DNA Brick Crystals with Prescribed Depth

Supporting Online Material II - Sequences

Contents

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

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTTAACTGTTGTGTCCTAT	1,23
GTTTACTTAGGGATGGTACGAACTCAACGCAC	1,39
GCTCGGGTAGTCTCAAGAAGATAGAGAGCATA	3,23
AATTCGCTAAACCGGAAAAGTATCCGCATCTC	3,39
ACTCAGTGATCGAGTATTCATGTCGCCTTTTCGAACGGTGACACACTT	5,39
GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	7,23
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTAATCAGCCCGGGCTTTT	7,39
GCTAATACGCTGAGCGATGCTGTTGTTGCGGG	9,23
GTTTCTGAACCGGAACCCGGGCTAATGAAGCC	9,39
GTGACCCCAGAGACTGTCTGATGCACCGGGAGCCAGCCACTTAGCTGT	11,23
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGGGTGATGCCAAAAGGGT	13,23
GGATATGGAGCTGGAACGGCTCTGATTTCTAG	13,39
TGACCTGGTATAATGGCGGAGCTACCTGACCT	15,23
CAATCATACGTCCCACGGAAGGATTCATCCCC	15,39
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GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	31,23
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GATGTAAGCGGACATCTATGCGCCCGATATCC	33,39
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CAGAGCCGAGGTCAGGAGCTTGGGTCAGTCGT	14,31
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S1.2 Z-8H×8H×32B-cuboid crystal sequences

CCAGGTTAAGTGGCTCAATCATACTCACGGTTAACTGTTGTGTCCTAT	1,23
GTTTACTTAGGGATGGTACGAACTCAACGCAC	1,39
GCTCGGGTAGTCTCAAGAAGATAGAGAGCATA	3,23
AATTCGCTAAACCGGAAAAGTATCCGCATCTC	3,39
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GACGAGGTGCAACCTAGCAATTGCATCCGAATCGTGCACAACTGTTAG	58,31
TAACTAAGGTGACACGGTGCAGCTCTATGAACTCAGACGCTTGCTTTA	60,31
ACTGTACGGCCGATCTCGCCCACTGGTTGGTTAGCTATGGTGCCGAGG	62,31

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTTAACTGTTGTGTCCTAT	1,23
GTTTACTTAGGGATGGTACGAACTCAACGCAC	1,39
GCTCGGGTAGTCTCAAGAAGATAGAGAGCATA	3,23
AATTCGCTAAACCGGAAAAGTATCCGCATCTC	3,39
ACTCAGTGATCGAGTATTCATGTCGCCTTTTC	5,23
GAACGGTGACACACTTGTGTTCATTCAGAGTA	5,39
GCGGAAATATGGCCGCTTCGGTGCGCAGCGGG	7,23
CCGCCTGTAACGCTTAATCAGCCCGGGCTTTT	7,39
GCTAATACGCTGAGCGATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	9,39
CCGGGCTAATGAAGCCGTGACCCCAGAGACTG	11,23
TCTGATGCACCGGGAGCCAGCCACTTAGCTGTGTCAGTGTGATCGCGA	11,39
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GGATATGGAGCTGGAACGGCTCTGATTTCTAG	13,39
TGACCTGGTATAATGGCGGAGCTACCTGACCT	15,23
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GCGTTAAAAGGAGATCGGAATGCACAAGAACT	88,15
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GGTAGGTTTAACCCTTACTACGCTGCTTAGGGCGGCATGCAGCACGCA	90,31
GTGGGAGACTGCCCAGTGATTAGCTTGGACGGCTCGTTCGGCGAAAAT	92,31
CCATGAAAGGACTCATTCGTACAGCATCGCCGTCTTGCTTTCCGTGCA	94,31
ACGGGGTTTGTCAAGTTGTGGGCTTACGATTTAGCCTACGTTAGGATC	96,31
CCAGTCCCATAAAAGCCGTACGCACATCTGATACTTGGGAGCACTGCC	98,31

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

CCAGGTTAAGTGGCTC	0,24
AATCATACTCACGGTT	1,39
AACTGTTGTGTCCTATGTTTACTTAGGGATGGTACGAACTCAACGCAC	1,55
GCTCGGGTAGTCTCAAGAAGATAGAGAGCATA	1,71
AATTCGCTAAACCGGAAAAGTATCCGCATCTCACTCAGTGATCGAGTA	1,87
TTCATGTCGCCTTTTCGAACGGTGACACACTT	1,103
GTGTTCATTCAGAGTAGCGGAAATATGGCCGCTTCGGTGCGCAGCGGG	1,119
CCGCCTGTAACGCTTAATCAGCCCGGGCTTTT	1,135
GCTAATACGCTGAGCG	2,40
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAACCCGGGCTAATGAAGCC	3,23
GTGACCCCAGAGACTGTCTGATGCACCGGGAG	3,71
CCAGCCACTTAGCTGTGTCAGTGTGATCGCGA	3,87
GTTCCCTCTAGCTAGGGTGATGCCAAAAGGGT	3,103
GGATATGGAGCTGGAACGGCTCTGATTTCTAG	3,119
TGACCTGGTATAATGG	4,24
CGGAGCTACCTGACCTCAATCATACGTCCCACGGAAGGATTCATCCCC	5,39
TTTAAGAATGATCGCA	5,71
CAGTCTTTGAGATGTTGAACATCTTTTGGTTGGCGTAAAGATCTCGCA	5,103
TTCTGGTGCCAAAACTGCCGACTCGTTCAAGCACTATTATCTGGCTAT	5,135
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	7,23
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	7,39
CCGTCGAGCCCTGCGCGACAAACGCATATCCTCGGCCCGCCAAATTAA	7,71
TAGTCGATTACGCTTCGCCTAAAGGTCCTTCC	7,87
ACGGTAATCGGGGGTGACTCCGGCCTCCTTGGTATATTAGCTTACCCA	7,103
CTCGCGTGGCACGTCTACGACTCGTCGAACGA	7,119
GGACTGTTCTACATAGTGACTTGGACGAGGTTTCACTGGGCGCTATAC	7,135
AGGAAACTCGAGGGGCTCCCTGTCTGTCGAGC	9,55
CCAGCGACCACTTCTGGAGAAAGATGCGGTGG	9,71
CAGTAGTTGTGATTAGCTTGGGGGTGATATAC	9,87
CTCACTAAACTCCTTCTAATGTGACTAAGCGT	9,103
TAACTCCAAAGGAAACCAGCTATCCCATATTC	9,119
GATGTAAGCGGACATCTATGCGCCCGATATCC	9,135
GTTCAAACTAGGGGGCTTCTGACCAAAGCTCATGAGAATTGTAAACAG	11,55
GAACAGCTTAGAGCAGTCAAGTTCGGATACGCTACCTATGGACGGGGA	11,87
TATGCGACACCATGATCCGGATGAGTTATGAAGATCGTCATTGGGATA	11,119
TACAATCTCGAAGTAAAGCATAGCACCCTGCG	11,135
AAGATAGGGTCACAGC	12,24
AGTAATACCTCTACCTTGTTGGACGTAAGCGT	13,39
GAAATAACGACCAGAAAGCACGAGGATTATCACGTGTACCTCGAAATA	13,55
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	13,71
AGCGGTAGCCTCCCACTTAACCTATGCCTTGGTAACTGATTTTCTCCT	13,87
GGTTCCGCTAGCTGATCTATGGTCCTTAATAT	13,103
AACCCTCGGAGGCAAGGGGAGAGGGTGAAACA	13,119
GGCCACCTGGCTCGGGGAGTGCCCCCTCGGCA	15,23
GCCGCCTCGGTTATACTCGTCAAGCCTGCTTT	15,39
CCATAGCTAACCCGATTGTGCATTCCACGTGAGTCGTACTTAAAGCAA	15,71
ACGTGGGAGTGCCCGAGCGTCTGAGGTATGGT	15,87
TTACCCACTATGTTGTCTCAAGTGCTAACAGT	15,103
ACTAATTATCCATAACTGTGCACGTCAGGGATTCTCACCGGTGGCCGT	15,119
TGCTACATCAGTTTCTTTGCACTCCTGGGGAA	15,135
ACTATACTTACGCACTGGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	17,39
ATTGTAGGCACAATTTTTGATTCGATCACATACATGGGCAATAAAGCT	17,103
GTAGCCTGAGGCGCGCAGCTGCACCGTGTCACCTTGATATTGAGGGAC	17,135
ACCTCGTCATTCGGATAAACCATACTGAGGGC	19,23
AGTGGGCGAGATCGGCTAATCATTAGTGCTCCCTTAGTTAGTTCATAG	19,39
TTCATTAGGGGCGGAAATGGGCTGGTGCCCCA	19,55
CGTACAGTAACCAACCGGTGTACCTGTGGGTAGGGCCGAGCGCTGGGC	19,103
TTACATGTGCAAGTGAAATATATGACTTGGTC	19,119
GACCAGATCTGCTAGAAACCACCAACATCCTCCTTGACACCTTTCAAT	19,135
TTTTAGTAAACACCCAACAGAGCTGAACTTCC	21,23
CATGGTCGTTCTACTGTCGTATGATCATAGGA	21,39
TCAAACTAAATACAGCGTACCGCCAGTTCTTG	21,55
TCCTTATTGGCGATCGTGCATTCCAATGTTTGATGGCCGCGTGGCTTA	21,71
TTAAGACGGCCGGTGTAACCACATAAAGTCGT	21,87
CCGCCTCCGGTAGTCAACGCGGAACGTAATGG	21,103
CAGAAAGTCTATACCC	21,119

GACAAAAACAGATTTGTACCGGGGTGAACAGC	21,135
ACGTGCGGCTTCTCCT	23,23
GTATCGCCTTGTGTATTATACTCTTGCGGGGGGGTCGAGCGCTCCACT	23,55
GTAGTGGCCGGCCATCGTGGACTAGAAAGCGCCGGCAATCTGAATATC	23,87
GCTACCTCCGATACGCGAACCAGAACCATTTA	23,103
AGAGTAGGGGCAGTGC	24,120
TCAGCCAAACAGTGGGACATCTCGGAAAGGTGTCCCAAGTGCAAGTAA	25,23
AAAAGGAATTATGAGATCATGTGGGATCCTAA	25,39
AGTTTCTGGTAGACCTCGTAGGCTAGAGCGGTGATATCCACGGTACAT	25,55
TCGTTTACTGCACGGAACGAGAGTGCTGGCATAAGCAAGAGAAACCTA	25,71
ACTTGGGGACTAAGATCGTTGCGAATTTTCGCGCGATTCGCATGTAGC	25,87
CGAACGAGATCGTCCT	25,103
AGACGACGGATCTCCTGCATGCCGGTAGCACC	25,135
GTCAAATATGCGTGCTTTTAACGCTTTAGACC	27,23
CAGCTTGACGCAAGACGCTAATCACTGGGCAG	27,39
GGTCCTAGGTTGCAGAAACCTACCCCCTAAGC	27,55
AGCGTAGTAAGGGTTACAAGTTCCTGCGGCGG	27,71
CTGTACGAATGAGTCC	27,119
GGCCTTGACATGACATTCTCCCACCCGTCCAA	27,135
CACCAGCAGGATGTCG	28,88
AGCCCACAACTTGACAGTAGTACAGTATCTTTTTTCATGGCGGCGATG	29,39
TCGCCGTTTGCTCGCGTGCGTACGGCTTTTATATAGCGTAGACCGGAC	29,71
AACCCCGTAAATCGTA	29,103
AGAGTCGTTATGCCCCCCGGTTCTGCTAGAGTGGGACTGGATCAGATG	29,135
TTCAAGTATTCGGTGACCTCCCCGCATTACAA	31,23
CGCGCTTACCAAGTAACGTATGTACGACGCGATGCGAGTGAACGGGTG	31,39
GATGAATTTCGTTCGGGGCCAGGCGATCTAAG	31,55
TCTGGCGCGTGAGGACACGTAAGTTGAAGTAG	31,71
GAAGCTTTTTCTAGCCATAGCATCGACACTACGACCTGCTTTTCGACA	31,103
CGGACTGCATTCTGGACAGTAACTGCATTAAC	31,119
TACGTGCTCCCAACATAAGTGACGTCCTCAGCAGTTGAAAATTATCTC	31,135
GATAAGCAGAAGGACCTGTATAACTGGCAAGA	33,23
GACAAGGCCGCTTCAGAAAGGATAGCCGGACC	33,39
GTATTAATGCCGCGCCAACGGTTTCCCGGACC	33,55
TAGTGTCTATCAAGTCTATTCTATGAAACCAT	33,71
TCTCGGGTCGAGCGGGTCACTGTTGTGACCTA	33,87
CGAGAAGCGTATAGATGTTCCGCGCGAATAGC	33,135
TCACAGGCGAACTACGTATGAATTGGTTTAAACGCTCCTCGGGAATTA	35,23
ATACGACAGGTGGCAAACCACCTCCGATGTCAGCGCCGCATACCCATT	35,55
CACTGTGAATTTCCACACCGAGGATTCGCAGGTCCATGGGATTCACCA	35,87
AGCTCGTATACACCCTGATTCTCCATGGCAGC	35,103
AAGTAAACGAGCCACTTAACCTGGTTTTTTTTTTTTTTTTTGAGCTTT	0,47
GATACTTTGTGCGTTGAGTTCGTACCATCCCTGTTTGAACGCGTATCC	0,79
ATTTCCGCTACTCGATCACTGAGTGAGATGCGAGCTGTTCTTCATAAC	0,111
TTTTTTTTCCCGCTGCGCACCGAAGCGGCCATGTCGCATATTACTTCG	0,143
TTTTTTTTAACCGTGA	1,16
GTATTAGCTTTTTTTT	2,47
ACACTGACTATGCTCTCTATCTTCCGCTCAGCAGTTTCCTCAGAAGTG	2,79
CAGAGCCGAAGTGTGTCACCGTTCTCGCGATCAACTACTGGAAGGAGT	2,111
TTTTTTTTAAAAGCCCGGGCTGATCTAGAAATTGGAGTTAGATGTCCG	2,143
TTTTTTTTCAGTCTCT	3,48
ATCCTTCCGGCTTCATTAGCCCGGATAGCCAGCACGCGAGCTATGTAG	4,15
TTTTTTTTCCATTATACCAGGTCAGGGGATGACATCTTTTGGGGTCGT	4,47
CTTTACGCCTCCCGGTGCATCAGATTTTTTTTTTTTTTTTTGCGCAGGG	4,79
ATAATAGTACCCTTTTGGCATCACTGCGAGATATCGACTACACCCCCG	4,111
TTTTTTTTTGCGATCA	5,48
CCCAGTGAAACCTCGTCACCAGAAGTGGGACGTATGATTGAGGTCAGG	6,15
CGCACGGCGTATAGCGTCCAAACCAGTGCGTA	6,31
TTTTTTTTTCAGTCGTTAGCTCCGTTTTTTTT	6,47
CGTTTGTCTTTTTTTT	6,63
GCGGGCCGAGGATATGTTCTTAAACAACCAAAAGATGTTCAACATCTC	6,79
GCCGGAGTTTAATTTGCGAATCAAAAATTGTG	6,95
CTAATATACCAAGGAGAAAGACTGGCTTGAACGAGTCGGCAGTTTTGG	6,111
CCAAGTCATGGGTAAGGTGCAGCTGCGCGCCT	6,127
AGCTTGGGGGATATCGTCAGAAACCCCGCAACAACAGCATTTTTTTTT	8,15
TTTTTTTTTTATGCTAAGGTGGCCGTATAACC	8,31
TCTTTCTCTTTTTTTTAATGCACAATCGGGTT	8,63
CTTTAGGCCCACCGCAGGGGTCACACAGCTAAGTGGCTGGCCTAGCTA	8,79

TCACATTAGGAAGGACTCCCACGTACAACATA	8,95
CGAGTCGTACGCTTAGGAGGGAACTTCCAGCTCCATATCCGTTCCGGT	8,111
GGCGCATATCGTTCGATAATTAGTAGAAACTG	8,127
AATTCTCATTTTTTTTTTTTTTTTTAGGTAGAG	10,31
GACAGGGACTGTTTACGTATGATTATAGGACACAACAGTTTTGAGACT	10,47
CATAGGTAGCTCGACAGTTATTTCTCGAGAAA	10,63
CCCCCAAGTCCCCGTCACCCGAGCTCCGGTTTAGCGAATTGAAAAGGC	10,79
TGACGATCGTATATCACTACCGCTATCAGCTA	10,95
GATAGCTGTATCCCAAGACATGAATACTCTGAATGAACACTAAGCGTT	10,111
GCTATGCTGAATATGGCGAGGGTTTTTTTTTT	10,127
TTTTTTTTCGCAGGGTACAGGCGGTTTTTTTT	10,143
AGATTGTATTTTTTTT	11,128
CCTATCTTTTTTTTTTCCGCACGTCCCCCGCA	12,31
CTCGTGCTGCTGTGACGGTCAGAAGCCCCCTA	12,47
GGTACACGTGATAATCGGCGATACGCGCTTTC	12,63
TAGGTTAATATTTCGAGAACTTGACTGCTCTA	12,79
ATCAGTTACCAAGGCAGCCACTACGCGTATCG	12,95
TTTTTTTTTGTTTCACCCTCTCCCAGGAGAAATCATCCGGATCATGGT	12,127
GGGCACTCACGGCCACCTTACATCTTTTTTTT	14,15
GTCCAACATGCCGAGGTACTAAAACAGTAGAA	14,31
AGTACGACACGCTTACTTTTTTTTTGCCCCTCG	14,47
CGGAACAGTTGCTTTATAGTTTGACGATCGCC	14,63
TCAGACGCGCCTGTTTGTCGCTGGCTAATCAC	14,79
GACCATAGACCATACCCGTCTTAATGACTACC	14,95
CGTGCACAATATTAAGTTAGTGAGGTTTCCTT	14,111
CGGTGAGAATCCCTGAACTTTCTGCAAATCTG	14,127
GCAATTGCTTCCCCAGAACAGTCCCTGACAGA	16,15
CTTGACGAGCAACCTAGACGAGGTGCCGATCT	16,31
TTTTTTTTAAAGCAGGCCAGCCGCTTTTTTTT	16,47
TGCCCATGTTTTTTTTCTCGACGGGAAGCGTA	16,79
CACTTGAGAGCTTTATTTTTTTTTTGGTTGGTT	16,95
ATATCAAGACTGTTAGATTACCGTAGACGTGC	16,111
GAGTGCAAGTCCCTCAACATGTAATCTAGCAG	16,127
TTTTTTTTTATGTGAT	17,64
GTGTCAAGGAGGATGTCAGGCTACCTAATCCC	18,15
AATGATTAATTGAAAGTGTACTACTGTCAAGT	18,31
TAACTAAGGGAGCACTAGTATAGTTTTTTTTT	18,47
TTTTTTTTCTATGAACCGTACGCACGCGAGCA	18,63
GGTACACCTTTTTTTTTTTTTTTTTACGATTT	18,95
CTCGGCCCTACCCACACCTACAATGTGACACG	18,111
TGGTGGTTGCCCAGCGAGAACCGGGGGGCATA	18,127
TATGGTTTGCTGTTCAATGTAGCACCCGAGCC	20,15
TCATACGAGCCCTCAGTATTTGACGTCTTGCG	20,31
CAGCCCATTCCTATGAGAGGCGGCTCACGTGG	20,47
GGAATGCATGGGGCACCTAGGACCTAACCCTT	20,63
GCGGCCATCAAACATTAGCTATGGTCGGGCAC	20,79
TTCCGCGTTAAGCCAC	20,95
CATATATTCCATTACGGTGGGTAAGTTATGGA	20,111
CCCCGGTAGACCAAGTTCGTACAGATGTCATG	20,127
GGAGGCGGGGGTATAG	21,96
AGCTCTGTTTTTTTTT	22,15
GCTCGACCGGAAGTTCTTGGCTGATCTCATAA	22,31
GGCGGTACAGTGGAGCGTATTACTTTCTGGTC	22,47
GATTGCCGCAAGAACTCAGAAACTTCCGTGCA	22,63
ATGTGGTTGATATTCACTAACGATGTGGGAGG	22,79
TCTGGTTCACGACTTTCCCCAAGTAGGACGAT	22,95
TTTTTTTTTAAATGGTGCGGAACCCTTGCCTC	22,111
TTTTTTTTAGGAGAAG	23,0
CGAGATGTGCACTGCCCCTACTCTTTTTTTTTTTTTTTTTTTTTAAACC	24,15
ACTTGGGACACCTTTCGCCTGTGATGACATCGGAGGTGGTTTGCCACC	24,31
AGCCTACGTTACTTGCAGAGTATAATACACAA	24,47
TGGATATCACCGCTCTTGTCGTATCCTGCGAATCCTCGGTGTGGAAAT	24,63
TCGCAACGATGTACCGTAGTCCACGATGGCCG	24,79
CGAATCGCGCGAAAATTCACAGTGAGGGTGTATACGAGCTTTTTTTTT	24,95
TTTTTTTTGCTACATGGAGGTAGCTTTTTTTT	24,111
TTTTTTTTAGGAGATC	25,112
GCGTTAAAGGTGCTACTTTTTGTCTGGGTGTT	26,15
CCACATGAGGTCTAAATGCTTATCCTGAAGCGGCCTTGTCGGCGCGGC	26,31

