTCATAGTTCATTAGGGGCGGAA	35,63
ATGGGCTGGTGCCCCACGTACAGTAACCAACC	35,79
GTATGATTTTTTTTTTTTTTTTTTATCCGAAT	0,23
TCAGAAAACAACCGTGACATCTTTTGGGGTTCGT	0,39
ACCCGAGCGTTCGGTTCGCCACTCTATGAAC	0,55
GTGGCTGGTTGAGACTCTCGACGGTAAATTTG	0,71

TTTTTTTTACAGCTAACAGCCATTTTTTTTT	0,87
CACTGAGTTTTTTTTTTTTTTCTAATCCC	2,23
AAGTAAACTACTCGATATCCTTCCAACATCTCAAAGACTGTGCGAGAT	2,39
ATTTCCGCCATCCCTCCTACAATAGCTTTAT	2,55
AGGGAATTGCGGCCATCTTACGCGCTTGAACGAGTCGGCTTTTTTTT	2,71
TTTTTTTTCCGGTTGTGCAGCTTTTTTTTT	2,87
GTATTAGCTTTTTTTTTTTTTTACAACATA	4,23
CACCGTTCCGCTCAGCACACTGACACCCTTTT	4,39
GGGGTACAAGTGTGTTAATTAGTACGGCCAC	4,55
ACAGCGGCAGTCTCTCAGAGCCGAGGTCAGG	4,71
TTTTTTTTAAGCGTTGAGTGCAATTTTTTTT	4,87
AGCTGGGTTTTTTTTTTTTTTTAAAAGCCC	6,23
CCATATCCTTATGCTAAACAGTCCGCCCTCG	6,39
CGTTTGTCTCCAGCTAACAGCATGGCTTCAT	6,55
TATGATTGAGGATATGGTCGCTGGGTATATCA	6,71
TTTTTTTTGTGGGACGGCATCAGATTTTTTTT	6,87
AGATGTTCCCTAGCTAGAGGGAACTTTTTTTTTTTTTTTGTAGATGCG	8,39
ATAATAGTCCATTATACCAGGTCACAACCAAAGACATGAATACTCTGA	8,71
TTTTTTTATAGCCAGGCACCGAATTTTTTTT	8,87
TTTTTTTTGGGGATGA	9,8
TTCTAAATTTTTTTTTTTTTTTGAGCCACT	10,23
CGCACGGCTGCGATCAATTACCGTGGAAGGAC	10,39
CACCAGAATCAGTCGTCAACAGTTGTGCGTTG	10,55
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TTTTTTTTGAAGCGTACTATCTCTTTTTTTT	10,87
GCCGGAGTTTTTTTTTTTTTTTCTGACAGA	12,23
GACAGGGACCAAGGAGAATTCTCAGCGTATCC	12,39
CGAGTCGTGCTCGACACCAGCCGCGCGCAGGG	12,55
TTAGTGAGTCGTTTCGATCATCCGGTACTTCG	12,71
TTTTTTTTGAAGGAGTGCGGGCGTTTTTTTT	12,87
CCAAGTCATTTTTTTTTTTTTTTTCGCGATC	16,23
CCCAGTGAAACCTCGTTCACATTAGAATATGG	16,39
TCTTCTCGTATAGCGGGCATCACCTAGAAAT	16,55
AACTACTGCCACCGCATGGAGTTAGGATATCG	16,71
TTTTTTTTCTAATCACTAGCTCCGTTTTTTTT	16,87
AGCTGTTCTTTTTTTTTTTTTTTCTATGTAG	18,23
CTTACATCCTGCTCTAGGGCACTCAAAGCAGG	18,39
TGACGATCGATGCCGAGTTTCCTCAGAAGTG	18,55
GTTTGAACATCCAAAATGCACATCGGGCAC	18,71
TTTTTTTTGCCCCCTACCCCAAGTTTTTTTT	18,87
GGTCAGAATTTTTTTTTTTTTTTTCAACCCCG	22,23
CATAGGTATGAGCTTTCCTATCTTACGCTTAC	22,39
GTCGCATATCCCGTCCTTAGGCAGACGTGC	22,55
GCTATGCTATCATGGTCTCGTGCTTCGAGAAA	22,71
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GTATTACTTTTTTTTTTTTTTTTCTGTTTAC	24,23
AGCTATGGAGGTAGAGGACGAGGTGCCGATCT	24,39
GGTACACGATCGGGTTGAACTTGATTATAAC	24,55
TCAGACGCTATTCGATAACTAAGTGGGGCAC	24,71
TTTTTTTTACCATAACCAGATTGTATTTTTTTT	24,87
TAGGTTAATTTTTTTT	26,23
CGAGGGTTTTCTGGTCGTTATTTCCCAAGGCATCCAAACCAAATGTG	26,55
TTTTTTTTGCCTGTTTCGGAACAGCTTGCTCTGCCATGGTGACACG	26,87