GGTAGGTTTTAGGATCCGACCATGGCTGTATT	26,47
ACTCTCGTGCTTAGGGATTAATACGACTTGATAGACACTACCCGCTCG	26,63
TCTTGCTTATGCCAGCAATAAGGAACACCGGC	26,79
TTTTTTTTTAGGTTTCACCCGAGATTTTTTTT	26,95
CGGCATGCTTTTTTTTTTTTTTTTTATCTATACGCTTCTCGGGTCCTTC	26,127
CCATGAAATTGGACGGATCTGGTCATCCGAAT	28,15
TGATTAGCCATCGCCGTACTTGAATTACTTGGTAAGCGCGCCGAACGA	28,31
TACGCTATCTGCCCAGCGCCCACTTTCCGCCCCTAATGAATTTTTTTT	28,47
GGAACTTGGTCCGGTCAATTCATCGTCCTCACGCGCCAGATTTTTTTT	28,63
TTTTTTTTCCGCCGCA	28,79
TGCTGGTGTTTTTTTTTTTTTTTTGGCTAGAAAAAGCTTCTCCAGAAT	28,95
CCAGTCCCCGACATCCACTGTACGTCACTTGC	28,111
GTGGGAGACATCTGATGCAGTCCGATGTTGGGAGCACGTATCACCGAA	28,127
TACATACGGAGATAATTTTCAACTGCTGAGGAACGACTCTAAAGATAC	30,31
ACTTACGTCACCCGTTCACTCGCATCGCGTCGTGTGGGCTATAAAAGC	30,63
TTTTTTTTCTACTTCAAACGGCGATTTTTTTT	30,79
GATGCTATTTTTTTTT	30,95
CGTCACTTTGTCGAAAAGCAGGTCGTAGTGTCACGGGGTTACTCTAGC	30,127
TATCCTTTTTGTAATGCGGGGAGGGCTATTCGTCAAGGCCAGCACGCA	32,31
ATAGAATACTTAGATCGCCTGGCCGGTCCGGCTCAAGCTGTCTGCAAC	32,63
TTTTTTTTATGGTTTCACTACGCTTTTTTTTT	32,79
CGCGGAACGTTAATGCAGTTACTGTTTTTTTTTTTTTTTTTGGACTCAT	32,127
TGCGGCGCTCTTGCCAGTTATACATAATTCCCCGTCGTCTCCCACTGT	34,31
CCCATGGAGGTCCGGGAAACCGTTAATGGGTATTCCTTTTAGGTCTAC	34,63
GGAGAATCTAGGTCACAACAGTGATGGTGAATGTAAACGAATCTTAGT	34,95
TTTTTTTTGCTGCCATCTCGTTCGTTTTTTTT	34,111
GAGGAGCGTTTTTTTT	34,127
AATTCATACGTAGTTC	35,128

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

CCAGGTTAAGTGGCTC	6,24
AATCATACTCACGGTTAACTGTTGTGTCCTATGTTTACTTAGGGATGG	7,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAAGAAGATAGAGAGCATA	9,23
AATTCGCTAAACCGGAAAAGTATCCGCATCTCACTCAGTGATCGAGTA	9,39
TTCATGTCGCCTTTTCGAACGGTGACACACTTGTGTTCATTCAGAGTA	21,23
GCGGAAATATGGCCGCTTCGGTGCGCAGCGGG	21,39
CCGCCTGTAACGCTTAATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	23,39
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	25,23
CCGGGCTAATGAAGCCGTGACCCCAGAGACTGTCTGATGCACCGGGAG	25,39
CCAGCCACTTAGCTGTGTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	27,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	27,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGGCGGAGCTACCTGACCT	35,23
CAATCATACGTCCCACGGAAGGATTCATCCCC	35,39
TTTAAGAATGATCGCACAGTCTTTGAGATGTT	37,23
GAACATCTTTTGGTTGGCGTAAAGATCTCGCA	37,39
TTCTGGTGCCAAAACTGCCGACTCGTTCAAGCACTATTATCTGGCTAT	39,39
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	41,23
GCGGCTGGACGACCCCGCCGTGCGACGACTGACCGTCGAGCCCTGCGC	41,39
GACAAACGCATATCCTCGGCCCGCCAAATTAA	43,23
TAGTCGATTACGCTTCGCCTAAAGGTCCTTCC	43,39
ACGGTAATCGGGGGTGACTCCGGCCTCCTTGGTATATTAGCTTACCCA	45,23
CTCGCGTGGCACGTCTACGACTCGTCGAACGA	45,39
GGACTGTTCTACATAGTGACTTGGACGAGGTTTCACTGGGCGCTATAC	49,23
AGGAAACTCGAGGGGCTCCCTGTCTGTCGAGC	49,39
CCAGCGACCACTTCTGGAGAAAGATGCGGTGG	51,23
CAGTAGTTGTGATTAGCTTGGGGGTGATATAC	51,39
CTCACTAAACTCCTTCTAATGTGACTAAGCGT	53,23
TAACTCCAAAGGAAACCAGCTATCCCATATTC	53,39
GATGTAAGCGGACATCTATGCGCCCGATATCCGTTCAAACTAGGGGGC	55,39
TTCTGACCAAAGCTCATGAGAATTGTAAACAG	57,23
GAACAGCTTAGAGCAGTCAAGTTCGGATACGCTACCTATGGACGGGGA	57,39
TATGCGACACCATGATCCGGATGAGTTATGAA	59,23
GATCGTCATTGGGATATACAATCTCGAAGTAA	59,39
AGCATAGCACCCTGCGAAGATAGGGTCACAGC	61,23
AGTAATACCTCTACCTTGTTGGACGTAAGCGT	61,39
GAAATAACGACCAGAAAGCACGAGGATTATCACGTGTACCTCGAAATA	63,23
AAGTAAACGAGCCACTTAACCTGGCCATCCCTAGTTCGTATCCGGTTT	6,15
CACTGAGTGAGATGCGGTATGATTATAGGACACAACAGTTAACCGTGA	8,15
GATACTTTTACTCGATGGGCTGATTAAGCGTT	8,31
ACCCGAGCTATGCTCTCTATCTTCTTGAGACTGACATGAAGCGGCCAT	10,15
CACCGTTCTACTCTGAATGAACACAAGTGTGTGTGGCTGGACCCTTTT	20,15
GTATTAGCCCCGCTGCAGCGAATTGTGCGTTG	22,15
GCACCGAACGCTCAGCAACAGCATGGCTTCAT	22,31
GCATCAGACAGTCTCTACAGGCGGAAAAGCCC	24,15
GGGGTCACCTCCCGGTGAGTCGGCAGTTTTGG	24,31
TCAGAAACTTCCAGCTATTTCCGCGAAAAGGC	26,15
CCATATCCGTTCCGGTTTCTTAAACAACCAAA	26,31
ACACTGACCCTAGCTAGAGGGAACTCGCGATCCAGAGCCGGTGGGACG	28,15
CCAGGTCAAGGTCAGGTAGCTCCGCCATTATAATTACCGTAGACGTGC	34,15
AAAGACTGGGGGATGAGGCATCACACAGCTAA	36,15
ATCCTTCCAACATCTCCGTTTGTCGAAGCGTA	36,31
ATAATAGTTGCGAGATTAGCCCGGCCCGCAAC	38,15
CTTTACGCATAGCCAGCATCTTTTGGGGTCGT	38,31
CTCGACGGTCAGTCGTCACCAGAAGCTTGAAC	40,15
CGCACGGCGCGCAGGGGGCGCATAGATGTCCG	40,31
AGCTTGGGGGAAGGACAGATGTTCTGCGATCA	42,15
CTTTAGGCTTATGCTATTAGTGAGGTTTCCTT	42,31
GCGGGCCGTCGTTCGATATGATTGCTAGAAAT	44,15
CGAGTCGTTTAATTTGGTCGCTGGCTAATCAC	44,31
GCCGGAGTTGGGTAAGCTAATATACCAAGGAGAACAGTCCGCCCCTCG	46,15
CCAAGTCAGTATAGCG	48,15
CCCAGTGAAACCTCGTGTTATTTCTGATAATCCTCGTGCTTTCTGGTC	48,31
TCTTTCTCGCTCGACACACGCGAGCACCCCCG	50,15
GACAGGGACCACCGCAGCTATGCTAGGTAGAGGTATTACTCGCAGGGT	50,31
TCACATTAGTATATCAATCGACTAAGGATATG	52,15

CCCCCAAGACGCTTAGGTCGCATATATCCCAATGACGATCATCATGGT	52,31
GTTTGAACGAATATGGCCAGCCGCCTGACAGA	54,15
GATAGCTGGCCCCCTAGGTCAGAACTGCTCTAAGCTGTTCTGAGCTTT	54,31
GAACTTGATCCCCGTCCATAGGTAGCGTATCCCTTACATCGGATATCG	56,31
AGATTGTACTGTTTACAATTCTCATTACTTCGTGGAGTTAGAAGGAGT	58,31
GTCCAACATTCATAACTCATCCGGACGCTTACAACTACTGCAGAAGTG	60,31
GGTACACGGCTGTGACCCTATCTTTATTTCGAAGTTTCCTCTATGTAG	62,31

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTTAACTGTTGTGTCCTAT	5,23
GTTTACTTAGGGATGGTACGAACTCAACGCAC	5,39
GCTCGGGTAGTCTCAAGAAGATAGAGAGCATAAATTCGCTAAACCGGA	7,39
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	9,23
TTCATGTCGCCTTTTCGAACGGTGACACACTTGTGTTCATTCAGAGTA	9,39
GCGGAAATATGGCCGCTTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	11,23
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	11,39
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAACCCGGGCTAATGAAGCC	19,23
GTGACCCCAGAGACTGTCTGATGCACCGGGAG	19,39
CCAGCCACTTAGCTGTGTCAGTGTGATCGCGA	21,23
GTTCCCTCTAGCTAGGGTGATGCCAAAAGGGT	21,39
GGATATGGAGCTGGAACGGCTCTGATTTCTAGTGACCTGGTATAATGG	23,39
CGGAGCTACCTGACCTCAATCATACGTCCCAC	25,23
GGAAGGATTCATCCCCTTTAAGAATGATCGCACAGTCTTTGAGATGTT	25,39
GAACATCTTTTGGTTGGCGTAAAGATCTCGCA	27,23
TTCTGGTGCCAAAACTGCCGACTCGTTCAAGC	27,39
ACTATTATCTGGCTATAAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	29,23
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	29,39
CCGTCGAGCCCTGCGCGACAAACGCATATCCTCGGCCCGCCAAATTAA	33,23
TAGTCGATTACGCTTCGCCTAAAGGTCCTTCC	33,39
ACGGTAATCGGGGGTGACTCCGGCCTCCTTGG	35,23
TATATTAGCTTACCCACTCGCGTGGCACGTCT	35,39
ACGACTCGTCGAACGAGGACTGTTCTACATAG	37,23
TGACTTGGACGAGGTTTCACTGGGCGCTATACAGGAAACTCGAGGGGC	37,39
TCCCTGTCTGTCGAGCCCAGCGACCACTTCTG	43,23
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAGCTTGGGGGTGATATAC	43,39
CTCACTAAACTCCTTCTAATGTGACTAAGCGT	45,23
TAACTCCAAAGGAAACCAGCTATCCCATATTC	45,39
GATGTAAGCGGACATCTATGCGCCCGATATCCGTTCAAACTAGGGGGC	47,23
TTCTGACCAAAGCTCATGAGAATTGTAAACAGGAACAGCTTAGAGCAG	49,23
TCAAGTTCGGATACGCTACCTATGGACGGGGA	49,39
TATGCGACACCATGATCCGGATGAGTTATGAA	51,23
GATCGTCATTGGGATATACAATCTCGAAGTAAAGCATAGCACCCTGCG	51,39
AAGATAGGGTCACAGCAGTAATACCTCTACCT	61,23
TGTTGGACGTAAGCGTGAAATAACGACCAGAAAGCACGAGGATTATCA	61,39
CGTGTACCTCGAAATAATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	63,23
GTATGATTATAGGACACAACAGTTAACCGTGAATTTCCGCAAAAGCCC	4,15
AGCGAATTGTGCGTTGAGTTCGTATCCGGTTTGATACTTTGAAAAGGC	6,15
ATGAACACAAGTGTGTACCCGAGCTATGCTCTCTATCTTCTTGAGACT	8,15
CACCGTTCTACTCTGACAGAGCCGTTCCAGCT	8,31
CACTGAGTCGCTCAGCAAGTAAACGAGCCACTTAACCTGGCCATCCCT	10,15
GTATTAGCTACTCGATGTGGCTGGCCTAGCTA	10,31
GCACCGAATAAGCGTTACAGGCGGCCCGCTGCAACAGCATCAGTCTCT	12,15
TCAGAAACGGCTTCATTAGCCCGGGTTCCGGTATAATAGTGGGGTCGT	18,15
ACACTGACCTCCCGGTGGGCTGATGCGGCCAT	20,15
GCATCAGATCGCGATCAGATGTTCAGTTTTGG	20,31
CCAGGTCAACCCTTTTGACATGAAGAGATGCG	22,15
GGCATCACCCATTATATAGCTCCGGGGGATGA	22,31
TTCTTAAAAACATCTCAAAGACTGTGCGATCACCATATCCCTAGAAAT	24,31
TATGATTGGCTTGAACGAGGGAACACAGCTAA	26,15
GAGTCGGCGTGGGACGCGAGTCGTAACCTCGT	26,31
CTTTACGCTCAGTCGTGGGGTCACCCCGCAAC	28,15
CGCACGGCTGCGAGATATTACCGTTGGGTAAG	28,31
CATCTTTTTTATGCTAAGCTTGGGCTGACAGACTCGACGGGAAGCGTA	30,15
CGTTTGTCTTAATTTGGCGGGCCGAGGATATGCTTACATCGGATATCG	32,15
GCCGGAGTGGAAGGACCCAGCCGCATAGCCAG	34,15
CTTTAGGCCCAAGGAGTTAGTGAGGTTTCCTT	34,31
AACAGTCCAGACGTGCCACCAGAACAACCAAA	36,15
CACGCGAGCTATGTAGGACAGGGACCACCGCA	36,31
CCCAGTGAGCCCCTCGAGTTTCCTGTATAGCGATCCTTCCAGGTCAGG	38,31
AACTACTGGTATATCACCCCCAAGCTAATCACCCAAGTCATCGTTCGA	42,31
GTCGCTGGGAATATGGCTAATATACACCCCCG	44,15
GATAGCTGCAGAAGTGGTCGCATATATCCCAA	44,31
TCACATTAGCCCCCTAATCGACTAGCGCAGGG	46,15
GTTTGAACACGCTTAGGGTCAGAAGCGTATCC	46,31

AATTCTCACTGCTCTAGGCGCATAGATGTCCG	48,15
AGCTGTTCCTGTTTACGGTACACGTCGAGAAACTAACGATTATTTCGA	48,31
TCATCCGGTCCCCGTCTGGAGTTAGAAGGAGT	50,15
CATAGGTATTCATAACCCTATCTTACGCTTACGTCCAACAGCTGTGAC	50,31
AGATTGTACGCAGGGTGCTATGCTTTACTTCGTCTTTCTCGCTCGACA	52,31
GTTATTTCTGATAATCCTCGTGCTTTCTGGTCTGACGATCATCATGGT	60,31
CGGAACAGAGGTAGAGGTATTACTGCCTGTTTGAACTTGATGAGCTTT	62,31

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTTAACTGTTGTGTCCTAT	1,23
GTTTACTTAGGGATGGTACGAACTCAACGCAC	1,39
GCTCGGGTAGTCTCAAGAAGATAGAGAGCATA	3,23
AATTCGCTAAACCGGAAAAGTATCCGCATCTC	3,39
ACTCAGTGATCGAGTATTCATGTCGCCTTTTC	5,23
GAACGGTGACACACTTGTGTTCATTCAGAGTA	5,39
GCGGAAATATGGCCGCTTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	7,39
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	9,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAACCCGGGCTAATGAAGCC	9,39
GTGACCCCAGAGACTGTCTGATGCACCGGGAG	11,23
CCAGCCACTTAGCTGTGTCAGTGTGATCGCGA	11,39
GTTCCCTCTAGCTAGGGTGATGCCAAAAGGGT	13,23
GGATATGGAGCTGGAACGGCTCTGATTTCTAG	13,39
TGACCTGGTATAATGGCGGAGCTACCTGACCTCAATCATACGTCCCAC	15,23
GGAAGGATTCATCCCCTTTAAGAATGATCGCACAGTCTTTGAGATGTT	17,23
GAACATCTTTTGGTTGGCGTAAAGATCTCGCATTCTGGTGCCAAAACT	17,39
GCCGACTCGTTCAAGCACTATTATCTGGCTATAAAAGATGTCTGTCAG	21,23
CCCAAGCTTAGCATAAGCGGCTGGACGACCCCGCCGTGCGACGACTGA	23,39
CCGTCGAGCCCTGCGCGACAAACGCATATCCTCGGCCCGCCAAATTAA	25,23
TAGTCGATTACGCTTCGCCTAAAGGTCCTTCCACGGTAATCGGGGGTG	25,39
ACTCCGGCCTCCTTGGTATATTAGCTTACCCACTCGCGTGGCACGTCT	29,39
ACGACTCGTCGAACGAGGACTGTTCTACATAGTGACTTGGACGAGGTT	31,23
TCACTGGGCGCTATACAGGAAACTCGAGGGGCTCCCTGTCTGTCGAGC	33,23
CCAGCGACCACTTCTGGAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	33,39
CTTGGGGGTGATATACCTCACTAAACTCCTTCTAATGTGACTAAGCGT	37,23
TAACTCCAAAGGAAACCAGCTATCCCATATTCGATGTAAGCGGACATC	39,39
TATGCGCCCGATATCCGTTCAAACTAGGGGGCTTCTGACCAAAGCTCA	41,23
TGAGAATTGTAAACAGGAACAGCTTAGAGCAGTCAAGTTCGGATACGC	41,39
TACCTATGGACGGGGATATGCGACACCATGATCCGGATGAGTTATGAA	45,39
GATCGTCATTGGGATATACAATCTCGAAGTAAAGCATAGCACCCTGCG	47,23
AAGATAGGGTCACAGCAGTAATACCTCTACCTTGTTGGACGTAAGCGT	49,23
GAAATAACGACCAGAAAGCACGAGGATTATCA	49,39
CGTGTACCTCGAAATAATCGTTAGTTTCTCGA	51,23
CTGTTCCGAAACAGGCAGCGGTAGCCTCCCAC	51,39
TTAACCTATGCCTTGGTAACTGATTTTCTCCT	53,23
GGTTCCGCTAGCTGATCTATGGTCCTTAATAT	53,39
AACCCTCGGAGGCAAGGGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	55,39
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATAC	57,23
TCGTCAAGCCTGCTTTCCATAGCTAACCCGATTGTGCATTCCACGTGA	57,39
GTCGTACTTAAAGCAAACGTGGGAGTGCCCGA	59,23
GCGTCTGAGGTATGGTTTACCCACTATGTTGT	59,39
CTCAAGTGCTAACAGTACTAATTATCCATAAC	61,23
TGTGCACGTCAGGGATTCTCACCGGTGGCCGT	61,39
TGCTACATCAGTTTCTTTGCACTCCTGGGGAAACTATACTTACGCACT	63,23
GTATGATTATAGGACACAACAGTTAACCGTGACCAGGTCAAGGTCAGG	0,15
CTATCTTCGTGCGTTGAGTTCGTATATGCTCTGAGGGAACTTCCAGCT	2,15
GACATGAAGAGATGCGGATACTTTGAAAAGGCGGGGTCACACAGCTAA	4,15
ACAGGCGGTACTCTGAATGAACACTAAGCGTTGGGCTGATCCCGCAAC	6,15
TAGCCCGGGTTCCGGTATTTCCGCCCCGCTGCGCACCGAAGCGGCCAT	8,15
TCAGAAACGGCTTCATCCAGCCGCTTATGCTA	8,31
GTATTAGCTCGCGATCCACCGTTCTACTCGATCACTGAGTAAGTGTGT	10,15
ACACTGACCGCTCAGCGAGTCGGCATAGCCAG	10,31
GTGGCTGGCAGTCTCT	11,32
GCATCAGACTAGAAATAGCGAATTTTGAGACTACCCGAGCTCCGGTTT	12,15
CAGAGCCGCTCCCGGT	12,31
GGCATCACGTGGGACGAAGTAAACGAGCCACTTAACCTGGCCATCCCT	14,15
TATGATTGACCCTTTTATCCTTCCCAACCAAA	14,31
TTCTTAAAAACATCTCTAGCTCCGCCATTATA	16,15
AAAGACTGTGCGATCACGAGTCGTCTATGTAG	16,31
CACCAGAATGCGAGATCCATATCCCCTAGCTA	18,15
CTTTACGCAGTTTTGGCTAATATACCAAGGAG	18,31
CGCACGGCCTGACAGAAACAGCATAAAAGCCC	22,15
CATCTTTTTCAGTCGTCTCGACGGGAAGCGTA	22,31
ATTACCGTGGAAGGACAGCTTGGGGGGGTCGT	24,15
CTTTAGGCCACCCCCGGATAGCTGGTTTCCTT	24,31

CGTTTGTCTTAATTTGATAATAGTGCTTGAAC	26,15
GCGGGCCGAGGATATGCCCCCAAGGAAGGAGT	26,31
CACGCGAGAACCTCGTAGATGTTCGGGGATGA	30,15
CCAAGTCAAGACGTGCCCCAGTGACAGAAGTG	30,31
AGTTTCCTGCTCGACAAACAGTCCTCGTTCGA	32,15
GACAGGGAGCCCCTCGTGACGATCTTACTTCG	32,31
AACTACTGCCACCGCAGCCGGAGTTGGGTAAG	34,15
TCTTTCTCCTAATCACGTCGCATATCCCCGTC	34,31
CTTACATCACGCTTAGATCGACTAGCGCAGGG	38,15
TCACATTAGATGTCCGGGCGCATACTGTTTAC	38,31
GAACTTGACTGCTCTATGGAGTTAGAATATGG	40,15
AGCTGTTCGCGTATCCCCTCTCCCCTTGCCTC	40,31
GTTTGAACTGAGCTTTTTAGTGAGGTATATCA	42,15
GGTCAGAAGCCCCCTATAGGTTAAATCAGCTA	42,31
TCATCCGGCGCAGGGTGTCGCTGGGTATAGCG	46,15
GCTATGCTTTCATAACCCTATCTTTTCTGGTC	46,31
GTATTACTACGCTTACAGATTGTATATCCCAA	48,15
GTCCAACAAGGTAGAGATGTAGCATTCCCCAGGAGTGCAAAGAAACTG	48,31
CTAACGATTGATAATCCATAGGTAATCATGGT	50,15
CTCGTGCTTCGAGAAACACTTGAGATCCCTGACGTGCACAACTGTTAG	50,31
GGTACACGGCCTGTTT	51,16
ATCAGTTAGTGGGAGG	52,15
CTACCGCTAGGAGAAAAGTACGACACCATACCTCAGACGCTTGCTTTA	52,31
AGGTGGCCATATTAAGAATTCTCAGGATATCG	54,15
GACCATAGCCCGAGCCGGGCACTCAAAGCAGGCTTGACGATGCCGAGG	54,31
AGCTATGGTCACGTGGAATGCACAATCGGGTTCGAGGGTTTGTTTCAC	56,31
GTGGGTAAGTATAACCGAGGCGGCACAACATAGCGGAACCCCAAGGCA	58,31
CGGTGAGATCGGGCACTCCCACGTACGGCCACCGGAACAGTATTTCGA	60,31
AGTATAGTGTTATGGATAATTAGTAGTGCGTAGTTATTTCGCTGTGAC	62,31

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTTAACTGTTGTGTCCTAT	1,23
GTTTACTTAGGGATGGTACGAACTCAACGCAC	1,39
GCTCGGGTAGTCTCAAGAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,55
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	1,71
TTCATGTCGCCTTTTCGAACGGTGACACACTT	3,23
GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	3,39
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	3,55
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	3,71
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	5,23
CCGGGCTAATGAAGCCGTGACCCCAGAGACTG	5,39
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	5,55
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	5,71
GTGATGCCAAAAGGGTGGATATGGAGCTGGAACGGCTCTGATTTCTAG	7,39
TGACCTGGTATAATGGCGGAGCTACCTGACCTCAATCATACGTCCCAC	7,71
GGAAGGATTCATCCCCTTTAAGAATGATCGCA	9,23
CAGTCTTTGAGATGTTGAACATCTTTTGGTTGGCGTAAAGATCTCGCA	9,39
TTCTGGTGCCAAAACTGCCGACTCGTTCAAGC	9,55
ACTATTATCTGGCTATAAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	9,71
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	11,23
CCGTCGAGCCCTGCGCGACAAACGCATATCCT	11,39
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	11,55
GCCTAAAGGTCCTTCCACGGTAATCGGGGGTG	11,71
ACTCCGGCCTCCTTGGTATATTAGCTTACCCA	13,23
CTCGCGTGGCACGTCTACGACTCGTCGAACGA	13,39
GGACTGTTCTACATAGTGACTTGGACGAGGTT	13,55
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	13,71
TCCCTGTCTGTCGAGCCCAGCGACCACTTCTGGAGAAAGATGCGGTGG	15,23
CAGTAGTTGTGATTAGCTTGGGGGTGATATACCTCACTAAACTCCTTC	15,55
TAATGTGACTAAGCGTTAACTCCAAAGGAAACCAGCTATCCCATATTC	17,23
GATGTAAGCGGACATCTATGCGCCCGATATCC	17,39
GTTCAAACTAGGGGGCTTCTGACCAAAGCTCATGAGAATTGTAAACAG	17,55
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	17,71
TACCTATGGACGGGGATATGCGACACCATGAT	19,23
CCGGATGAGTTATGAAGATCGTCATTGGGATA	19,39
TACAATCTCGAAGTAAAGCATAGCACCCTGCG	19,55
AAGATAGGGTCACAGCAGTAATACCTCTACCT	19,71
TGTTGGACGTAAGCGTGAAATAACGACCAGAA	21,23
AGCACGAGGATTATCACGTGTACCTCGAAATA	21,39
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	21,55
AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	21,71
TAACTGATTTTCTCCTGGTTCCGCTAGCTGATCTATGGTCCTTAATAT	23,39
AACCCTCGGAGGCAAGGGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	23,71
TTTTTTTTGAGTGCCC	24,8
CCTCGGCATTTTTTTTTTTTTTTTGCCGCCTCGGTTATACTCGTCAAG	25,23
CCTGCTTTCCATAGCTAACCCGATTGTGCATTCCACGTGATTTTTTTT	25,39
TTTTTTTTGTCGTACTTAAAGCAATTTTTTTT	25,55
ACGTGGGAGTGCCCGAGCGTCTGATTTTTTTTTTTTTTTTTGGTATGGT	29,39
TTTTTTTTTTACCCACTATGTTGTTTTTTTTT	29,55
CTCAAGTGTTTTTTTT	31,23
TTTTTTTTCTAACAGTACTAATTATCCATAACTGTGCACGTCAGGGAT	31,55
TCTCACCGTTTTTTTTTTTTTTTTTGTGGCCGTTGCTACATCAGTTTCT	33,23
TTGCACTCCTGGGGAAACTATACTTACGCACTGGTTTGGATTTTTTTT	33,39
TTTTTTTTGGGATTAGGCAATTGCTTTTTTTT	33,55
TTTTTTTTTAGGTTGC	34,8
ATTGTAGGTTTTTTTT	37,23
TTTTTTTTCACAATTTTTGATTCGATCACATACATGGGCAATAAAGCT	37,55
GTAGCCTGAGGCGCGCAGCTGCACTTTTTTTTTTTTTTTTTCGTGTCAC	39,39
TTTTTTTTCTTGATATTGAGGGACTTTTTTTT	39,55
ACCTCGTCATTCGGATAAACCATACTGAGGGC	41,23
AGTGGGCGAGATCGGCTAATCATTAGTGCTCCCTTAGTTAGTTCATAG	41,39
TTCATTAGGGGCGGAAATGGGCTGGTGCCCCA	41,55
CGTACAGTAACCAACCGGTGTACCTGTGGGTAGGGCCGAGCGCTGGGC	41,71
TTACATGTGCAAGTGAAATATATGACTTGGTC	43,23
GACCAGATCTGCTAGAAACCACCAACATCCTC	43,39
CTTGACACCTTTCAATTTTTAGTAAACACCCA	43,55
ACAGAGCTGAACTTCCCATGGTCGTTCTACTG	43,71

TCGTATGATCATAGGATCAAACTAAATACAGC	45,23
GTACCGCCAGTTCTTGTCCTTATTGGCGATCG	45,39
TGCATTCCAATGTTTGATGGCCGCGTGGCTTA	45,55
TTAAGACGGCCGGTGTAACCACATAAAGTCGT	45,71
CCGCCTCCGGTAGTCAACGCGGAACGTAATGGCAGAAAGTCTATACCC	47,23
GACAAAAACAGATTTGTACCGGGGTGAACAGCACGTGCGGCTTCTCCT	47,55
GTATCGCCTTGTGTATTATACTCTTGCGGGGGGGTCGAGCGCTCCACT	49,23
GTAGTGGCCGGCCATCGTGGACTAGAAAGCGC	49,39
CGGCAATCTGAATATCGCTACCTCCGATACGCGAACCAGAACCATTTA	49,55
AGAGTAGGGGCAGTGCTCAGCCAAACAGTGGG	49,71
ACATCTCGGAAAGGTGTCCCAAGTGCAAGTAA	51,23
AAAAGGAATTATGAGATCATGTGGGATCCTAA	51,39
AGTTTCTGGTAGACCTCGTAGGCTAGAGCGGT	51,55
GATATCCACGGTACATTCGTTTACTGCACGGA	51,71
ACGAGAGTGCTGGCATAAGCAAGAGAAACCTA	53,23
ACTTGGGGACTAAGATCGTTGCGAATTTTCGC	53,39
GCGATTCGCATGTAGCCGAACGAGATCGTCCT	53,55
AGACGACGGATCTCCTGCATGCCGGTAGCACC	53,71
GTCAAATATGCGTGCTTTTAACGCTTTAGACCCAGCTTGACGCAAGAC	55,39
GCTAATCACTGGGCAGGGTCCTAGGTTGCAGAAACCTACCCCCTAAGC	55,71
AGCGTAGTAAGGGTTACAAGTTCCTGCGGCGG	57,23
CTGTACGAATGAGTCCGGCCTTGACATGACATTCTCCCACCCGTCCAA	57,39
CACCAGCAGGATGTCGAGCCCACAACTTGACA	57,55
GTAGTACAGTATCTTTTTTCATGGCGGCGATGTCGCCGTTTGCTCGCG	57,71
TGCGTACGGCTTTTATATAGCGTAGACCGGAC	59,23
AACCCCGTAAATCGTAAGAGTCGTTATGCCCC	59,39
CCGGTTCTGCTAGAGTGGGACTGGATCAGATG	59,55
TTCAAGTATTCGGTGACCTCCCCGCATTACAA	59,71
CGCGCTTACCAAGTAACGTATGTACGACGCGA	61,23
TGCGAGTGAACGGGTGGATGAATTTCGTTCGG	61,39
GGCCAGGCGATCTAAGTCTGGCGCGTGAGGAC	61,55
ACGTAAGTTGAAGTAGGAAGCTTTTTCTAGCC	61,71
ATAGCATCGACACTACGACCTGCTTTTCGACACGGACTGCATTCTGGA	63,23
CAGTAACTGCATTAACTACGTGCTCCCAACATAAGTGACGTCCTCAGC	63,55
GTATGATTTCCGGTTTAGCGAATTTATGCTCTAACTACTGCAGAAGTG	0,15
CTATCTTCATAGGACACAACAGTTAACCGTGAGACAGGGAGTATATCA	0,47
CACCGTTCTACTCGATCACTGAGTTAAGCGTTAACAGTCCGTATAGCG	2,15
ACAGGCGGGTGCGTTGAGTTCGTAAAGTGTGTGCCGGAGTAGACGTGC	2,47
TCAGAAACCGCTCAGCGTATTAGCACAGCTAAGCGGGCCGGGAAGGAC	4,15
GTGGCTGGGCGGCCATATTTCCGCGTTCCGGTCCAGCCGCGCGCAGGG	4,47
CAGAGCCGCCTAGCTAGAGGGAACGTGGGACGCACCAGAAATAGCCAG	6,15
TATGATTGCAGTCTCTGGGGTCACCTAGAAATATCCTTCCAACATCTC	6,47
AGCTTGGGCTGACAGACCAGGTCATTCCAGCTCCATATCCACCCTTTT	8,15
AGATGTTCTTATGCTAGCGGAACCAGGAGAAA	8,31
CTTTACGCCAACCAAAGGCATCACAGGTCAGGTAGCTCCGCCATTATA	8,47
CATCTTTTTGCGAGATCCTCTCCCCTTGCCTCCGAGGGTTATCAGCTA	8,63
TTCTTAAACACCCCCGACACTGACCCCGCAACAACAGCATGGCTTCAT	10,15
CGTTTGTCTGCGATCAGTCCAACATGATAATC	10,31
GAGTCGGCAGGATATGTAGCCCGGCTCCCGGTGCATCAGATCGCGATC	10,47
ATTACCGTGCTTGAACCTAACGATGTGGGAGGCTACCGCTACGCTTAC	10,63
CGCACGGCGCCCCTCGGGGCTGATGAAAAGGCGACATGAATACTCTGA	12,15
CGAGTCGTTCAGTCGTCATAGGTATTCATAACTCATCCGGTTACTTCG	12,31
ATCGACTATCGTTCGAATGAACACCCCGCTGCGCACCGAAAAAAGCCC	12,47
AGTTTCCTGAAGCGTAAGATTGTAGCTGTGACCCTATCTTTCCCCGTC	12,63
CTAATATACCACCGCAGATACTTTGAGCCACTTAACCTGGCCATCCCT	14,15
TTAGTGAGTGGGTAAGTCACATTAGATGTCCG	14,31
CCAAGTCAGAAGGAGTAAGTAAACTTGAGACTACCCGAGCGAGATGCG	14,47
TCTTTCTCAACCTCGTGTTTGAACCTGCTCTAAGCTGTTCACGCTTAG	14,63
TGGAGTTACTGTTTACGTCGCTGGGCTCGACA	16,15
GATAGCTGGTTTCCTTCACTTGAGGTTATGGA	16,31
AATTCTCATGAGCTTTGGTCAGAAGAATATGGCCCCCAAGCTAATCAC	16,63
GTCGCATAGCGTATCCCCCAGTGACCAAGGAG	18,15
GGCGCATAATCATGGTTCAGACGCTCGGGCAC	18,31
GAACTTGACGCAGGGTGCTATGCTGGATATCGCACGCGAGCTATGTAG	18,63
TGACGATCTTCTGGTCGTTATTTCAGGTAGAGCTTTAGGCGGGGTCGT	20,31
GTATTACTGCCTGTTTCGGAACAGTATCCCAACTCGACGGTTAATTTG	20,63
GACCATAGCCAAGGCAATAATAGTGGGGATGA	22,15
GGTACACGATATTAAGTGCCGAGGAGCTATGG	22,31