GAGGCGGCTTTTTTTTTTTTTTTTACGCTTAG	28,23
GCGGAACCGTATAACCGTGGGTAAGTTATGGA	28,39
AGTACGACATCAGCTAGATAGCTGGTTTCCTT	28,55
AGGTGGCCTTGCTTTACGGTGAGATTCCCCAG	28,71
TTTTTTTTCCCGAGCCGGCGCATATTTTTTTT	28,87
TATGGTTTTTTTTTTTTTTTTTTTGCCGAGG	30,23
CGTGCACAGCCCTCAGGGGCTGATCCCGCAAC	30,39
CTAATGAAATCCCTGACTTGACGATCACGTGG	30,55
AGTATAGTTTCCGCCCTAGCCGGCTCCCGGT	30,71
TTTTTTTTAGTGCGTATCCCACGTTTTTTTTT	30,87
CACTTGAGTTTTTTTTTTTTTTTGTGGGAGGCTACCGCTAGGAGAAA	32,23
CGAATCAAACCTGTTAGGATACTTTGAAAAGGC	32,39
ATGTAGCATATGTGATATCAGTTAATATAAGGACCATAGTGTTCAC	32,55
ATATCAAGAGAAACTGATGAACACCCCGCTGC	32,71
TTTTTTTTGTCCCTACCTCTCCCTTTTTTTTT	32,87

GCAATTGCTTTTTTTTTTTTTTTTGGCTGTGAC	34,23
AATGATTAGCAACCTATAACCTGGATAGGACA	34,39
CAGGCTACGGAGCACTGTCCAACATGATAATC	34,55
ACTGTACGGCGCGCCTAGTTCGTATATGCTCT	34,71
TTTTTTTGGTTGGTTCTAACGATTTTTTTTT	34,87

S4.10XY-32H×128B-pore crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGCTATGTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,55
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,71
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	1,87
TTCATGTCGCCTTTTCGAACGGTGACACACTT	1,103
GTGTTCAITCAGAGTAGCGGAAAATATGGCCGC	1,119
TTCGGTGCGCAGCGGGCCGCTGTAACGCTTA	1,135
ATCAGCCCCGGGCTTTTGCTAATACGCTGAGCG	3,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	3,39
CCGGGCTAATGAAGCCGTGACCCAGAGACTG	3,55
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	3,71
GTCAGTGTGATCGCGAGTTCCTCTAGCTAGG	3,87
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	3,103
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	3,119
CGGAGCTACCTGACCTCAATCATACTGCCAC	3,135
GGAAGGATTATCCCTTTAAGAATGATCGCA	5,23
CAGTCTTTGAGATGTTGAACATCTTTGGTTG	5,39
GCGTAAAGATCTCGCATTCTGGTGCCAAAAC	5,55
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	5,71
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	5,87
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	5,103
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TAATGTGACTAAGCGTAACTCCAAAGGAAAC	9,23
CAGCTATCCATATTCGATGTAAGCGGACATC	9,39
TATGCGCCCGATATCCGTTCAAACCTAGGGGGC	9,55
TTCTGACCAAAGCTCATGAGAATGTAAACAG	9,71
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	9,87
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CCGGATGAGTTATGAAGATCGTCATTGGGATA	9,119
TACAATCTCGAAGTAAAGCATAGCACCCCTGCG	9,135