TAGGTTAACCCGAGCCAGGTGGCCTATTTCGAAAAGACTGAGTTTTGG	22,63
ATCGGGTTGGGCACTCGTGCAGCTGCGCGCCT	24,31
TCACGTGGAATGCACAATCAGTTATGTTTCAC	24,47
GTATAACCGAGGCGGCCCTACAATTATGTGAT	26,31
TTGCTTTACTTGACGACTCGTGCTTCGAGAAA	26,47
CGTGCACAACCATACCCGGTGAGATTCCCCAG	30,31
ACAACATAATCCCTGACTTACATCGCCCCCTA	30,47
ATGTAGCAACGGCCACGGAGGCGGGCTGTTCA	32,31
GCAATTGCAGAAACTGTAATTAGTACTGTTAG	32,47
AGTATAGTGCAACCTATCATACGACAAGAACT	34,31
TCCAAACCAGTGCGTATCCCACGTGTGGGTAA	34,47
TGCCCATGGTGACACGGACGAGGTGCCGATCT	38,31
GTCCCTCAAGCTTTATAAAGCAGGAGTACGAC	38,47
CTCGGCCCTACCCACAGGTACACCCTATGAACCTAGGACCCTGCCCAG	40,15
AATGATTAGCCCAGCGGCGTTAAAAGCACGCA	40,31
TAACTAAGGGAGCACTCAGGCTACATATCAAG	40,47
TATGGTTTCAGTAGAACGACCATGTGGGGCACCGAATCGCAGGAGATC	42,15
TGGTGGTTGCCCTCAGACTCTCGTATCTTAGT	42,31
CAGCCCATGAGGATGTCGAATCAAAAATTGTG	42,47
CATATATTACGACTTTATGTGGTTTGGGTGTTCAGAAACTATGTACCG	44,15
TACTAAAACGATCGCCAATAAGGAGACCAAGTCGAGATGTTCTCATAA	44,47
TAGTTTGAGGGTATAGACTTTCTGTAAGCCACGATTGCCGGCACTGCC	46,15
CCGCACGTGCTGTATTGGCGATACGATGGCCG	46,31
GCGGCCATAGGAGAAGGAGTGCAACTAATCCC	46,47
AGAGTATATAAATGGTTTCCGCGTTGACTACC	48,15
GCTCGACCCCCCCCGCAGATGCTATATGTTGGGAGCACGTAGTTAATGC	48,31
GAGGTAGCAGTGGAGCCCCCGGTACAAATCTGTTTTTGTCCCATTACG	48,47
TCTGGTTCGCGTATCGAGTTACTGTGTCGAAAAGCAGGTCGTAGTGTC	48,63
ACTTGGGACCCACTGTCGTCTTAATCCTATGA	50,15
TAGTCCACTTACTTGCTAAGCGCGCACCCGTTCACTCGCACTTAGATC	50,31
AGCCTACGGCGCTTTCGGCGGTACCAAACATTGGAATGCAACACCGGC	50,47
TTGGCTGAACCGCTCTGCCTGGCCCTACTTCAACTTACGTTTACTTGG	50,63
TCTTGCTTTCCGTGCAAGCTCTGTTCACTTGCACATGTAATCTAGCAG	52,15
CCACATGATAGGTTTCCGTACGCATACGATTTACGGGGTTACTCTAGC	52,31
CTCGTTCGTTAGGATCATCTGGTCATTGAAAGGTGTCAAGGGAAGTTC	52,47
GTAAACGAAGGACGATAGAACCGGTCACCGAATACTTGAAATAAAAGC	52,63
TCAAGCTGGGTGCTACACTGTACGATCCGAAT	54,15
TCGCAACGGTCTTGCGACTACGCTGGACTCATTCGTACAGCGACATCC	54,31
GGTAGGTTGCGAAAATCGCCCACTTTCCGCCCCTAATGAAGGTTGGTT	54,47
CGGCATGCGCTTAGGGTGCTGGTGAAAGATACTGTACTACTAACCCTT	54,63
TCAAGGCCCGCGAGCAAACGGCGACATCGCCGTGATTAGCGGTCTAAA	56,31
CCATGAAATTGGACGGGTGGGAGAATGTCATGTATTTGACTCTGCAAC	56,63
ACGACTCTCCGCCGCAGGAACTTGTTGTAATGCGTCGTCTATGCCAGC	58,31
CGGGGAGGTGTCAAGTTGTGGGCTGGGGCATACCCCAAGTGCTACATG	58,63
AATTCATCGTCCGGTCTACGCTATGGCTAGAATGGATATCCACCTTTC	60,31
AAAGCTTCCATCTGATCCAGTCCCCCGAACGATTCCTTTTAGGTCTAC	60,63
CGTCACTTTCGCGTCGTACATACGTCCAGAATCCTACTCTATACACAA	62,31
GCAGTCCGGTCCTCACGCGCCAGAGCTGAGGAGCCACTACGATATTCA	62,63

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTTAACTGTTGTGTCCTAT	1,23
GTTTACTTAGGGATGGTACGAACTCAACGCAC	1,39
GCTCGGGTAGTCTCAAGAAGATAGAGAGCATA	3,23
AATTCGCTAAACCGGAAAAGTATCCGCATCTC	3,39
ACTCAGTGATCGAGTATTCATGTCGCCTTTTC	5,23
GAACGGTGACACACTTGTGTTCATTCAGAGTA	5,39
GCGGAAATATGGCCGCTTCGGTGCGCAGCGGG	7,23
CCGCCTGTAACGCTTAATCAGCCCGGGCTTTT	7,39
GCTAATACGCTGAGCGATGCTGTTGTTGCGGG	9,23
GTTTCTGAACCGGAACCCGGGCTAATGAAGCC	9,39
GTGACCCCAGAGACTGTCTGATGCACCGGGAGCCAGCCACTTAGCTGT	11,39
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	13,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAACGGCTCTGATTTCTAG	13,39
TGACCTGGTATAATGGCGGAGCTACCTGACCT	15,23
CAATCATACGTCCCACGGAAGGATTCATCCCC	15,39
TTTAAGAATGATCGCACAGTCTTTGAGATGTT	17,23
GAACATCTTTTGGTTGGCGTAAAGATCTCGCA	17,39
TTCTGGTGCCAAAACTGCCGACTCGTTCAAGC	19,23
ACTATTATCTGGCTATAAAAGATGTCTGTCAG	19,39
CCCAAGCTTAGCATAAGCGGCTGGACGACCCC	21,23
GCCGTGCGACGACTGACCGTCGAGCCCTGCGC	21,39
GACAAACGCATATCCTCGGCCCGCCAAATTAATAGTCGATTACGCTTC	23,23
GCCTAAAGGTCCTTCCACGGTAATCGGGGGTGACTCCGGCCTCCTTGG	25,23
TATATTAGCTTACCCACTCGCGTGGCACGTCT	25,39
ACGACTCGTCGAACGAGGACTGTTCTACATAG	27,23
TGACTTGGACGAGGTTTCACTGGGCGCTATAC	27,39
AGGAAACTCGAGGGGCTCCCTGTCTGTCGAGC	29,23
CCAGCGACCACTTCTGGAGAAAGATGCGGTGG	29,39
CAGTAGTTGTGATTAGCTTGGGGGTGATATAC	31,23
CTCACTAAACTCCTTCTAATGTGACTAAGCGT	31,39
TAACTCCAAAGGAAACCAGCTATCCCATATTC	33,23
GATGTAAGCGGACATCTATGCGCCCGATATCC	33,39
GTTCAAACTAGGGGGCTTCTGACCAAAGCTCATGAGAATTGTAAACAG	35,39
GAACAGCTTAGAGCAGTCAAGTTCGGATACGCTACCTATGGACGGGGA	37,23
TATGCGACACCATGATCCGGATGAGTTATGAAGATCGTCATTGGGATA	37,39
TACAATCTCGAAGTAAAGCATAGCACCCTGCGAAGATAGGGTCACAGC	45,39
AGTAATACCTCTACCTTGTTGGACGTAAGCGTGAAATAACGACCAGAA	47,23
AGCACGAGGATTATCACGTGTACCTCGAAATAATCGTTAGTTTCTCGA	49,23
CTGTTCCGAAACAGGCAGCGGTAGCCTCCCACTTAACCTATGCCTTGG	49,39
TAACTGATTTTCTCCTGGTTCCGCTAGCTGATCTATGGTCCTTAATAT	57,23
AACCCTCGGAGGCAAGGGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	59,39
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATACTCGTCAAGCCTGCTTT	61,23
CCATAGCTAACCCGATTGTGCATTCCACGTGAGTCGTACTTAAAGCAA	61,39
ACGTGGGAGTGCCCGAGCGTCTGAGGTATGGTTTACCCACTATGTTGT	69,39
CTCAAGTGCTAACAGTACTAATTATCCATAACTGTGCACGTCAGGGAT	71,23
TCTCACCGGTGGCCGTTGCTACATCAGTTTCTTTGCACTCCTGGGGAA	73,23
ACTATACTTACGCACTGGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	73,39
ATTGTAGGCACAATTTTTGATTCGATCACATACATGGGCAATAAAGCT	81,23
GTAGCCTGAGGCGCGCAGCTGCACCGTGTCACCTTGATATTGAGGGAC	83,39
ACCTCGTCATTCGGATAAACCATACTGAGGGCAGTGGGCGAGATCGGC	85,23
TAATCATTAGTGCTCCCTTAGTTAGTTCATAGTTCATTAGGGGCGGAA	85,39
ATGGGCTGGTGCCCCACGTACAGTAACCAACCGGTGTACCTGTGGGTA	93,39
GGGCCGAGCGCTGGGCTTACATGTGCAAGTGAAATATATGACTTGGTC	95,23
GACCAGATCTGCTAGAAACCACCAACATCCTCCTTGACACCTTTCAAT	97,23
TTTTAGTAAACACCCAACAGAGCTGAACTTCCCATGGTCGTTCTACTG	97,39
TCGTATGATCATAGGATCAAACTAAATACAGCGTACCGCCAGTTCTTG	105,23
TCCTTATTGGCGATCGTGCATTCCAATGTTTGATGGCCGCGTGGCTTA	107,39
TTAAGACGGCCGGTGTAACCACATAAAGTCGT	109,23
CCGCCTCCGGTAGTCAACGCGGAACGTAATGGCAGAAAGTCTATACCC	109,39
GACAAAAACAGATTTGTACCGGGGTGAACAGC	111,23
ACGTGCGGCTTCTCCTGTATCGCCTTGTGTAT	111,39
TATACTCTTGCGGGGGGGTCGAGCGCTCCACT	113,23
GTAGTGGCCGGCCATCGTGGACTAGAAAGCGC	113,39
CGGCAATCTGAATATCGCTACCTCCGATACGC	115,23
GAACCAGAACCATTTAAGAGTAGGGGCAGTGC	115,39
TCAGCCAAACAGTGGGACATCTCGGAAAGGTG	117,23

TCCCAAGTGCAAGTAAAAAAGGAATTATGAGA	117,39
TCATGTGGGATCCTAAAGTTTCTGGTAGACCTCGTAGGCTAGAGCGGT	119,23
GATATCCACGGTACATTCGTTTACTGCACGGAACGAGAGTGCTGGCAT	121,23
AAGCAAGAGAAACCTAACTTGGGGACTAAGAT	121,39
CGTTGCGAATTTTCGCGCGATTCGCATGTAGC	123,23
CGAACGAGATCGTCCTAGACGACGGATCTCCT	123,39
GCATGCCGGTAGCACCGTCAAATATGCGTGCT	125,23
TTTAACGCTTTAGACCCAGCTTGACGCAAGAC	125,39
GCTAATCACTGGGCAGGGTCCTAGGTTGCAGA	127,23
AACCTACCCCCTAAGCAGCGTAGTAAGGGTTA	127,39
CAAGTTCCTGCGGCGGCTGTACGAATGAGTCC	129,23
GGCCTTGACATGACATTCTCCCACCCGTCCAA	129,39
CACCAGCAGGATGTCGAGCCCACAACTTGACAGTAGTACAGTATCTTT	131,39
TTTCATGGCGGCGATGTCGCCGTTTGCTCGCG	133,23
TGCGTACGGCTTTTATATAGCGTAGACCGGACAACCCCGTAAATCGTA	133,39
AGAGTCGTTATGCCCCCCGGTTCTGCTAGAGT	135,23
GGGACTGGATCAGATGTTCAAGTATTCGGTGA	135,39
CCTCCCCGCATTACAACGCGCTTACCAAGTAA	137,23
CGTATGTACGACGCGATGCGAGTGAACGGGTG	137,39
GATGAATTTCGTTCGGGGCCAGGCGATCTAAG	139,23
TCTGGCGCGTGAGGACACGTAAGTTGAAGTAG	139,39
GAAGCTTTTTCTAGCCATAGCATCGACACTAC	141,23
GACCTGCTTTTCGACACGGACTGCATTCTGGA	141,39
CAGTAACTGCATTAACTACGTGCTCCCAACATAAGTGACGTCCTCAGC	143,23
GTATGATTATAGGACACAACAGTTAACCGTGACGTTTGTCTTAATTTG	0,15
CTATCTTCGTGCGTTGAGTTCGTATATGCTCTAGCTTGGGTCAGTCGT	2,15
GACATGAAGAGATGCGGATACTTTGAAAAGGCCACCAGAAATAGCCAG	4,15
GCACCGAATACTCTGAATGAACACCCCGCTGCTTCTTAAACAACCAAA	6,15
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CAGAGCCGTTCCAGCTGGGGTCACCTCCCGGTGCATCAGACAGTCTCT	12,15
CCATATCCCTAGAAATGGTCAGAAGCCCCCTA	12,31
GAGGGAACGGGGATGATCAGAAACCGCTCAGCGTATTAGCGTTCCGGT	14,15
ATCCTTCCCCTAGCTATGGAGTTAGATGTCCG	14,31
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CATCTTTTAACATCTCAGTTTCCTCAGAAGTGGTCGCTGGGCCCCTCG	18,31
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ATTACCGTCCAAGGAGGCGGGCCGAGGATATG	24,15
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CACGCGAGCTATGTAGGCTATGCTTTACTTCG	26,31
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TCACATTAGAATATGGGATAGCTGACGCTTAGTATGATTGCCATTATA	32,31
AATTCTCAGGATATCGGGCATCACTCGCGATC	34,15
GGCGCATACTGTTTACAGCTGTTCATCATGGT	34,31
TGACGATCTTCATAACGTTTGAACTGAGCTTT	36,15
TCATCCGGTATCCCAACCTCTCCCCTTGCCTC	36,31
GAACTTGATCCCCGTCCTTACATCGTTTCCTT	38,15
CATAGGTAGCGTATCCATCAGTTAATCAGCTA	38,31
CCTATCTTTTCTGGTCCTAATATAGGAAGGAC	46,15
GTTATTTCGCTGTGACCTCGTGCTGCCTGTTT	46,31
GGTACACGTCGAGAAAGTCCAACAAGGTAGAG	48,15
CTAACGATTATTTCGACACTTGAGGTTATGGA	48,31
TAGGTTAAGTGGGAGGAGATTGTACGCAGGGT	50,15
CTACCGCTCCAAGGCATCAGACGCTCGGGCAC	50,31
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GACCATAGCCCGAGCCGGGCACTCATCGGGTT	58,31
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GAGGCGGCAAAGCAGGGCGGAACCAGGAGAAA	62,15
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GTGGGTAAATCCCTGACGGAACAGTGATAATC	70,15

CGTGCACAACAACATACGGTGAGAAGTGCGTA	70,31
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GAGTGCAAAGAAACTGCTCGGCCCTCACTTGC	72,31
GCAATTGCCTAATCCCTCCCACGTACCATACC	74,15
TCCAAACCGCAACCTAACTGTACGTGGGGCAC	74,31
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TGCCCATGGTCCCTCAGACGAGGTGGAGCACT	82,31
CTAATGAACTATGAACCAGGCTACGTGACACG	84,15
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GGTACACCGACCAAGTAGTATAGTACGGCCAC	94,15
CATATATTTACCCACAATCTGGTCTGGGTGTT	94,31
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GTGTCAAGGAGGATGTCCACATGAAGGTCTAC	96,31
CGACCATGGGAAGTTCCAGCCCATGGTTGGTT	98,15
AGCTCTGTCAGTAGAATTGGCTGATTACTTGC	98,31
GCGGCCATCAAGAACTAATGATTAATCCGAAT	106,15
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GGCGATACACGACTTTGGAACTTGATGTCATG	110,31
CCCCGGTAGCGCTTTCTAGTCCACGCTGTTCATGATTAGCGCTTAGGG	112,15
GCTCGACCGCACTGCCCCTACTCTAGTGGAGCCGGCATGCGGTCTAAA	114,15
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CGAGATGTACCGCTCTTACTAAAATCTAGCAG	118,15
AGCCTACGCACCTTTCTGGATATCTAGGTTTC	118,31
GTAAACGAATGCCAGCCAGAAACTTTAGGATC	120,15
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CGAATCGCATCTTAGTACTTGGGACCCACTGT	122,15
CCCCAAGTGCTACATGAAAGCTTCTGTCGAAAAGCAGGTCGGCTAGAA	122,31
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CGTCGTCTAGCACGCAAATTCATCGTCCTCACGCGCCAGACCGAACGA	124,31
CTAGGACCGTCTTGCGGCCACTACCCCCCCGCAAGAGTATAGATGGCCG	126,15
TCAAGCTGTCTGCAACCGGGGAGGTCGCGTCGTACATACGTTGTAATG	126,31
TCGTACAGTAACCCTTCCGCACGTCAAATCTGTTTTTGTCAGGAGAAG	128,15
ACTACGCTGGACTCATACGACTCTCATCTGATCCAGTCCCGGGGCATA	128,31
TGTACTACTTGGACGGGGAGGCGGACACCGGC	130,15
GTGGGAGAAAAGATACCCATGAAAATAAAAGCCGTACGCACATCGCCG	130,31
TACGCTATTACGATTTACGGGGTTGTCCGGTCTGCTGGTGTGTCAAGT	132,31
TACTTGAACGCGAGCAAACGGCGATCACCGAATCAAGGCCCCGCCGCA	134,31
CACTCGCAACTCTAGCAGAACCGGCACCCGTTGGTAGGTTCTGCCCAG	136,31
ACTTACGTTTACTTGGTAAGCGCGCTACTTCAGCGTTAAAGGTGCTAC	138,31
GCAGTCCGCTTAGATCGCCTGGCCTCCAGAATCTCGTTCGGCGAAAAT	140,31
CGTCACTTGTAGTGTCGATGCTATGCTGAGGATCTTGCTTATGTACCG	142,31

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

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AACTGTTGTGTCCTATGTTTACTTAGGGATGG	1,47
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,63
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,79
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	3,31
TTCATGTCGCCTTTTCGAACGGTGACACACTT	3,47
GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	3,63
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	3,79
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	5,31
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	5,47
CCGGGCTAATGAAGCCGTGACCCCAGAGACTG	5,63
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	5,79
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	7,31
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	7,47
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	7,63
CGGAGCTACCTGACCTCAATCATACGTCCCAC	7,79
GGAAGGATTCATCCCCTTTAAGAATGATCGCA	9,31
CAGTCTTTGAGATGTTGAACATCTTTTGGTTG	9,47
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GCCGACTCGTTCAAGCACTATTATCTGGCTAT	9,79
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GCGGCTGGACGACCCCGCCGTGCGACGACTGA	11,47
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CGGCCCGCCAAATTAATAGTCGATTACGCTTC	11,79
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ACTCCGGCCTCCTTGGTATATTAGCTTACCCA	13,47
CTCGCGTGGCACGTCTACGACTCGTCGAACGA	13,63
GGACTGTTCTACATAGTGACTTGGACGAGGTT	13,79
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	15,31
TCCCTGTCTGTCGAGCCCAGCGACCACTTCTG	15,47
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	15,63
CTTGGGGGTGATATACCTCACTAAACTCCTTC	15,79
TAATGTGACTAAGCGTTAACTCCAAAGGAAAC	17,31
CAGCTATCCCATATTCGATGTAAGCGGACATC	17,47
TATGCGCCCGATATCCGTTCAAACTAGGGGGC	17,63
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GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	19,31
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CCGGATGAGTTATGAAGATCGTCATTGGGATA	19,63
TACAATCTCGAAGTAAAGCATAGCACCCTGCG	19,79
AAGATAGGGTCACAGCAGTAATACCTCTACCT	21,31
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AGCACGAGGATTATCACGTGTACCTCGAAATA	21,63
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AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	23,31
TAACTGATTTTCTCCTGGTTCCGCTAGCTGAT	23,47
CTATGGTCCTTAATATAACCCTCGGAGGCAAG	23,63
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	23,79
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATAC	25,31
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ACGTGGGAGTGCCCGAGCGTCTGAGGTATGGT	25,79
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ACTAATTATCCATAACTGTGCACGTCAGGGAT	27,47
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ATTGTAGGCACAATTTTTGATTCGATCACATA	29,47
CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	29,63
AGCTGCACCGTGTCACCTTGATATTGAGGGAC	29,79
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AGTGGGCGAGATCGGCTAATCATTAGTGCTCC	31,47
CTTAGTTAGTTCATAGTTCATTAGGGGCGGAA	31,63
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GGTGTACCTGTGGGTAGGGCCGAGCGCTGGGC	33,31
TTACATGTGCAAGTGAAATATATGACTTGGTC	33,47