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AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	11,87
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GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	11,135
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATACTCGTCAAGCCTGCTTT	13,39
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CTCAAGTGCTAACAGTACTAATTATCCATAACTGTGCACGTCAGGGAT	13,135
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ACTATACTACGCACTGGTTTGGAGGGATTAG	17,39
GCAATTGCTAGGTTGCATTGTAGGCACAATTTTGTATTGATCACATA	17,55
CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	17,71
AGCTGCACCGTGTACCTTGATATTGAGGGACACCTCGTCATTCCGGAT	17,87
AAACCATACTGAGGGCAGTGGGCGAGATCGGC	17,103
TAATCATTAGTGCTCCCTTAGTTAGTTCATAGTTCATTAGGGGCGGAA	17,119
ATGGGCTGGTGCCCCAGTACAGTAACCAACC	17,135
GGTGTACCTGTGGGTA	19,23
GGGCCGAGCGCTGGGCTTACATGTGCAAGTGAAATATATGACTTGGTC	19,55
GACCAGATCTGTAGAAACCACCAACATCCTCCTTGACACCTTCAAT	19,87
TTTTAGTAAACACCCAACAGAGCTGAACTTCCCATGGTCTTCTACTG	19,119
TCGTATGATCATAGGATCAAACCTAAATACAGC	19,135
GTACCGCCAGTCTTG	22,8

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ATGGCCCGTGGCTTATTAAGACGGCCGGTGTAAACCACATAAAGTCGT	23,39
CCGCCTCCGGTAGTCAACGCGGAACGTAATGG	23,55
CAGAAAGTCTATACCCGACAAAAACAGATTTGTACCGGGGTGAACAGC	23,71
ACGTGCGGCTTCTCTGTATCGCCTTGTGTAT	23,87
TATACTTTGCGGGGGGGTTCGAGCGCTCCACTGTAGTGGCCGGCCATC	23,103
GTGGACTAGAAAAGCGCCGGCAATCTGAATATC	23,119
GCTACCTCCGATACGCGAACCAGAACCATTTA	23,135
AGAGTAGGGGCAGTGCTCAGCCAAACAGTGGG	25,23
ACATCTCGGAAAGGTGTCCCAAGTGAAGTAA	25,39
AAAAGGAATTATGAGATCATGTGGGATCCTAA	25,55
AGTTTCTGGTAGACCTCGTAGGCTAGAGCGGT	25,71
GATATCCACGGTACATTCGTTTACTGCACGGA	25,87
ACGAGAGTGCTGGCATAAGCAAGAGAAACCTA	25,103
ACTTGGGGACTAAGATCGTTGCCAATTTTCGC	25,119
GCGATTTCGATGTAGCCGAACGAGATCGCCT	25,135
AGACGACGGATCTCTGCATGCCGGTAGCACC	27,23
GTCAAATATGCGTGCTTTTAAACGCTTTAGACC	27,39
CAGCTTGACGCAAGACGCTAATCACTGGGCAG	27,55
GGTCTAGGTTGCAGAAAACCTACCCCTAAGC	27,71
AGCGTAGTAAGGGTTACAAGTTCTGCGGCGG	27,87
CTGTACGAATGAGTCCGGCCTTGACATGACAT	27,103
TCTCCACCCGTCCAACACCAGCAGGATGTCG	27,119
AGCCCAAACTTGACAGTAGTACAGTATCTTT	27,135
TTTCATGGCGGCGATGTCGCCGTTTGCTCGCG	29,23
TGCGTACGGCTTTTATATAGCGTAGACCGGAC	29,39
AACCCCGTAAATCGTAAGAGTCGTTATGCCCC	29,55
CCGGTTCTGCTAGAGTGGGACTGGATCAGATG	29,71
TTCAAGTATTCGGTGACCTCCCCGCATTACAA	29,87
CGCGTTACCAAGTAACGTATGTACGACGCGA	29,103
TGCGAGTGAACGGGTGGATGAATTCGTTCCGG	29,119
GGCCAGGCGATCTAAGTCTGGCGCGTGAGGAC	29,135
ACGTAAGTTGAAGTAGGAAGCTTTTTCTAGCC	31,23
ATAGCATCGACACTACGACCTGCTTTTCGACA	31,39
CGGACTGCATTCTGGACAGTAACTGCATTAAC	31,55
TACGTGCTCCCAACATAAGTACGCTCCTCAGC	31,71
AGTTGAAAATTATCTCGATAAGCAGAAGGACC	31,87
TGTATAACTGGCAAGAGACAAGGCCGCTTCAG	31,103
AAAGGATAGCCGGACCGTATTAATGCCGCGCC	31,119
AACGGTTTCCCGGACCTAGTGTCTATCAAGTC	31,135
TATTCTATGAAACCATCTCGGGTCGAGCGGG	33,23
TCACTGTTGTGACCTACGAGAAGCGTATAGAT	33,39
GTTCCGCGGAATAGCTCACAGGCGAACTACG	33,55
TATGAATTGGTTTAAACGCTCCTCGGGAATTA	33,71
ATACGACAGGTGGCAAAACCCTCCGATGTCA	33,87
GCGCCGCATACCATTCACTGTGAATTTCCAC	33,103
ACCGAGGATTCGCAGGTCCATGGGATTCACCA	33,119
AGCTCGTATACCCCTGATTCTCCATGGCAGC	33,135
GCTTCGGTACAGGTCTGAACCTGGTAGATCACC	35,23
ATTAGTGTACCCAGCAGTTCGGCTCCCTTGTTG	35,39
GACTCGGGATACCAGTCTCGTGTAAATGCTG	35,55
TTCCGGGGTAAATCAAGCTTTATAAATTTCCG	35,71
ACGCTCTGTTCCAAACTTTAGAGCCGGCCGT	35,87
AATCTCGGATTCCTTAAAAACAGGCGCAATC	35,103
TCATGGCATAAACGAAACCAATCATAACGAGC	35,119
GTGGAGGGAAGTTATCTACTGGCGTTTTCAT	35,135
GTATGATTTTTTTTTTTTTTTTTTTTACCTGT	0,15
AGATGTTCAACCGTGACCTATCTTACGCTTAC	0,31
ACCCGAGCCAACCAAAACACTAATCCGGGTAT	0,47
ATAATAGTTTGAGACTCTCGTGCTTCGAGAAA	0,63
CACTGAGTATAGCCAGCCCGGAAGTTTGAA	0,79
CGCACGGCTACTCGATCTACCCTAGGAGAAA	0,95
ATTTCCGCTCAGTCGTCGAGATTTTCGTTA	0,111
ATCGACTAGCGGCCATGACCATAAGTGTTCAC	0,127
TTTTTTTTGAAGCGTACCCTCCACTTTTTTTT	0,143
GTATTAGCTTTTTTTTTTTTTTTTATGGTTTC	2,15
AAGTAAACCGCTCAGCTCACATTAGAATATGGGATAGCTGGGATATCG	2,31
GGGGTACCCATCCCTAACAGTGAGCTATTCG	2,47

AGCGAATTCAGTCTCTGGCGCATATGAGCTTTGGTCAGAAGTCTCTA	2,63
GAGGGAATCCGGTTAATTCATATTGCCACC	2,79
CACCGTTCCCTAGCTAAGCTGTTCTCCCCGTCCATAGGTATTCATAAC	2,95
CCAGGTCAAAGTGTGTTGCGGGCGCCCTGCGAA	2,111
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TTCTTAAATTTTTTTTTTTTTTCTACTTCA	4,15
TCAGAAACTGCGATCACTTTAGGCCCAAGGAG	4,31
CACCAGAAGTTCCGGTGATGCTATTCCAGAAT	4,47
GTGGCTGGAGTTTGGCACGCGAGCTATGTAG	4,63
AGCTTGGGACAGCTAAAGCACGTAGAGATAAT	4,79
CCATATCCTTATGCTACCCAGTGAGCTCGACA	4,95
CGTTTGTCTCCAGCTGTATACAGGTCCGGC	4,111
TATGATTGAGGATATGCTTTCTCGTATATCA	4,127
TTTTTTTTGTGGGACGAAACCGTTTTTTTTTT	4,143
GTATTACTTTTTTTTTTTTTTTGGGGATGA	6,15
CTAATATAAGGTAGAGCGGTGAGAAGTGCGTA	6,31
GGTACACGTGGGTAAGAAAGACTGTGCGAGAT	6,47
CCAAGTCATATTCGAGCAATTGCAGCTTAT	6,63
TAGGTTAAAACCTCGTGAGTCGGCCTGACAGA	6,79
GTCGCTGGCCAAGGCAGTGCAGCTGCCCTCAG	6,95
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AATTCTCATCGTTCGACGAGTCTGTGATGCCAACAGCATGGCTTCAT	8,63