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TTTTTTTTGTGGGACGGCATCAGATTTTTTTT	6,87
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CGAGTCGTGATGTCCGCCAGCCGCGCGCAGGG	12,55
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TTAGTGAGGCCCCCTATCATCCGGTTACTTCG	16,71
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CGAGGGTTATCATGGTGATAGCTGGGATATCG	18,55
GCTATGCTCTTGCCTCTGCCCATGGTGACACG	18,71
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GAACTTGATTTTTTTTTTTTTTTTTGTATAGCG	20,23
GTTATTTCGCGTATCCGTGGGTAAGTTATGGA	20,39
TGACGATCTTCTGGTCGACAGGGACCACCGCA	20,55
CGGAACAGTATCCCAACGGTGAGATTCCCCAG	20,71
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GTATTACTTTTTTTTTTTTTTTTTTGGAAGGAC	22,23
GCGGAACCAGGTAGAGGGGCACTCAAAGCAGG	22,39
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AGGTGGCCTATTTCGAAATGCACATCGGGCAC	22,71
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GAGGCGGCTTTTTTTTTTTTTTTTTGTGGGAGG	24,23
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AGTACGACTATGTGATATCAGTTAATATTAAG	24,55
ATATCAAGTTGCTTTAGGCGGTACCAAACATTGGAATGCATTTTTTTT	24,71
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CACTTGAGTTTTTTTTTTTTTTTTTGCTGTGAC	26,23
AGCTATGGACTGTTAGGGTACACCTCACTTGCACATGTAATCTAGCAG	26,39
ATGTAGCAATCGGGTTGTCCAACATGATAATC	26,55

TCAGACGCAGAAACTGATCTGGTCATTGAAAGGTGTCAAGTTTTTTTT	26,71
TTTTTTTTACCATACCCTAACGATTTTTTTTT	26,87
GCAATTGCTTTTTTTTTTTTTTTTCTGCTCTA	28,23
CGTGCACAGCAACCTAGACGAGGTGCCGATCTCGCCCACTCTATGAAC	28,39
CAGGCTACATCCCTGACATAGGTATTCATAAC	28,55
AGTATAGTGCGCGCCTTAACTAAGTGGGGCACCAGCCCATTTTTTTTT	28,71
TTTTTTTTAGTGCGTAAGATTGTATTTTTTTT	28,87
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ACTGTACGCGATCGCCAATAAGGAGGAGCACTCCTACAATAGCTTTAT	30,71
TTTTTTTTGGTTGGTTGTGCAGCTTTTTTTTT	30,87
TTTTTTTTATCCGAAT	31,8
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TACTAAAATTCCGCCCCTAATGAAGACCAAGTTAATTAGTACGGCCAC	32,71
TTTTTTTTTGGGTGTTGAGTGCAATTTTTTTT	32,87
TTTTTTTTTACCCACA	33,8
TAGTTTGAGCCCAGCGCTCGGCCCTTTTTTTTTTTTTTTTTGCCGAGG	34,39
GCGGCCATGAGGATGTTGGTGGTTGCTGTATTCTTGACGATCACGTGG	34,71
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TTTTTTTTGGAAGTTC	35,8

S2.2 X-32H×64B-pore crystal sequences

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AACTGTTGTGTCCTATGTTTACTTAGGGATGG	1,47
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,63
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,79
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	3,31
TTCATGTCGCCTTTTCGAACGGTGACACACTT	3,47
GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	3,63
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TAATGTGACTAAGCGT	19,31
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TATGCGCCCGATATCCGTTCAAACTAGGGGGC	19,79
TTCTGACCAAAGCTCA	22,16
TGAGAATTGTAAACAGGAACAGCTTAGAGCAG	23,31
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CCGGATGAGTTATGAAGATCGTCATTGGGATA	23,63
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GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	27,79
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ACTAATTATCCATAACTGTGCACGTCAGGGAT	31,47
TCTCACCGGTGGCCGTTGCTACATCAGTTTCT	31,63
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CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	33,63
AGCTGCACCGTGTCACCTTGATATTGAGGGAC	33,79
ACCTCGTCATTCGGATAAACCATACTGAGGGC	35,31
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ATGGGCTGGTGCCCCACGTACAGTAACCAACC	35,79
GTATGATTTTTTTTTT	0,23
ACCCGAGCGTTCCGGTTCAGAAACAACCGTGACATCTTTTGGGGTCGT	0,55
TTTTTTTTACAGCTAAGTGGCTGGTTGAGACTCTCGACGGTTAATTTG	0,87

CACTGAGTTTTTTTTT	2,23
ATTTCCGCCCATCCCTAAGTAAACTACTCGATATCCTTCCAACATCTC	2,55
TTTTTTTTTCCGGTTTAGCGAATTGCGGCCATCTTTACGCGCTTGAAC	2,87
GTATTAGCTTTTTTTT	4,23
GGGGTCACAAGTGTGTCACCGTTCCGCTCAGCACACTGACACCCTTTT	4,55
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AGCTTGGGTTTTTTTTTTTTTTTTAAAAGCCCGGGCTGATCCCGCAAC	6,23
CCATATCCTTATGCTAAACAGTCCGCCCCTCG	6,39
CGTTTGTCTTCCAGCTAACAGCATGGCTTCATTAGCCCGGCTCCCGGT	6,55
TATGATTGAGGATATGGTCGCTGGGTATATCA	6,71
TTTTTTTTGTGGGACGGCATCAGATTTTTTTT	6,87
GAGGGAACTTTTTTTTTTTTTTTTGAGATGCGGATACTTTGAAAAGGC	8,23
AGATGTTCCCTAGCTA	8,39
CCAGGTCACAACCAAAGACATGAATACTCTGAATGAACACCCCGCTGC	8,55
ATAATAGTCCATTATA	8,71
TTTTTTTTATAGCCAGGCACCGAATTTTTTTT	8,87
TTTTTTTTGGGGATGA	9,8
AAAGACTGTGCGAGAT	9,40
GAGTCGGCTTTTTTTT	9,72
TTCTTAAATTTTTTTTTTTTTTTTGAGCCACTTAACCTGGATAGGACA	10,23
CGCACGGCTGCGATCAATTACCGTGGAAGGAC	10,39
CACCAGAATCAGTCGTCAACAGTTGTGCGTTGAGTTCGTATATGCTCT	10,55
ATCGACTAAGTTTTGGCACGCGAGTGGGTAAG	10,71
TTTTTTTTGAAGCGTACTATCTTCTTTTTTTT	10,87
GCCGGAGTTTTTTTTTTTTTTTTTCTGACAGA	12,23
GACAGGGACCAAGGAGAATTCTCAGCGTATCC	12,39
CGAGTCGTGCTCGACACCAGCCGCGCGCAGGG	12,55
TTAGTGAGTCGTTCGATCATCCGGTTACTTCG	12,71
TTTTTTTTGAAGGAGTGCGGGCCGTTTTTTTT	12,87
CCAAGTCATTTTTTTTTTTTTTTTTCGCGATC	16,23
CCCAGTGAAACCTCGTTCACATTAGAATATGG	16,39
TCTTTCTCGTATAGCGGGCATCACCTAGAAAT	16,55
AACTACTGCCACCGCATGGAGTTAGGATATCG	16,71
TTTTTTTTCTAATCACTAGCTCCGTTTTTTTT	16,87
AGCTGTTCTTTTTTTTTTTTTTTTTCTATGTAG	18,23
CTTACATCCTGCTCTAGGGCACTCAAAGCAGG	18,39
TGACGATCGATGTCCGAGTTTCCTCAGAAGTG	18,55
GTTTGAACTATCCCAAAATGCACATCGGGCAC	18,71
TTTTTTTTGCCCCCTACCCCCAAGTTTTTTTT	18,87
GGTCAGAATTTTTTTTTTTTTTTTCACCCCCG	22,23
CATAGGTATGAGCTTTCCTATCTTACGCTTAC	22,39
GTCGCATATCCCCGTCCTTTAGGCAGACGTGC	22,55
GCTATGCTATCATGGTCTCGTGCTTCGAGAAA	22,71
TTTTTTTTCGCAGGGTCTAATATATTTTTTTT	22,87
GTATTACTTTTTTTTTTTTTTTTTCTGTTTAC	24,23
AGCTATGGAGGTAGAGGACGAGGTGCCGATCTCGCCCACTCTATGAAC	24,39
GGTACACGATCGGGTTGAACTTGATTCATAAC	24,55
TCAGACGCTATTTCGATAACTAAGTGGGGCACCAGCCCATTTTTTTTT	24,71
TTTTTTTTACCATACCAGATTGTATTTTTTTT	24,87
TAGGTTAATTTTTTTT	26,23
GTTATTTCCCAAGGCATCCAAACCAAATTGTGCCTACAATAGCTTTAT	26,39
CGAGGGTTTTCTGGTC	26,55
CGGAACAGCTTGCCTCTGCCCATGGTGACACGGTGCAGCTTTTTTTTT	26,71
TTTTTTTTGCCTGTTT	26,87
CTACCGCTAGGAGAAA	27,24
GACCATAGTGTTTCAC	27,56
GAGGCGGCTTTTTTTTTTTTTTTTACGCTTAG	28,23
GCGGAACCGTATAACCGTGGGTAAGTTATGGATAATTAGTACGGCCAC	28,39
AGTACGACATCAGCTAGATAGCTGGTTTCCTT	28,55
AGGTGGCCTTGCTTTACGGTGAGATTCCCCAGGAGTGCAATTTTTTTT	28,71
TTTTTTTTCCCGAGCCGGCGCATATTTTTTTT	28,87
CGTGCACAGCCCTCAGTATGGTTTTTTTTTTTTTTTTTTTTGCCGAGG	30,39
AGTATAGTTTCCGCCCCTAATGAAATCCCTGACTTGACGATCACGTGG	30,71
TTTTTTTTAGTGCGTATCCCACGTTTTTTTTT	30,87
TTTTTTTTACAACATA	31,8
CGAATCAAACTGTTAGCACTTGAGTTTTTTTTTTTTTTTTGTGGGAGG	32,39
ATATCAAGAGAAACTGATGTAGCATATGTGATATCAGTTAATATTAAG	32,71
TTTTTTTTGTCCCTCACCTCTCCCTTTTTTTT	32,87

TTTTTTTTCTAATCCC	33,8
AATGATTAGCAACCTAGCAATTGCTTTTTTTTTTTTTTTTGCTGTGAC	34,39
ACTGTACGGCGCGCCTCAGGCTACGGAGCACTGTCCAACATGATAATC	34,71
TTTTTTTTGGTTGGTTCTAACGATTTTTTTTT	34,87
TTTTTTTTATCCGAAT	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
GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	7,23
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	7,39
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	9,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	9,39
CCGGGCTAATGAAGCCGTGACCCCAGAGACTG	11,23
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	11,39
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	13,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	13,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	15,23
CGGAGCTACCTGACCTCAATCATACGTCCCAC	15,39
GTATGATTTCCGGTTTAGCGAATTAACCGTGAATGAACACCCCGCTGC	0,15
ACCCGAGCCCATCCCTAAGTAAACTTGAGACTGATACTTTGAAAAGGC	2,15
ATTTCCGCAAGTGTGTCTATCTTCGTGCGTTGAGTTCGTATATGCTCT	4,15
CACCGTTCGCGGCCATTAGCCCGGCTCCCGGT	4,31
CACTGAGTTAAGCGTTCAACAGTTGAGCCACTTAACCTGGATAGGACA	6,15
ACAGGCGGTACTCGATGGGCTGATCCCGCAAC	6,31
GTATTAGCACAGCTAAGCACCGAATACTCTGA	8,15
GTGGCTGGCGCTCAGCCAGAGCCGAGGTCAGGTAGCTCCGCTAGAAAT	8,31
GGGGTCACGTTCCGGTGACATGAAGAGATGCG	10,15
TCAGAAACCAGTCTCTACACTGACACCCTTTTGGCATCACTCGCGATC	10,31
CCATATCCCCATTATACCAGGTCATTCCAGCTGCATCAGAGGCTTCAT	12,31
TATGATTGCCTAGCTAGAGGGAACGTGGGACGAACAGCATAAAAGCCC	14,31

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGTCCTATGTTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	3,23
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	3,39
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	5,23
TTCATGTCGCCTTTTCGAACGGTGACACACTT	5,39
GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	7,23
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	7,39
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	9,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	9,39
CCGGGCTAATGAAGCCGTGACCCCAGAGACTG	11,23
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	11,39
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	13,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	13,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	15,23
CGGAGCTACCTGACCTCAATCATACGTCCCAC	15,39
GGAAGGATTCATCCCCTTTAAGAATGATCGCA	17,23
CAGTCTTTGAGATGTTGAACATCTTTTGGTTG	17,39
GCGTAAAGATCTCGCATTCTGGTGCCAAAACT	19,23
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	19,39
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	21,23
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	21,39
CCGTCGAGCCCTGCGCGACAAACGCATATCCT	23,23
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	23,39
GTATGATTTCCGGTTTAGCGAATTAACCGTGAATGAACACCCCGCTGC	0,15
ACCCGAGCCCATCCCTAAGTAAACTTGAGACTGATACTTTGAAAAGGC	2,15
ATTTCCGCAAGTGTGTCTATCTTCGTGCGTTGAGTTCGTATATGCTCT	4,15
CACCGTTCGCGGCCATTAGCCCGGCTCCCGGT	4,31
CACTGAGTTAAGCGTTCAACAGTTGAGCCACTTAACCTGGATAGGACA	6,15
ACAGGCGGTACTCGATGGGCTGATCCCGCAAC	6,31
GTATTAGCACAGCTAAGCACCGAATACTCTGA	8,15
GTGGCTGGCGCTCAGCCAGAGCCGAGGTCAGG	8,31
GGGGTCACGTTCCGGTGACATGAAGAGATGCG	10,15
TCAGAAACCAGTCTCTACACTGACACCCTTTT	10,31
CCAGGTCATTCCAGCTGCATCAGAGGCTTCAT	12,15
CCATATCCCCATTATACTTTACGCGCTTGAAC	12,31
GAGGGAACGTGGGACGAACAGCATAAAAGCCC	14,15
TATGATTGCCTAGCTAATCCTTCCAACATCTC	14,31
TTCTTAAAATAGCCAGTAGCTCCGCTAGAAAT	16,15
ATAATAGTTGCGATCACTCGACGGTTAATTTGGCGGGCCGGCGCAGGG	16,31
CACCAGAACAACCAAAGGCATCACTCGCGATC	18,15
AGATGTTCAGTTTTGGCATCTTTTGGGGTCGTCCAGCCGCCTGACAGA	18,31
CGCACGGCAGGATATGCGTTTGTCTCAGTCGTGAGTCGGCTGCGAGAT	20,31
ATCGACTATTATGCTAAGCTTGGGGAAGCGTAAAAGACTGGGGGATGA	22,31

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGTCCTATGTTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	3,23
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	3,39
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	5,23
TTCATGTCGCCTTTTCGAACGGTGACACACTT	5,39
GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	7,23
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	7,39
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	9,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	9,39
CCGGGCTAATGAAGCCGTGACCCCAGAGACTG	11,23
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	11,39
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	13,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	13,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	15,23
CGGAGCTACCTGACCTCAATCATACGTCCCAC	15,39
GGAAGGATTCATCCCCTTTAAGAATGATCGCA	17,23
CAGTCTTTGAGATGTTGAACATCTTTTGGTTG	17,39
GCGTAAAGATCTCGCATTCTGGTGCCAAAACT	19,23
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	19,39
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	21,23
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	21,39
CCGTCGAGCCCTGCGCGACAAACGCATATCCT	23,23
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	23,39
GCCTAAAGGTCCTTCCACGGTAATCGGGGGTG	25,23
ACTCCGGCCTCCTTGGTATATTAGCTTACCCA	25,39
CTCGCGTGGCACGTCTACGACTCGTCGAACGA	27,23
GGACTGTTCTACATAGTGACTTGGACGAGGTT	27,39
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	29,23
TCCCTGTCTGTCGAGCCCAGCGACCACTTCTG	29,39
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	31,23
CTTGGGGGTGATATACCTCACTAAACTCCTTC	31,39
TAATGTGACTAAGCGTTAACTCCAAAGGAAAC	33,23
CAGCTATCCCATATTCGATGTAAGCGGACATC	33,39
TATGCGCCCGATATCCGTTCAAACTAGGGGGC	35,23
TTCTGACCAAAGCTCATGAGAATTGTAAACAG	35,39
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	37,23
TACCTATGGACGGGGATATGCGACACCATGAT	37,39
CCGGATGAGTTATGAAGATCGTCATTGGGATA	39,23
TACAATCTCGAAGTAAAGCATAGCACCCTGCG	39,39
GTATGATTTCCGGTTTAGCGAATTAACCGTGAATGAACACCCCGCTGC	0,15
ACCCGAGCCCATCCCTAAGTAAACTTGAGACTGATACTTTGAAAAGGC	2,15
ATTTCCGCAAGTGTGTCTATCTTCGTGCGTTGAGTTCGTATATGCTCT	4,15
CACCGTTCGCGGCCATTAGCCCGGCTCCCGGT	4,31
CACTGAGTTAAGCGTTCAACAGTTGAGCCACTTAACCTGGATAGGACA	6,15
ACAGGCGGTACTCGATGGGCTGATCCCGCAAC	6,31
GTATTAGCACAGCTAAGCACCGAATACTCTGA	8,15
GTGGCTGGCGCTCAGCCAGAGCCGAGGTCAGG	8,31
GGGGTCACGTTCCGGTGACATGAAGAGATGCG	10,15
TCAGAAACCAGTCTCTACACTGACACCCTTTT	10,31
CCAGGTCATTCCAGCTGCATCAGAGGCTTCAT	12,15
CCATATCCCCATTATACTTTACGCGCTTGAAC	12,31
GAGGGAACGTGGGACGAACAGCATAAAAGCCC	14,15
TATGATTGCCTAGCTAATCCTTCCAACATCTC	14,31
TTCTTAAAATAGCCAGTAGCTCCGCTAGAAAT	16,15
ATAATAGTTGCGATCACTCGACGGTTAATTTG	16,31
CACCAGAACAACCAAAGGCATCACTCGCGATC	18,15
AGATGTTCAGTTTTGGCATCTTTTGGGGTCGT	18,31
CGTTTGTCTCAGTCGTGAGTCGGCTGCGAGAT	20,15
CGCACGGCAGGATATGCACGCGAGCTATGTAG	20,31
AGCTTGGGGAAGCGTAAAAGACTGGGGGATGA	22,15
ATCGACTATTATGCTACTTTAGGCCCAAGGAG	22,31
ATTACCGTAACCTCGTGCGGGCCGGCGCAGGG	24,15
CCAAGTCACACCCCCGTCTTTCTCGTATATCA	24,31
CGAGTCGTTGGGTAAGCCAGCCGCCTGACAGA	26,15
CTAATATATCGTTCGACCCAGTGAGCTCGACA	26,31