GTCGCATAGCCCTCGAGTTTCTCTGTTTACGCATCAGATCGCGATC	8,95
GCTATGCTTAATCAACTACTGATCATGGTGGCATCACCTAGAAAT	8,127
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TTTTTTTTACGCTTAG	9,0
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GTTTGAACCTTCTGGTCCAACAGTTGTGCGTTG	10,47
CGGAACAGGCCCCCTAAATGCACAATCGGGTT	10,63
GAACCTGAGCCTGTTTCTATCTTCGAGATGCG	10,79
GCGGAACCGCGTATCCTCAGACGTCGGGCAC	10,95
TGACGATCATCAGCTAGACATGAATACTCTGA	10,111
AGGTGGCCTATCCAATAATTAGTACTGTTAG	10,127
TTTTTTTTCCCGAGCCGCACCGAATTTTTTTTT	10,143
CTTGACGATTTTTTTTTTTTTTGTGTGAC	12,15
TCCAAACCAAAGCAGGAATAAGGATAAGCCAC	12,31
AGTACGACCTAATCCCGTCCAACATGATAATC	12,47
CAGGCTACTTGTCTTAGGAGGCGGGGTATAG	12,63
GTGGGTAAGCGCGCCTTAACGATGTGGGAGG	12,79
CGCCACTACAACATACCGCACGTCCCCGCA	12,95
CGTGCACAGCCGATCTATCAGTTAATAAAG	12,111
ACTGTACGATCCCTGATAGTCCACGCGTATCG	12,127
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CCTACAATTTCCCAGGCCGAGTAGACGTGC	16,47
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ATATCAAGTATGTGATAACAGTCCGTATAGCG	16,79
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GATTGCCGAGTAGAATATGGTTTGGAGCACT	18,111
TAGTTTGAGATATTCACACTCGCACTTAGATC	18,127
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TTTTTGTACGACTTTTTTCCTTTTAGGTCTAC	22,63
CCCCGGTACAAATCTGAGCTATGGACCATAACC	22,79
GCTCGACCGCTGTTTCATGGATATCATGCCAGC	22,95
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GTAAACGACATCTGATACTTCTGAGGAGAAG	24,79
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CGGCAIGCTTTTTTTTT	26,15
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TGCTGGTGTAGGTTTCTCTTGCTTCCGCCGCATGTCGTATAATGGGTA	26,111
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CGGGAGGGCTTAGGGTGGTGGTTCTAGCAG	28,79
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GCTCTAAAGCTGAGGAAGAACCGGTCACCGAA	30,79
GCCTTGTACGCGCCGCATCTTTGGGGTCGT	30,95
GATTGGGTCTGAAGCGTAAGCGCGCACCCGTT	30,111
AGACACTAGCTCGTATCTCGACGGTTAATTTG	30,127
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AGTTACTGATCTATACTATTTGACGTCTTGCGTCAAGCTGTCTGCAAC	32,47
GAGGAGCGGTTAATGCTAGCCCGGCTCCCGGT	32,63
TGCTTATCTAATCCCCTAGGACCTAACCCCTACTACGCTGGACTCAT	32,79
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GCCTGTGACACAAGGGCGAGATGTTCTCATAA	34,47
TATAAAGCCGTAGTTCAGTTCGTATATGCTCT	34,63
GAGGTGGTCCGGAATCAGAACTATGTACCG	34,79
CTGGTTTTTGACATCGGATACTTTGAAAAGGC	34,95
CCCATGGAGATTGCGCACTCTCGTATCTTAGT	34,111
GCCAGTAGTGGTGAATATGAACACCCCGCTGC	34,127
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S4.11XY-8H×4H×96B-channel crystal sequences

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AACTGTTGTGCTATGTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,55
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AAAGTATCCGCATCTCACTCAGTGATCGAGTATTCATGTCGCCTTTTC	1,87
GAACGGTGACACACTTGTGTTCAATCAGAGTA	1,103
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GTTTCTGAACCGGAACCCGGGCTAATGAAGCC	3,71
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GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	5,39
CGGCTCTGATTCTAGTGACCTGGTATAATGG	5,55
CGGAGCTACCTGACCTCAATCATACTGCCAC	5,71
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GCCGACTCGTTCAAGCACTATATCTGGCTAT	7,71
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CTCGCGTGGCACGTCTACGACTCGTCGAACGA	11,55
GGACTGTTCTACATAGTGACTTGGACGAGGTT	11,71
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GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	13,55
CTTGGGGGTGATATACCTCACTAAACTCCTTCTAATGTGACTAAGCGT	13,71
TAACTCCAAAGGAAACCAGCTATCCCATATTC	13,87
GATGTAAGCGGACATCTATGCGCCCGATATCC	13,103
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ACCGGAACGTAATGGCAGAAAGTCTATAACC	29,103
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TATACTTTGCGGGGGGGTTCGAGCGCTCCACT	31,55
GTAGTGGCCGGCCATCGTGGACTAGAAAGCGCCGCAATCTGAATATC	31,87
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AGATGTTCAACCGTGAGTTTGAACCTGTTTAC	0,31
ACCCGAGCCAACCAAACCGCACGTCCCCCGCA	0,47
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GACATGAATACTCGATGTCGCATATTACTTCG	0,95
TTTTGAAAAGGCGAGGTAGCTTTT	0,107
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AAGTAAACCCCGCTGCCCAAGTGAGCTCGACA	2,31
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AGCGAATCCCAGCACTCTTCTCGTATATCA	2,63
GTGGCTGGTCCGGTTTGGAAATGCAACGACTTT	2,79
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ATCAGTTACCAAGGACGCCACTACGCGTATCG	16,95
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CTTGACGATTCTGGTCGACAGGGACCACCGCA	18,47

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GACCATAGACCATAACCATGTGGTTCCATTACG	18,95
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AATGCACAAGAACTGATCTGGTCATTGAAAG	20,63