AACTACTGCAGAAGTGAACAGTCCAGACGTGC	28,15
GTCGCTGGCTAATCACGGCGCATATGAGCTTT	28,31
AGTTTCCTGAAGGAGTGCCGGAGTGGAAGGAC	30,15
TTAGTGAGGCCCCTCGTCACATTAGAATATGG	30,31
TGGAGTTACTGTTTACCCCCCAAGCCACCGCA	32,15
AATTCTCAGTTTCCTTTCATCCGGTTACTTCGAGATTGTATTCATAAC	32,31
GTTTGAACGATGTCCGGACAGGGAGTATAGCG	34,15
CTTACATCGCCCCCTAAGCTGTTCTCCCCGTCCATAGGTACTGCTCTA	34,31
GTCGCATATATCCCAATGACGATCATCATGGTGGTCAGAAGGATATCG	36,31
GCTATGCTGCGTATCCGAACTTGACGCAGGGTGATAGCTGACGCTTAG	38,31

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGTCCTATGTTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	3,23
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	3,39
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	5,23
TTCATGTCGCCTTTTCGAACGGTGACACACTT	5,39
GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	7,23
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	7,39
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	9,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	9,39
CCGGGCTAATGAAGCCGTGACCCCAGAGACTG	11,23
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	11,39
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	13,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	13,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	15,23
CGGAGCTACCTGACCTCAATCATACGTCCCAC	15,39
GGAAGGATTCATCCCCTTTAAGAATGATCGCA	17,23
CAGTCTTTGAGATGTTGAACATCTTTTGGTTG	17,39
GCGTAAAGATCTCGCATTCTGGTGCCAAAACT	19,23
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	19,39
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	21,23
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	21,39
CCGTCGAGCCCTGCGCGACAAACGCATATCCT	23,23
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	23,39
GCCTAAAGGTCCTTCCACGGTAATCGGGGGTG	25,23
ACTCCGGCCTCCTTGGTATATTAGCTTACCCA	25,39
CTCGCGTGGCACGTCTACGACTCGTCGAACGA	27,23
GGACTGTTCTACATAGTGACTTGGACGAGGTT	27,39
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	29,23
TCCCTGTCTGTCGAGCCCAGCGACCACTTCTG	29,39
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	31,23
CTTGGGGGTGATATACCTCACTAAACTCCTTC	31,39
TAATGTGACTAAGCGTTAACTCCAAAGGAAAC	33,23
CAGCTATCCCATATTCGATGTAAGCGGACATC	33,39
TATGCGCCCGATATCCGTTCAAACTAGGGGGC	35,23
TTCTGACCAAAGCTCATGAGAATTGTAAACAG	35,39
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	37,23
TACCTATGGACGGGGATATGCGACACCATGAT	37,39
CCGGATGAGTTATGAAGATCGTCATTGGGATA	39,23
TACAATCTCGAAGTAAAGCATAGCACCCTGCG	39,39
AAGATAGGGTCACAGCAGTAATACCTCTACCT	41,23
TGTTGGACGTAAGCGTGAAATAACGACCAGAA	41,39
AGCACGAGGATTATCACGTGTACCTCGAAATA	43,23
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	43,39
AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	45,23
TAACTGATTTTCTCCTGGTTCCGCTAGCTGAT	45,39
CTATGGTCCTTAATATAACCCTCGGAGGCAAG	47,23
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	47,39
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATAC	49,23
TCGTCAAGCCTGCTTTCCATAGCTAACCCGAT	49,39
TGTGCATTCCACGTGAGTCGTACTTAAAGCAA	51,23
ACGTGGGAGTGCCCGAGCGTCTGAGGTATGGT	51,39
TTACCCACTATGTTGTCTCAAGTGCTAACAGT	53,23
ACTAATTATCCATAACTGTGCACGTCAGGGAT	53,39
TCTCACCGGTGGCCGTTGCTACATCAGTTTCT	55,23
TTGCACTCCTGGGGAAACTATACTTACGCACT	55,39
GGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	57,23
ATTGTAGGCACAATTTTTGATTCGATCACATA	57,39
CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	59,23
AGCTGCACCGTGTCACCTTGATATTGAGGGAC	59,39
ACCTCGTCATTCGGATAAACCATACTGAGGGC	61,23
AGTGGGCGAGATCGGCTAATCATTAGTGCTCC	61,39
CTTAGTTAGTTCATAGTTCATTAGGGGCGGAA	63,23
ATGGGCTGGTGCCCCACGTACAGTAACCAACC	63,39
GGTGTACCTGTGGGTAGGGCCGAGCGCTGGGC	65,23
TTACATGTGCAAGTGAAATATATGACTTGGTC	65,39

GACCAGATCTGCTAGAAACCACCAACATCCTC	67,23
CTTGACACCTTTCAATTTTTAGTAAACACCCA	67,39
ACAGAGCTGAACTTCCCATGGTCGTTCTACTG	69,23
TCGTATGATCATAGGATCAAACTAAATACAGC	69,39
GTACCGCCAGTTCTTGTCCTTATTGGCGATCG	71,23
TGCATTCCAATGTTTGATGGCCGCGTGGCTTA	71,39
TTAAGACGGCCGGTGTAACCACATAAAGTCGT	73,23
CCGCCTCCGGTAGTCAACGCGGAACGTAATGG	73,39
CAGAAAGTCTATACCCGACAAAAACAGATTTG	75,23
TACCGGGGTGAACAGCACGTGCGGCTTCTCCT	75,39
GTATCGCCTTGTGTATTATACTCTTGCGGGGG	77,23
GGTCGAGCGCTCCACTGTAGTGGCCGGCCATC	77,39
GTGGACTAGAAAGCGCCGGCAATCTGAATATC	79,23
GCTACCTCCGATACGCGAACCAGAACCATTTA	79,39
GTATGATTTCCGGTTTAGCGAATTAACCGTGAATGAACACCCCGCTGC	0,15
ACCCGAGCCCATCCCTAAGTAAACTTGAGACTGATACTTTGAAAAGGC	2,15
ATTTCCGCAAGTGTGTCTATCTTCGTGCGTTGAGTTCGTATATGCTCT	4,15
CACCGTTCGCGGCCATTAGCCCGGCTCCCGGT	4,31
CACTGAGTTAAGCGTTCAACAGTTGAGCCACTTAACCTGGATAGGACA	6,15
ACAGGCGGTACTCGATGGGCTGATCCCGCAAC	6,31
GTATTAGCACAGCTAAGCACCGAATACTCTGA	8,15
GTGGCTGGCGCTCAGCCAGAGCCGAGGTCAGG	8,31
GGGGTCACGTTCCGGTGACATGAAGAGATGCG	10,15
TCAGAAACCAGTCTCTACACTGACACCCTTTT	10,31
CCAGGTCATTCCAGCTGCATCAGAGGCTTCAT	12,15
CCATATCCCCATTATACTTTACGCGCTTGAAC	12,31
GAGGGAACGTGGGACGAACAGCATAAAAGCCC	14,15
TATGATTGCCTAGCTAATCCTTCCAACATCTC	14,31
TTCTTAAAATAGCCAGTAGCTCCGCTAGAAAT	16,15
ATAATAGTTGCGATCACTCGACGGTTAATTTG	16,31
CACCAGAACAACCAAAGGCATCACTCGCGATC	18,15
AGATGTTCAGTTTTGGCATCTTTTGGGGTCGT	18,31
CGTTTGTCTCAGTCGTGAGTCGGCTGCGAGAT	20,15
CGCACGGCAGGATATGCACGCGAGCTATGTAG	20,31
AGCTTGGGGAAGCGTAAAAGACTGGGGGATGA	22,15
ATCGACTATTATGCTACTTTAGGCCCAAGGAG	22,31
ATTACCGTAACCTCGTGCGGGCCGGCGCAGGG	24,15
CCAAGTCACACCCCCGTCTTTCTCGTATATCA	24,31
CGAGTCGTTGGGTAAGCCAGCCGCCTGACAGA	26,15
CTAATATATCGTTCGACCCAGTGAGCTCGACA	26,31
AACTACTGCAGAAGTGAACAGTCCAGACGTGC	28,15
GTCGCTGGCTAATCACGGCGCATATGAGCTTT	28,31
AGTTTCCTGAAGGAGTGCCGGAGTGGAAGGAC	30,15
TTAGTGAGGCCCCTCGTCACATTAGAATATGG	30,31
TGGAGTTACTGTTTACCCCCCAAGCCACCGCA	32,15
AATTCTCAGTTTCCTTTCATCCGGTTACTTCG	32,31
GTTTGAACGATGTCCGGACAGGGAGTATAGCG	34,15
CTTACATCGCCCCCTAAGCTGTTCTCCCCGTC	34,31
TGACGATCATCATGGTGGTCAGAAGGATATCG	36,15
GTCGCATATATCCCAACTCGTGCTTCGAGAAA	36,31
GAACTTGACGCAGGGTGATAGCTGACGCTTAG	38,15
GCTATGCTGCGTATCCCCTATCTTACGCTTAC	38,31
GTATTACTGCCTGTTTAGATTGTATTCATAAC	40,15
CGGAACAGAGGTAGAGGACCATAGTGTTTCAC	40,31
GGTACACGTTCTGGTCCATAGGTACTGCTCTA	42,15
GTTATTTCTATTTCGACTACCGCTAGGAGAAA	42,31
CGAGGGTTATCAGCTACTAACGATTGATAATC	44,15
GCGGAACCCTTGCCTCAATGCACATCGGGCAC	44,31
TAGGTTAACCCGAGCCGTCCAACAGCTGTGAC	46,15
AGGTGGCCCCAAGGCAGGGCACTCAAAGCAGG	46,31
GAGGCGGCACCATACCCCTCTCCCATATTAAG	48,15
TCAGACGCGTATAACCCGGTGAGATTCCCCAG	48,31
AGTACGACATCGGGTTATCAGTTAGTGGGAGG	50,15
AGCTATGGTTGCTTTAGTGGGTAAGTTATGGA	50,31
ATGTAGCAATCCCTGATCCCACGTTCACGTGG	52,15
CGTGCACAAGAAACTGTGCCCATGGTGACACG	52,31
CACTTGAGAGTGCGTACTTGACGATGCCGAGG	54,15
AGTATAGTACTGTTAGTCCAAACCAAATTGTG	54,31

GCAATTGCGTCCCTCAGAGTGCAAACGGCCAC	56,15
ATATCAAGGCAACCTATAACTAAGTGGGGCAC	56,31
CAGGCTACTATGTGATTAATTAGTACAACATA	58,15
CGAATCAAGCGCGCCTGACGAGGTGCCGATCT	58,31
CTAATGAAGGAGCACTGTGCAGCTAGCTTTAT	60,15
AATGATTATTCCGCCCATCTGGTCATTGAAAG	60,31
TATGGTTTGGTTGGTTCCTACAATCTAATCCC	62,15
ACTGTACGGCCCTCAGGGTACACCTCACTTGC	62,31
CTCGGCCCTGGGTGTTCAGCCCATCTATGAAC	64,15
TACTAAAAGCCCAGCGGGCGGTACCAAACATT	64,31
TGGTGGTTGACCAAGTCGCCCACTATCCGAAT	66,15
CATATATTGAGGATGTAGCTCTGTTCCTATGA	66,31
AATAAGGAGCTGTATTGTGTCAAGTCTAGCAG	68,15
TAGTTTGACGATCGCCACTTTCTGGCTGTTCA	68,31
CGACCATGTAAGCCACACATGTAATACCCACA	70,15
GCGGCCATCAGTAGAACGTCTTAATGACTACC	70,31
ATGTGGTTAGGAGAAGGGAATGCACAAGAACT	72,15
CCGCACGTACGACTTTTAGTCCACGCGTATCGGAGGTAGCGCGCTTTC	72,31
TTTTTGTCCCATTACGTCATACGAGGAAGTTC	74,15
TTCCGCGTCAAATCTGGGCGATACAGTGGAGCGCTCGACCATACACAA	74,31
GCCACTACGATATTCAGATTGCCGGATGGCCGCCCCGGTAGGGTATAG	76,31
TCTGGTTCCCCCCCGCAAGAGTATATAAATGGTGGAGGCGGACACCGGC	78,31

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTTAACTGTTGTGTCCTAT	1,47
GTTTACTTAGGGATGGTACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,79
GAAGATAGAGAGCATAAATTCGCTAAACCGGAAAAGTATCCGCATCTC	5,31
ACTCAGTGATCGAGTATTCATGTCGCCTTTTC	5,47
GAACGGTGACACACTTGTGTTCATTCAGAGTAGCGGAAATATGGCCGC	5,63
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	5,79
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCGATGCTGTTGTTGCGGG	7,31
GTTTCTGAACCGGAACCCGGGCTAATGAAGCCGTGACCCCAGAGACTG	7,63
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	11,31
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGGGTGATGCCAAAAGGGT	11,47
GGATATGGAGCTGGAACGGCTCTGATTTCTAG	11,63
TGACCTGGTATAATGGCGGAGCTACCTGACCTCAATCATACGTCCCAC	11,79
GGAAGGATTCATCCCCTTTAAGAATGATCGCA	13,31
CAGTCTTTGAGATGTTGAACATCTTTTGGTTG	13,47
GCGTAAAGATCTCGCATTCTGGTGCCAAAACT	13,63
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	13,79
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	15,31
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	15,47
CCGTCGAGCCCTGCGCGACAAACGCATATCCT	15,63
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	15,79
GCCTAAAGGTCCTTCCACGGTAATCGGGGGTG	17,31
ACTCCGGCCTCCTTGGTATATTAGCTTACCCA	17,47
CTCGCGTGGCACGTCTACGACTCGTCGAACGA	17,63
GGACTGTTCTACATAGTGACTTGGACGAGGTT	17,79
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	19,31
TCCCTGTCTGTCGAGCCCAGCGACCACTTCTG	19,47
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	19,63
CTTGGGGGTGATATACCTCACTAAACTCCTTC	19,79
TAATGTGACTAAGCGTTAACTCCAAAGGAAAC	21,31
CAGCTATCCCATATTCGATGTAAGCGGACATC	21,47
TATGCGCCCGATATCCGTTCAAACTAGGGGGC	21,63
TTCTGACCAAAGCTCATGAGAATTGTAAACAG	21,79
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	23,31
TACCTATGGACGGGGATATGCGACACCATGAT	23,47
CCGGATGAGTTATGAAGATCGTCATTGGGATA	23,63
TACAATCTCGAAGTAAAGCATAGCACCCTGCG	23,79
AAGATAGGGTCACAGCAGTAATACCTCTACCT	25,31
TGTTGGACGTAAGCGTGAAATAACGACCAGAA	25,47
AGCACGAGGATTATCACGTGTACCTCGAAATA	25,63
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	25,79
AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	27,31
TAACTGATTTTCTCCTGGTTCCGCTAGCTGAT	27,47
CTATGGTCCTTAATATAACCCTCGGAGGCAAG	27,63
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	27,79
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATAC	29,31
TCGTCAAGCCTGCTTTCCATAGCTAACCCGAT	29,47
TGTGCATTCCACGTGAGTCGTACTTAAAGCAA	29,63
ACGTGGGAGTGCCCGAGCGTCTGAGGTATGGT	29,79
TTACCCACTATGTTGTCTCAAGTGCTAACAGT	31,31
ACTAATTATCCATAACTGTGCACGTCAGGGAT	31,47
TCTCACCGGTGGCCGTTGCTACATCAGTTTCT	31,63
TTGCACTCCTGGGGAAACTATACTTACGCACT	31,79
GGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	33,31
ATTGTAGGCACAATTTTTGATTCGATCACATA	33,47
CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	33,63
AGCTGCACCGTGTCACCTTGATATTGAGGGAC	33,79
ACCTCGTCATTCGGATAAACCATACTGAGGGC	35,31
AGTGGGCGAGATCGGCTAATCATTAGTGCTCC	35,47
CTTAGTTAGTTCATAGTTCATTAGGGGCGGAA	35,63
ATGGGCTGGTGCCCCACGTACAGTAACCAACC	35,79
CAACAGTTTAAGCGTTACAGGCGGTTGAGACTCCATATCCCCATTATA	0,23
ACCCGAGCGAAAAGGCGACATGAAATAGGACAGCATCAGATCGCGATC	0,55
AGCGAATTGCGGCCATATTTCCGCTACTCTGATCAGAAACCGCTCAGC	4,23
ATGAACACGAGATGCGGATACTTTTCCGGTTTGGGCTGATGGCTTCAT	4,55
GTGGCTGGCCCGCAACGCACCGAATATGCTCTCTATCTTCTACTCGAT	6,23
GGGGTCACACAGCTAACTTTAGGCCCAAGGAG	6,39