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GCGGCCATGAGGATGTGTATTAGCGTTCCGGT	28,63
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ACTTTCTGACACCGGCGCATCAGACAGTCTCT	28,95
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S5.1 Offset-ZX-6H×6H×64B-cuboid crystal sequence

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GCGGAAATATGGCCGCTTCGGTGCGCAGCGGG	3,55
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CTATGGTCTTAATATAACCCTCGGAGGCAAG	23,55
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	23,71
GAGTGCCCCCTCGGCAGCCGCTCGGTTATACTCGTCAAGCCTGCTTT	25,23
CCATAGCTAACCCGATTGTGCATTCCACGTGA	25,39
GTCGTAATAAGCAAACGTGGGAGTGCCCGA	25,55
GCGTCTGAGGTATGGTTTACCCACTATGTTGT	25,71
CTCAAGTGCTAACAGTACTAATATCCATAAC	27,23
TGTGCACGTCAGGGATTCTACCGGTGGCCGT	27,39
TGCTACATCAGTTTCTTTGCCTCTGGGGAA	27,55
ACTATACTTACGCACTGGTTTGGAGGGATTAG	27,71
GCAATTGCTAGGTTGCATTGTAGGCACAATTT	29,23
TTGATTGATCACAATACATGGGCAATAAAGCT	29,39
GTAGCCTGAGGCGCGCAGCTGCACCTTGATATTGAGGGAC	29,71
ACCTCGTCATTTCGGATAAACATACTGAGGGC	31,23
AGTGGGCGAGATCGGCTAATCATTAGTGCTCCCTTAGTTAGTTCATAG	31,39
TTCATTAGGGGCGGAAATGGGCTGGTGCCCA	31,55
CGTACAGTAACCAACCGGTGTACCTGTGGGTA	33,23
GGGCCGAGCGCTGGGCTTACATGTGCAAGTGA	33,39
AATATATGACTTGGTGCACAGATCTGCTAGA	33,55
AACCACCAACATCCTCCTTGACACCTTTCAAT	33,71
TTTTAGTAAACACCAACAGAGCTGAACTTCCCATGGTCTGTTCTACTG	35,23
TCGTATGATCATAGGATCAAACTAAATACAGC	35,39
GTACCGCCAGTTCTTGTCTTATTGGCGATCG	35,55
TGCATTCGAATGTTGATGGCCGCGTGGCTTA	35,71

GTATGATTA AAAAGCCCGGGCTGATACAGCTAACAGGTC ACTGACAGA	0,15
CTATCTCATAGGACACAACAGTTAACCGTGAATAATAGTGGGGTCGT	0,47
TTTTTTTTGGCTTCATTAGCCCCGGTATGCTCTCTCGACGGTAAATTTG	0,79
GACATGAATTTTTTTTT	2,15
GCACCGAAGTGC GTTAGTTCGTAGAAAAGGCTATGATTGTGCGATCA	2,47
TTTTTTTTGAGATGCGGATACTTCCCGCTGCAGATGTT CAGTTTTGG	2,79
AACAGCAITTTTTTTTT	4,15
GTGGCTGGTACTCTGAATGAACACCCCGCAACACACTGACACCCTTTT	4,47
CGTTTGCTTTTTTTTTTTTTTTTTTCGCTCAGCGTATTAGCGTTCGGT	6,15
CCATATCCAGGATATGTGGAGTTAGATGTCCG	6,31
CAGAGCCGTTCCAGCTTCAGAAACCTCCCGTGCATCAGACAGTCTCT	6,47
AGCTTGGGCTAGAAATGGTCAGAAGCCCCCTA	6,63
GAGGGAACTTTTTTTTTTTTTTTTTACTCGATCACTGAGTAAGTGTGT	8,15
AAAGACTGCCTAGCTAAGTTTCTCCTCAGAAGTG	8,31
TAGCTCCGAACATCTCCACCGTTTCGCGGCCATATTTCCGCTAAGCGTT	8,47
GAGTCGGCAGGT CAGGA ACTACTGGAAGGAGT	8,63
TTTTTTTTGCTTGAACACAGGCGGTTTTTTTT	8,79
ATCCTTCTTATGCTAGGGGTCACGAGCCACTTAACCTGGCCATCCCT	10,15
CGCACGGCGGGGATGACTTTAGGCTGGGTAAG	10,31