CAGAGCCGCAGTCTCTCACTGAGTAAGTGTGTCACCGTTCCCCGCTGC	6,55
AACAGCATCTAGAAATCACGCGAGCTATGTAG	6,71
TATGATTGAGGTCAGGAAGTAAACAACCGTGAGTATGATTGAGCCACT	10,23
GAGGGAACGTGGGACGATCCTTCCAACATCTC	10,39
GGCATCACCCTAGCTATAACCTGGGTGCGTTGAGTTCGTACCATCCCT	10,55
TAGCTCCGACCCTTTTCTTTACGCGCTTGAAC	10,71
TTCTTAAAAACCTCGTCCAGGTCACTCCCGGT	12,23
CTAATATATGCGATCAAGCTGTTCTCCCCGTC	12,39
CACCAGAATGGGTAAGACACTGACTTCCAGCT	12,55
CCAAGTCAAGTTTTGGTCATCCGGTTACTTCG	12,71
AGCTTGGGATAGCCAGATAATAGTAGGATATGGGCGCATATGAGCTTT	14,23
CGTTTGTCCAACCAAAAGATGTTCTTATGCTATCACATTAGAATATGG	14,55
ATTACCGTGAAGCGTAGTATTAGCAAAAGCCC	16,23
CGCACGGCCACCCCCGCCCAGTGAGCTCGACA	16,39
CGAGTCGTTCAGTCGTTAGCCCGGGTTCCGGT	16,55
ATCGACTATCGTTCGATCTTTCTCGTATATCA	16,71
GAACTTGAGAAGGAGTAACAGTCCGGAAGGAC	18,23
GTCGCTGGGCGTATCCGGGCACTCAAAGCAGG	18,39
TGACGATCCAGAAGTGGCCGGAGTAGACGTGC	18,55
TTAGTGAGTATCCCAAAATGCACATCGGGCAC	18,71
AGTTTCCTCTGTTTACGCGGGCCGCTGACAGACATCTTTTGGGGTCGT	20,23
CTTACATCGCCCCTCGCTACCGCTAGGAGAAA	20,39
AACTACTGGATGTCCGCCAGCCGCGCGCAGGGCTCGACGGTTAATTTG	20,55
AATTCTCACTAATCACGACCATAGTGTTTCAC	20,71
TGGAGTTACGCAGGGTGAGTCGGCGGGGATGA	22,23
GTCGCATAGTTTCCTTCCTATCTTACGCTTAC	22,39
GTTTGAACATCATGGTAAAGACTGTGCGAGAT	22,55
GCTATGCTGCCCCCTACTCGTGCTTCGAGAAA	22,71
GTATTACTACCATACCAGATTGTACTGCTCTA	24,23
AGCTATGGAGGTAGAGGACGAGGTGCCGATCTCGCCCACTCTATGAAC	24,39
GGTACACGATCGGGTTCATAGGTATTCATAAC	24,55
TCAGACGCTATTTCGATAACTAAGTGGGGCACCAGCCCATATCCGAAT	24,71
TAGGTTAAGCCTGTTTGGTCAGAAACGCTTAG	26,23
GTTATTTCCCAAGGCATCCAAACCAAATTGTGCCTACAATAGCTTTAT	26,39
CGAGGGTTTTCTGGTCGATAGCTGGGATATCG	26,55
CGGAACAGCTTGCCTCTGCCCATGGTGACACGGTGCAGCTCTAATCCC	26,71
GAGGCGGCCCCGAGCCCCCCCAAGGTATAGCG	28,23
GCGGAACCGTATAACCGTGGGTAAGTTATGGATAATTAGTACGGCCAC	28,39
AGTACGACATCAGCTAGACAGGGACCACCGCA	28,55
AGGTGGCCTTGCTTTACGGTGAGATTCCCCAGGAGTGCAAACAACATA	28,71
CGTGCACAGCCCTCAGTATGGTTTAGTGCGTATCCCACGTTGCCGAGG	30,39
AGTATAGTTTCCGCCCCTAATGAAATCCCTGACTTGACGATCACGTGG	30,71
CGAATCAAACTGTTAGCACTTGAGGTCCCTCACCTCTCCCGTGGGAGG	32,39
ATATCAAGAGAAACTGATGTAGCATATGTGATATCAGTTAATATTAAG	32,71
AATGATTAGCAACCTAGCAATTGCGGTTGGTTCTAACGATGCTGTGAC	34,39
ACTGTACGGCGCGCCTCAGGCTACGGAGCACTGTCCAACATGATAATC	34,71

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

CCAGGTTAAGTGGCTC	1,47
AATCATACTCACGGTTAACTGTTGTGTCCTAT	1,63
GTTTACTTAGGGATGG	4,32
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	5,47
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	5,63
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	7,47
TTCATGTCGCCTTTTC	7,63
GAACGGTGACACACTT	10,48
GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	11,47
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	11,63
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	13,31
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	13,47
CCGGGCTAATGAAGCCGTGACCCCAGAGACTG	13,63
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	13,79
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	15,31
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	15,47
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	15,63
CGGAGCTACCTGACCTCAATCATACGTCCCAC	15,79
GGAAGGATTCATCCCCTTTAAGAATGATCGCA	17,31
CAGTCTTTGAGATGTTGAACATCTTTTGGTTG	17,47
GCGTAAAGATCTCGCATTCTGGTGCCAAAACT	17,63
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	17,79
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	19,31
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	19,47
CCGTCGAGCCCTGCGCGACAAACGCATATCCT	19,63
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	19,79
GCCTAAAGGTCCTTCCACGGTAATCGGGGGTG	21,31
ACTCCGGCCTCCTTGGTATATTAGCTTACCCA	21,47
CTCGCGTGGCACGTCTACGACTCGTCGAACGA	21,63
GGACTGTTCTACATAGTGACTTGGACGAGGTT	21,79
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	23,31
TCCCTGTCTGTCGAGCCCAGCGACCACTTCTG	23,47
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	23,63
CTTGGGGGTGATATACCTCACTAAACTCCTTC	23,79
TAATGTGACTAAGCGTTAACTCCAAAGGAAAC	25,31
CAGCTATCCCATATTCGATGTAAGCGGACATC	25,47
TATGCGCCCGATATCCGTTCAAACTAGGGGGC	25,63
TTCTGACCAAAGCTCATGAGAATTGTAAACAG	25,79
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	27,31
TACCTATGGACGGGGATATGCGACACCATGAT	27,47
CCGGATGAGTTATGAAGATCGTCATTGGGATA	27,63
TACAATCTCGAAGTAAAGCATAGCACCCTGCG	27,79
AAGATAGGGTCACAGCAGTAATACCTCTACCT	29,31
TGTTGGACGTAAGCGTGAAATAACGACCAGAA	29,47
AGCACGAGGATTATCACGTGTACCTCGAAATA	29,63
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	29,79
AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	31,31
TAACTGATTTTCTCCTGGTTCCGCTAGCTGAT	31,47
CTATGGTCCTTAATATAACCCTCGGAGGCAAG	31,63
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	31,79
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATAC	33,31
TCGTCAAGCCTGCTTTCCATAGCTAACCCGAT	33,47
TGTGCATTCCACGTGAGTCGTACTTAAAGCAA	33,63
ACGTGGGAGTGCCCGAGCGTCTGAGGTATGGT	33,79
TTACCCACTATGTTGTCTCAAGTGCTAACAGT	35,31
ACTAATTATCCATAACTGTGCACGTCAGGGAT	35,47
TCTCACCGGTGGCCGTTGCTACATCAGTTTCT	35,63
TTGCACTCCTGGGGAAACTATACTTACGCACT	35,79
CAACAGTTTTGAGACTACCCGAGCTTTTTTTTTTTTTTTTTACTCTGA	0,55
TTTTTTTTATAGGACAGCACCGAATTTTTTTT	0,71
TTTTTTTTGAGCCACT	1,24
AGCGAATTCCATCCCTAAGTAAACTTTTTTTTTTTTTTTTGAGATGCG	4,55
TTTTTTTTTCCGGTTTGACATGAATTTTTTTT	4,71
TTTTTTTTGTGCGTTG	5,24
CACTGAGTTTTTTTTTATCCTTCCAACATCTC	6,39
ACAGGCGGTACTCGATAGTTCGTATATGCTCTCTATCTTCTTTTTTTT	6,55

TTTTTTTTTAAGCGTTCTTTACGCGCTTGAAC	6,71
ATTTCCGCTTTTTTTTGGGCTGATCCCGCAAC	10,39
CACCGTTCGCGGCCATTAACCTGGAACCGTGAGTATGATTTTTTTTTTT	10,55
TTTTTTTTAAGTGTGTTAGCCCGGCTCCCGGT	10,71
GTATTAGCATAGCCAGATAATAGTCAGTCTCTTCTTTCTCGTATATCA	12,23
AGATGTTCCGCTCAGCCCCAGTGAGCTCGACA	12,39
GGGGTCACCAACCAAAATGAACACCCCGCTGC	12,55
GAGGGAACACAGCTAAGTGGCTGGCCATTATACACGCGAGCTATGTAG	14,23
CCAGGTCAGTTCCGGTTCAGAAACCCTAGCTACTTTAGGCCCAAGGAG	14,55
TTCTTAAAGTGGGACGTATGATTGAGTTTTGGCTCGACGGTTAATTTG	16,23
CCATATCCTGCGATCACATCTTTTGGGGTCGT	16,39
CACCAGAATTCCAGCTGATACTTTGAAAAGGC	16,55
AGTTTCCTGAAGCGTAGAGTCGGCGGGGATGA	18,23
CGCACGGCGCCCCTCGCCTATCTTACGCTTAC	18,39
AACTACTGTCAGTCGTAAAGACTGTGCGAGAT	18,55
ATCGACTACTAATCACCTCGTGCTTCGAGAAA	18,71
AGCTTGGGAACCTCGTTAGCTCCGTCGCGATCACACTGACACCCTTTT	20,23
CTAATATATTATGCTAAGCTGTTCTCCCCGTC	20,39
CGTTTGTCTGGGTAAGGGCATCACCTAGAAATCAGAGCCGAGGTCAGG	20,55
CCAAGTCAAGGATATGTCATCCGGTTACTTCG	20,71
ATTACCGTGAAGGAGTGCATCAGAAAAAGCCC	22,23
GTCGCTGGCACCCCCGTCACATTAGAATATGG	22,39
CGAGTCGTCAGAAGTGAACAGCATGGCTTCAT	22,55
TTAGTGAGTCGTTCGAGGCGCATATGAGCTTT	22,71
TGGAGTTAGCCTGTTTCCCCCAAGGTATAGCG	24,23
GTTATTTCGTTTCCTTGTGGGTAAGTTATGGATAATTAGTACGGCCAC	24,39
GTTTGAACTTCTGGTCGACAGGGACCACCGCA	24,55
CGGAACAGGCCCCCTACGGTGAGATTCCCCAGGAGTGCAAACAACATA	24,71
GAACTTGACTGTTTACAACAGTCCGGAAGGAC	26,23
CTTACATCGCGTATCCGGGCACTCAAAGCAGGCTTGACGATCACGTGG	26,39
TGACGATCGATGTCCGGCCGGAGTAGACGTGC	26,55
AATTCTCATATCCCAAAATGCACATCGGGCACTCCCACGTTGCCGAGG	26,71
GTATTACTCGCAGGGTGCGGGCCGCTGACAGA	28,23
GTCGCATAAGGTAGAGCTACCGCTAGGAGAAAATCAGTTAATATTAAG	28,39
GGTACACGATCATGGTCCAGCCGCGCGCAGGG	28,55
GCTATGCTTATTTCGAGACCATAGTGTTTCACCCTCTCCCGTGGGAGG	28,71
GCGGAACCACTGTTAGCACTTGAGCCCGAGCCCTAACGATGCTGTGAC	30,39
AGGTGGCCAGAAACTGATGTAGCAATCAGCTAGTCCAACATGATAATC	30,71
AGCTATGGCCAAGGCATAGGTTAAACCATACCAGATTGTACTGCTCTA	32,39
TCAGACGCCTTGCCTCCGAGGGTTATCGGGTTCATAGGTATTCATAAC	32,71
CGTGCACAGTATAACCGAGGCGGCAGTGCGTAGGTCAGAAACGCTTAG	34,39
AGTATAGTTTGCTTTAAGTACGACATCCCTGAGATAGCTGGGATATCG	34,71

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,31
AACTGTTGTGTCCTATGTTTACTTAGGGATGG	1,47
TACGAACTCAACGCACGCTCGGGTAGTCTCAAGAAGATAGAGAGCATA	1,79
AATTCGCTAAACCGGAAAAGTATCCGCATCTC	3,47
ACTCAGTGATCGAGTATTCATGTCGCCTTTTC	3,63
GAACGGTGACACACTTGTGTTCATTCAGAGTA	5,31
GCGGAAATATGGCCGCTTCGGTGCGCAGCGGG	5,47
CCGCCTGTAACGCTTAATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	5,63
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	5,79
CCGGGCTAATGAAGCCGTGACCCCAGAGACTGTCTGATGCACCGGGAG	7,31
CCAGCCACTTAGCTGTGTCAGTGTGATCGCGA	7,47
GTTCCCTCTAGCTAGGGTGATGCCAAAAGGGT	7,63
GGATATGGAGCTGGAACGGCTCTGATTTCTAG	9,47
TGACCTGGTATAATGGCGGAGCTACCTGACCT	9,63
CAATCATACGTCCCACGGAAGGATTCATCCCC	11,31
TTTAAGAATGATCGCACAGTCTTTGAGATGTT	11,47
GAACATCTTTTGGTTGGCGTAAAGATCTCGCA	11,63
TTCTGGTGCCAAAACTGCCGACTCGTTCAAGCACTATTATCTGGCTAT	11,79
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	13,31
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	13,47
CCGTCGAGCCCTGCGCGACAAACGCATATCCTCGGCCCGCCAAATTAA	13,79
TAGTCGATTACGCTTCGCCTAAAGGTCCTTCC	15,47
ACGGTAATCGGGGGTGACTCCGGCCTCCTTGG	15,63
TATATTAGCTTACCCACTCGCGTGGCACGTCT	17,31
ACGACTCGTCGAACGAGGACTGTTCTACATAG	17,47
TGACTTGGACGAGGTTTCACTGGGCGCTATACAGGAAACTCGAGGGGC	17,63
TCCCTGTCTGTCGAGCCCAGCGACCACTTCTG	17,79
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAGCTTGGGGGTGATATAC	19,31
CTCACTAAACTCCTTCTAATGTGACTAAGCGT	19,47
TAACTCCAAAGGAAACCAGCTATCCCATATTC	19,63
GATGTAAGCGGACATCTATGCGCCCGATATCC	21,47
GTTCAAACTAGGGGGCTTCTGACCAAAGCTCA	21,63
TGAGAATTGTAAACAGGAACAGCTTAGAGCAG	23,31
TCAAGTTCGGATACGCTACCTATGGACGGGGA	23,47
TATGCGACACCATGATCCGGATGAGTTATGAA	23,63
GATCGTCATTGGGATATACAATCTCGAAGTAAAGCATAGCACCCTGCG	23,79
AAGATAGGGTCACAGCAGTAATACCTCTACCT	25,31
TGTTGGACGTAAGCGTGAAATAACGACCAGAA	25,47
AGCACGAGGATTATCACGTGTACCTCGAAATAATCGTTAGTTTCTCGA	25,79
CTGTTCCGAAACAGGCAGCGGTAGCCTCCCAC	27,47
TTAACCTATGCCTTGGTAACTGATTTTCTCCT	27,63
GGTTCCGCTAGCTGATCTATGGTCCTTAATAT	29,31
AACCCTCGGAGGCAAGGGGAGAGGGTGAAACA	29,47
GGCCACCTGGCTCGGGGAGTGCCCCCTCGGCAGCCGCCTCGGTTATAC	29,63
TCGTCAAGCCTGCTTTCCATAGCTAACCCGAT	29,79
TGTGCATTCCACGTGAGTCGTACTTAAAGCAAACGTGGGAGTGCCCGA	31,31
GCGTCTGAGGTATGGTTTACCCACTATGTTGT	31,47
CTCAAGTGCTAACAGTACTAATTATCCATAAC	31,63
TGTGCACGTCAGGGATTCTCACCGGTGGCCGT	33,47
TGCTACATCAGTTTCTTTGCACTCCTGGGGAA	33,63
ACTATACTTACGCACTGGTTTGGAGGGATTAG	35,31
GCAATTGCTAGGTTGCATTGTAGGCACAATTT	35,47
TTGATTCGATCACATACATGGGCAATAAAGCT	35,63
GTAGCCTGAGGCGCGCAGCTGCACCGTGTCACCTTGATATTGAGGGAC	35,79
GTATGATTGTTCCGGTTCAGAAACTATGCTCTAGATGTTCAGTTTTGG	0,23
CTATCTTCCCCGCTGCGCACCGAAAACCGTGATATGATTGTGCGATCA	0,55
GACATGAACCATCCCTAAGTAAACTTTTTTTTTTTTTTTTTTCCAGCT	2,55
TTTTTTTTGAAAAGGCCCAGGTCATTTTTTTT	2,71
TTTTTTTTTCCGGTTT	3,24
ATGAACACCGCTCAGCGTATTAGCAAAAGCCCGAGGGAACCAGTCTCT	4,23
GGGCTGATGAGATGCGGATACTTTTACTCTGATAGCCCGGACAGCTAA	4,55
ATCCTTCCCTCCCGGTAACAGCATAAGTGTGTCACCGTTCGCGGCCAT	6,23
ACACTGACGGGGATGACTAATATATCGTTCGA	6,39
CTTTACGCTCGCGATCATTTCCGCTAAGCGTTACAGGCGGCCCGCAAC	6,55
GCATCAGATGCGAGATCCAAGTCAGCTCGACA	6,71
CAGAGCCGTTTTTTTTTTTTTTTTGAAGCGTA	8,39

GGCATCACCTAGAAATAGCGAATTTACTCGATCACTGAGTTTTTTTTT	8,55
TTTTTTTTACCCTTTTATTACCGTTTTTTTTT	8,71
ATAATAGTGCTTGAACAGTTCGTAGAGCCACTTAACCTGGATAGGACA	10,23
AAAGACTGATAGCCAGCATCTTTTGGGGTCGT	10,39
TAGCTCCGAACATCTCCAACAGTTTTGAGACTACCCGAGCGTGCGTTG	10,55
GAGTCGGCAGGTCAGGCGTTTGTCGCGCAGGG	10,71
AGCTTGGGCAGAAGTGCACCAGAAGTGGGACG	12,23
AACAGTCCTTATGCTAAATTCTCAGCGTATCC	12,39
GCGGGCCGCTATGTAGTTCTTAAACAACCAAA	12,55
GTCGCTGGTTAATTTGGTCGCATATATCCCAA	12,71
CGCACGGCTTTTTTTTTTTTTTTTTGATGTCCG	14,39
GCCGGAGTTCAGTCGTCCATATCCCCATTATA	14,55
TTTTTTTTCCAAGGAGGTTTGAACTTTTTTTT	14,71
CACGCGAGGCCCCTCGGGGGTCACGGCTTCAT	16,23
CTTTAGGCAGACGTGCTCTTTCTCGAAGGAGT	16,39
CCCAGTGAGGAAGGACGTGGCTGGCCTAGCTA	16,55
AGTTTCCTGTATAGCGTGGAGTTACTAATCAC	16,71
AGCTGTTCGTATATCAGACAGGGATGGGTAAG	18,23
TCACATTACTGCTCTAGCGGAACCCTTGCCTC	18,39
TCATCCGGACGCTTAGCGAGTCGTAACCTCGT	18,55
CCCCCAAGTTCATAACAGGTGGCCAAAGCAGG	18,71
GGCGCATATTTTTTTTTTTTTTTTGCCTGTTT	20,39
GATAGCTGGGATATCGATCGACTACACCCCCG	20,55
TTTTTTTTGAATATGGTAGGTTAATTTTTTTT	20,71
GCTATGCTTTACTTCGCTCGACGGCTGACAGA	22,23
CATAGGTACGCAGGGTCCTATCTTACGCTTAC	22,39
GGTCAGAATCCCCGTCCCAGCCGCAGGATATG	22,55
AGATTGTATGAGCTTTGGTACACGTGATAATC	22,71
GTATTACTATCGGGTTTGACGATCCTGTTTAC	24,23
CCTCTCCCAGGTAGAGAGTATAGTGCAACCTAGCAATTGCTATGTGAT	24,39
CTAACGATTGTTTCACGAACTTGAATCATGGT	24,55
AGCTATGGTCGAGAAACGAATCAAGCGCGCCTCAGGCTACAGTGCGTA	24,71
GTTATTTCTTTTTTTTTTTTTTTTTATCCCTGACGTGCACAAGAAACTG	26,39
ATCAGTTATTCTGGTCCTTACATCGCCCCCTA	26,55
TTTTTTTTAGGAGAAAATGTAGCATTTTTTTT	26,71
GACCATAGGTATAACCAACTACTGCCACCGCA	28,23
CTACCGCTATATTAAGAATGCACAACCATACCTCAGACGCACTGTTAG	28,39
GGGCACTCGTGGGAGGTTAGTGAGGTTTCCTT	28,55
GAGGCGGCTGCCGAGGCACTTGAGTTGCTTTAAGTACGACTCACGTGG	28,71
GTGGGTAACTAATCCCTCCAAACCTCGGGCACCTTGACGAATCAGCTA	30,39
TCCCACGTAGCTTTATTGCCCATGACAACATACGAGGGTTCCCGAGCC	30,71
CGGTGAGATTTTTTTT	32,39
TTTTTTTTGTTATGGATAATTAGTACGGCCACCGGAACAGCCAAGGCA	32,71
CCTACAATGTCCCTCAATATCAAGGTGACACGCTCGTGCTGCTGTGAC	34,39
GTGCAGCTTTCCCCAGGAGTGCAAAAATTGTGGTCCAACATATTTCGA	34,71