CTTTACGCTCAGTCGTAAGTAAACTTGAGACTACCCGAGCTCCGGTTT	10,47
ATCGACTATGCGAGATCGAGTCGTAACCTCGT	10,63
TTTTTTTTGAAGCGTAAGCGAATTTTTTTTTTT	10,79
ATTACCGTACGCTTAGCATCTTTTATAGCCAG	12,15
GCCGGAGTACCCCCGCGGAACAGAGGAGAAA	12,31
AACAGTCCCCAAGGAGCCAGCCGCGCGCAGGG	12,47
GGCGATACTATGTAGGACCATAGTGTTCAC	12,63
TTTTTTTTGGATATCGGCGGGCCGTTTTTTTT	12,79
GACAGGGATTTTTTTTTTTTTTTTTTGTGGGACG	14,15
CACGCGAGGCTCGACAGCTATGCTAGGTAGAG	14,31
CCCCAAGAGACGTGCTTCTTAAACAACCAAA	14,47
CCCAGTGAGTATATCAGTTATTTCTATTTCTGA	14,63
TTTTTTTTGTATAGCGCACCAAGAATTTTTTTTT	14,79
GATAGCTGTTTTTTTTTTTTTTTTTTCGCGATC	16,15
TCTTCTCGAATATGGAGCTGTTCTCCCCGTC	16,31
AATTCTCACACCCGAGGCATCACCCATTATA	16,47
TCACATTACTGTTTACTGACGATCGTGGGAGG	16,63
CGAGGGTTTTTTTTTTTTTTTTTTGTTCCTT	18,15
GTCGCATACTTGCTCGCAATTGCTATGTGAT	18,31
TCATCCGGATCATGGTCTTACATCTGAGCTTT	18,47
TAGGTTAATTCATAACGTGCAGCTGCGCGCCT	18,63
GAAC TTGATTTTTTTTTTTTTTTTTTGCCTCG	20,15
GTCCAACAGCGTATCCACTTGAGATCCCTGA	20,31
AGATTGTAACGCTTACGTCGCTGGCTAATCAC	20,47
CTAACGATTACTTCGATGTAGCAAGTGCCTA	20,63
TTTTTTTTTCGAGAAATAGTGAGTTTTTTTT	20,79
CCTATCTCCAAGGCAGTTTGAACGGAAGGAC	22,15
GCGGAACCGCTGTGACGGGCACTCATCGGGTT	22,31
CTCGTGCTATCAGCTACTAATATATCGTTCGA	22,47
AGGTGGCCTGATAATCAGTACGACACCATAAC	22,63
TTTTTTTTCCCGAGCCCCAAGTCATTTTTTTTT	22,79
GAGGCGCCTAATCCCTACCGTGCCTGTTT	24,15
CTTGACGAGTATAACCTACTAAAATCCTATGATCATAACGACAAGAACT	24,31
TCCCACGTAAAGCAGGATCAGTTAATATTAAG	24,47
TGCCCATGTGCGGCACGCGGTACCAAACATTGGAATGCATTTTTTTTT	24,63
TTTTTTTTAGCTTTATCCTCTCCCTTTTTTTTT	24,79
TAATTAGTTTTTTTTTTTTTTTTTTCGACGGGT	26,15
AATGCACAGTTATGGA ACTGTACGGCCAGCGCTCGGCCGACCAAGT	26,31
GAGTGCAATCACGTGGGTATTACTTTCTGGTC	26,47
GTGGGTAATCCCCAGCATATATTGAGGATGTTGGTGGTTTTTTTTTT	26,63
TTTTTTTTTACAACATAGGTACACGTTTTTTTTT	26,79
CCTACAATTTTTTTTTTTTTTTTTTCTGCTCTA	28,15
CGGTGAGAAAATGTGGACGAGGTGCCGATCTCGCCCACTTTCCGCC	28,31
ATATCAAGACGGCCACCATAGGTATATCCCAA	28,47
TCCA AACCGTCCCTCACTAATGAAGGAAGTT CAGCTCTGTTGGGTGTT	28,63
AATGATTACGATCGCCAATAAGGATTTTTTTTTTTTTTTTGGCAACCTA	30,31
CGACCATGCTATGAAC TAAAGGGAGCACTCGAATCAAGTGACACG	30,63
TTTTTTTTATCCGAAT	31,0
ACATGTAAGCCCTCAGTATGGTTTTTTTTTTTTTTTTTACTGTTAG	32,31

GTGTCAAGTGGGGCACCAGCCATTCACCTTGCCGTGCACAAGAACTG	32,63
TTTTTTTATTGAAAGAGTATAGTTTTTTTT	32,79
TTTTTTTGGTTGGTT	33,0
TAGTTTGATACCCACAGGTACACCCAGTAGAACAGGCTACTGCCGAGG	34,31
GCGCCATTCTAGCAGATCTGGTCGCTGIATTAGCTATGGTTGCTTTA	34,63
TTTTTTTAAAGCCACTCAGACGCTTTTTTTT	34,79