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGTCCTATGTTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,55
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,71
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	3,23
TTCATGTCGCCTTTTCGAACGGTGACACACTT	3,39
GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	3,55
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	3,71
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	5,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	5,39
CCGGGCTAATGAAGCCGTGACCCCAGAGACTG	5,55
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	5,71
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	7,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	7,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	7,55
CGGAGCTACCTGACCTCAATCATACGTCCCAC	7,71
GGAAGGATTCATCCCCTTTAAGAATGATCGCA	9,23
CAGTCTTTGAGATGTTGAACATCTTTTGGTTG	9,39
GCGTAAAGATCTCGCATTCTGGTGCCAAAACT	9,55
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	9,71
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	11,23
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	11,39
CCGTCGAGCCCTGCGCGACAAACGCATATCCT	11,55
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	11,71
GCCTAAAGGTCCTTCCACGGTAATCGGGGGTG	13,23
ACTCCGGCCTCCTTGGTATATTAGCTTACCCA	13,39
CTCGCGTGGCACGTCTACGACTCGTCGAACGA	13,55
GGACTGTTCTACATAGTGACTTGGACGAGGTT	13,71
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	15,23
TCCCTGTCTGTCGAGCCCAGCGACCACTTCTG	15,39
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	15,55
CTTGGGGGTGATATACCTCACTAAACTCCTTC	15,71
TAATGTGACTAAGCGTTAACTCCAAAGGAAAC	17,23
CAGCTATCCCATATTCGATGTAAGCGGACATC	17,39
TATGCGCCCGATATCCGTTCAAACTAGGGGGC	17,55
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GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	19,23
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S3.9 ZX-4H×6H×96B-channel crystal sequences

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TCCGGTTTCCCGCTGCGCACCGAAGTGCGTTGCCATATCCCCATTATA	0, 79
TAACCTGGAACCGTGA	1, 16
ATGAACACATAGGACACAACAGTTGAGATGCGGGGCTGATCGCTCAGC	2, 47
TAAGCGTTTATGCTCTCTATCTTCTACTCTGATCAGAAACCAGTCTCT	2, 79
GATACTTTTACTCGAT	3, 16
AACAGCATTCGCGATCCTCGACGGTTAATTTG	4, 31
CAGAGCCGCCCGCAACCACTGAGTAAGTGTGTCACCGTTCGCGGCCAT	4, 47
GCATCAGACTAGAAATCTTTAGGCCCAAGGAG	4, 63
GTGGGACGCTCCCGGTATTTCCGCACAGGCGG	4, 79
GGCATCACAAAAGCCCATCCTTCCAACATCTC	6, 31
TAGCCCGGACCCTTTTGTATGATTCCATCCCTAAGTAAACTTGAGACT	6, 47
TAGCTCCGGGCTTCATCTTTACGCGCTTGAAC	6, 63
ACAGCTAAAGGTCAGGACCCGAGCAGCGAATT	6, 79
TTCTTAAAAACCTCGTCCAAGTCATTATGCTATCATCCGGTTACTTCG	8, 15
ATCGACTATGCGATCAGGCGCATATGAGCTTT	8, 31
CACCAGAAGAAGCGTAGAGGGAACTTCCAGCT	8, 47
CTAATATAAGTTTTGGAGCTGTTCTCCCCGTC	8, 63
AGCTTGGGTGGGTAAGCCAGGTCATATGATTG	8, 79
CGTTTGTCTCAGTCGTCGCACGGCTCGTTCGATCACATTAGAATATGG	10, 15
AGATGTTCAGGATATGCCCAGTGAGCTCGACA	10, 31
ATTACCGTCAACCAAAGTATTAGCGTTCCGGT	10, 47
ATAATAGTCACCCCCGTCTTTCTCGTATATCA	10, 63
CGAGTCGTATAGCCAGGGGGTCACGTGGCTGG	10, 79
GTTTGAACGATGTCCGAACAGTCCGCGCAGGG	12, 15
GTCGCTGGGCCCCCTAGACCATAGTGTTTCAC	12, 31
GAACTTGACAGAAGTGGCGGGCCGGGAAGGAC	12, 47
TTAGTGAGGCGTATCCGGGCACTCAAAGCAGG	12, 63
TGACGATCGAAGGAGTGCCGGAGTAGACGTGCCACGCGAGCTATGTAG	12, 79
CTTACATCTATCCCAAAATGCACATCGGGCAC	12, 95
AGTTTCCTCGCAGGGTCCAGCCGCGGGGATGA	14, 15
AATTCTCAGCCCCTCGCCTATCTTACGCTTAC	14, 31
AACTACTGCTGTTTACAAAGACTGTGCGAGAT	14, 47
GTCGCATACTAATCACCTCGTGCTTCGAGAAA	14, 63
TGGAGTTAATCATGGTGAGTCGGCCTGACAGACATCTTTTGGGGTCGT	14, 79
GCTATGCTGTTTCCTTCTACCGCTAGGAGAAA	14, 95
GTATTACTACCATACCAGATTGTAGGATATCG	16, 15
AGGTGGCCAGGTAGAGTGCCCATGGTGACACGGTGCAGCTATCCGAAT	16, 31
GGTACACGCCCGAGCCGGTCAGAACTGCTCTA	16, 47
AGCTATGGTATTTCGAGACGAGGTGCCGATCTCGCCCACTCTATGAAC	16, 63
TAGGTTAAATCGGGTTCATAGGTATTCATAAC	16, 79
TCAGACGCCCAAGGCATAACTAAGTGGGGCACCAGCCCATAGCTTTAT	16, 95
CGAGGGTTATCAGCTAGATAGCTGGTATAGCG	18, 15
GTTATTTCCTTGCCTCGTGGGTAAGTTATGGATAATTAGTACGGCCAC	18, 31
GAGGCGGCTTCTGGTCGACAGGGACCACCGCA	18, 47
CGGAACAGGTATAACCCGGTGAGATTCCCCAGGAGTGCAACTAATCCC	18, 63
AGTACGACGCCTGTTTCCCCCAAGACGCTTAG	18, 79
GCGGAACCTTGCTTTATCCAAACCAAATTGTGCCTACAATACAACATA	18, 95
CGTGCACAGCGCGCCTCAGGCTACTATGTGATTCCCACGTATATTAAG	20, 31
AGTATAGTGCCCTCAGTATGGTTTATCCCTGACCTCTCCCTGCCGAGG	20, 63
CGAATCAATTCCGCCCCTAATGAAAGTGCGTACTTGACGATCACGTGG	20, 95
ATATCAAGACTGTTAGCACTTGAGGGTTGGTTATCAGTTAGCTGTGAC	22, 31
AATGATTAAGAAACTGATGTAGCAGTCCCTCAGTCCAACATGATAATC	22, 63
ACTGTACGGCAACCTAGCAATTGCGGAGCACTCTAACGATGTGGGAGG	22, 95

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGTCCTATGTTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,55
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,71
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	3,23
TTCATGTCGCCTTTTCGAACGGTGACACACTT	3,39
GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	3,55
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	3,71
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	5,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	5,39
CCGGGCTAATGAAGCCGTGACCCCAGAGACTG	5,55
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	5,71
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	7,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	7,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	7,55
CGGAGCTACCTGACCTCAATCATACGTCCCAC	7,71
GGAAGGATTCATCCCCTTTAAGAATGATCGCA	9,23
CAGTCTTTGAGATGTTGAACATCTTTTGGTTG	9,39
GCGTAAAGATCTCGCATTCTGGTGCCAAAACT	9,55
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	9,71
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	11,23
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	11,39
CCGTCGAGCCCTGCGCGACAAACGCATATCCT	11,55
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	11,71
GCCTAAAGGTCCTTCCACGGTAATCGGGGGTG	13,23
ACTCCGGCCTCCTTGGTATATTAGCTTACCCA	13,39
CTCGCGTGGCACGTCTACGACTCGTCGAACGA	13,55
GGACTGTTCTACATAGTGACTTGGACGAGGTT	13,71
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	15,23
TCCCTGTCTGTCGAGCCCAGCGACCACTTCTG	15,39
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	15,55
CTTGGGGGTGATATACCTCACTAAACTCCTTC	15,71
TAATGTGACTAAGCGTTAACTCCAAAGGAAAC	17,23
CAGCTATCCCATATTCGATGTAAGCGGACATC	17,39
TATGCGCCCGATATCCGTTCAAACTAGGGGGC	17,55
TTCTGACCAAAGCTCATGAGAATTGTAAACAG	17,71
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	19,23
TACCTATGGACGGGGATATGCGACACCATGAT	19,39
CCGGATGAGTTATGAAGATCGTCATTGGGATA	19,55
TACAATCTCGAAGTAAAGCATAGCACCCTGCG	19,71
AAGATAGGGTCACAGCAGTAATACCTCTACCT	21,23
TGTTGGACGTAAGCGTGAAATAACGACCAGAA	21,39
AGCACGAGGATTATCACGTGTACCTCGAAATA	21,55
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	21,71
AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	23,23
TAACTGATTTTCTCCTGGTTCCGCTAGCTGAT	23,39
CTATGGTCCTTAATATAACCCTCGGAGGCAAG	23,55
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	23,71
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATAC	25,23
TCGTCAAGCCTGCTTTCCATAGCTAACCCGAT	25,39
TGTGCATTCCACGTGAGTCGTACTTAAAGCAA	25,55
ACGTGGGAGTGCCCGAGCGTCTGAGGTATGGT	25,71
TTACCCACTATGTTGTCTCAAGTGCTAACAGT	27,23
ACTAATTATCCATAACTGTGCACGTCAGGGAT	27,39
TCTCACCGGTGGCCGTTGCTACATCAGTTTCT	27,55
TTGCACTCCTGGGGAAACTATACTTACGCACT	27,71
GGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	29,23
ATTGTAGGCACAATTTTTGATTCGATCACATA	29,39
CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	29,55
AGCTGCACCGTGTCACCTTGATATTGAGGGAC	29,71
ACCTCGTCATTCGGATAAACCATACTGAGGGC	31,23
AGTGGGCGAGATCGGCTAATCATTAGTGCTCC	31,39
CTTAGTTAGTTCATAGTTCATTAGGGGCGGAA	31,55
ATGGGCTGGTGCCCCACGTACAGTAACCAACC	31,71
GGTGTACCTGTGGGTAGGGCCGAGCGCTGGGCTTACATGTGCAAGTGA	33,23
AATATATGACTTGGTCGACCAGATCTGCTAGA	33,39

AACCACCAACATCCTCCTTGACACCTTTCAATTTTTAGTAAACACCCA	33,55
ACAGAGCTGAACTTCCCATGGTCGTTCTACTG	33,71
TCGTATGATCATAGGATCAAACTAAATACAGCGTACCGCCAGTTCTTG	35,39
TCCTTATTGGCGATCGTGCATTCCAATGTTTGATGGCCGCGTGGCTTA	35,71
TTAAGACGGCCGGTGT	44,8
AACCACATAAAGTCGTCCGCCTCCGGTAGTCA	45,23
ACGCGGAACGTAATGGCAGAAAGTCTATACCCGACAAAAACAGATTTG	45,39
TACCGGGGTGAACAGCACGTGCGGCTTCTCCT	45,55
GTATCGCCTTGTGTATTATACTCTTGCGGGGG	45,71
GGTCGAGCGCTCCACT	47,23
GTAGTGGCCGGCCATCGTGGACTAGAAAGCGCCGGCAATCTGAATATC	47,55
GCTACCTCCGATACGCGAACCAGAACCATTTA	47,71
AGAGTAGGGGCAGTGCTCAGCCAAACAGTGGGACATCTCGGAAAGGTG	49,23
TCCCAAGTGCAAGTAAAAAAGGAATTATGAGA	49,39
TCATGTGGGATCCTAAAGTTTCTGGTAGACCTCGTAGGCTAGAGCGGT	49,55
GATATCCACGGTACATTCGTTTACTGCACGGA	49,71
ACGAGAGTGCTGGCATAAGCAAGAGAAACCTAACTTGGGGACTAAGAT	51,39
CGTTGCGAATTTTCGCGCGATTCGCATGTAGCCGAACGAGATCGTCCT	51,71
AGACGACGGATCTCCT	60,8
GCATGCCGGTAGCACCGTCAAATATGCGTGCT	61,23
TTTAACGCTTTAGACCCAGCTTGACGCAAGACGCTAATCACTGGGCAG	61,39
GGTCCTAGGTTGCAGAAACCTACCCCCTAAGC	61,55
AGCGTAGTAAGGGTTACAAGTTCCTGCGGCGG	61,71
CTGTACGAATGAGTCC	63,23
GGCCTTGACATGACATTCTCCCACCCGTCCAACACCAGCAGGATGTCG	63,55
AGCCCACAACTTGACAGTAGTACAGTATCTTT	63,71
GTATGATTTTTTTTTTTTTTTTTTGGACTCAT	0,15
CCATATCCAACCGTGACCCAGTGAGCTCGACA	0,31
ACCCGAGCTTCCAGCTGTGGGAGAATGTCATG	0,47
TATGATTGTTGAGACTTCTTTCTCGTATATCA	0,63
TTTTTTTTGTGGGACGTGTGGGCTTTTTTTTT	0,79
CACTGAGTTTTTTTTTTTTTTTTTGGTGCTAC	2,15
AAGTAAACTACTCGATCTTTAGGCCCAAGGAG	2,31
ATTTCCGCCCATCCCTGCGTTAAATCTGCAAC	2,47
AGCGAATTGCGGCCATCACGCGAGCTATGTAG	2,63
TTTTTTTTTCCGGTTTACTACGCTTTTTTTTT	2,79
GTATTAGCTTTTTTTT	4,15
GGGGTCACAAGTGTGTCACCGTTCCGCTCAGCCATCTTTTGGGGTCGT	4,47
TTTTTTTTTAAGCGTTACAGGCGGCAGTCTCTCTCGACGGTTAATTTG	4,79
GAGGGAACTTTTTTTT	6,15
CCAGGTCAGTTCCGGTTCAGAAACCCTAGCTAATCCTTCCAACATCTC	6,47
TTTTTTTTACAGCTAAGTGGCTGGCCATTATACTTTACGCGCTTGAAC	6,79
AGTTTCCTTTTTTTTTTTTTTTTTTTCGCGATCACACTGACACCCTTTT	8,15
AGATGTTCGCCCCTCGCTACCGCTAGGAGAAA	8,31
AACTACTGCAACCAAAGGCATCACCTAGAAATCAGAGCCGAGGTCAGG	8,47
ATAATAGTCTAATCACGACCATAGTGTTTCAC	8,63
TTTTTTTTATAGCCAGTAGCTCCGTTTTTTTT	8,79
TTCTTAAATTTTTTTTTTTTTTTTAAAAGCCCGGGCTGATCCCGCAAC	10,15
CGCACGGCTGCGATCACCTATCTTACGCTTAC	10,31
CACCAGAATCAGTCGTAACAGCATGGCTTCATTAGCCCGGCTCCCGGT	10,47
ATCGACTAAGTTTTGGCTCGTGCTTCGAGAAA	10,63
TTTTTTTTGAAGCGTAGCATCAGATTTTTTTT	10,79
AGCTTGGGTTTTTTTTTTTTTTTTGAGATGCG	12,15
CTAATATATTATGCTAAGCTGTTCTCCCCGTC	12,31
CGTTTGTCTGGGTAAGGACATGAATACTCTGA	12,47
CCAAGTCAAGGATATGTCATCCGGTTACTTCG	12,63
TTTTTTTTAACCTCGTGCACCGAATTTTTTTT	12,79
ATTACCGTTTTTTTTTTTTTTTTTGAGCCACT	14,15
GTCGCTGGCACCCCCGTCACATTAGAATATGG	14,31
CGAGTCGTCAGAAGTGCAACAGTTGTGCGTTG	14,47
TTAGTGAGTCGTTCGAGGCGCATATGAGCTTT	14,63
TTTTTTTTGAAGGAGTCTATCTTCTTTTTTTT	14,79
TGGAGTTATTTTTTTTTTTTTTTTGTATAGCG	16,15
GCGGAACCGTTTCCTTGACGAGGTGCCGATCT	16,31
GTTTGAACATCAGCTAGACAGGGACCACCGCA	16,47
AGGTGGCCGCCCCCTATAACTAAGTGGGGCAC	16,63
TTTTTTTTCCCGAGCCCCCCCAAGTTTTTTTT	16,79
GAACTTGATTTTTTTTTTTTTTTTGGAAGGAC	18,15

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TGACGATCGATGTCCGGCCGGAGTAGACGTGC	18,47
AATTCTCATATCCCAATGCCCATGGTGACACG	18,63
TTTTTTTTCTGTTTACAACAGTCCTTTTTTTT	18,79
GTATTACTTTTTTTTTTTTTTTTTCTGACAGA	20,15
GTCGCATAAGGTAGAGGTGGGTAAGTTATGGATAATTAGTACGGCCAC	20,31
GGTACACGATCATGGTCCAGCCGCGCGCAGGG	20,47
GCTATGCTTATTTCGACGGTGAGATTCCCCAGGAGTGCAATTTTTTTT	20,63
TTTTTTTTCGCAGGGTGCGGGCCGTTTTTTTT	20,79
TAGGTTAATTTTTTTTTTTTTTTTGGGGATGA	22,15
GTTATTTCCCAAGGCAGGGCACTCAAAGCAGGCTTGACGATCACGTGG	22,31
CGAGGGTTTTCTGGTCAAAGACTGTGCGAGAT	22,47
CGGAACAGCTTGCCTCAATGCACATCGGGCACTCCCACGTTTTTTTTT	22,63
TTTTTTTTGCCTGTTTGAGTCGGCTTTTTTTT	22,79
AGCTATGGGCCCTCAGTATGGTTTTTTTTTTTTTTTTTTTGTGGGAGG	24,31
TCAGACGCTTCCGCCCCTAATGAAATCGGGTTATCAGTTAATATTAAG	24,63
TTTTTTTTACCATACCCCTCTCCCTTTTTTTT	24,79
TTTTTTTTTGCCGAGG	25,0
CGTGCACAGTATAACCGAGGCGGCTTTTTTTTTTTTTTTTTGCTGTGAC	26,31
AGTATAGTTTGCTTTAAGTACGACATCCCTGAGTCCAACATGATAATC	26,63
TTTTTTTTAGTGCGTACTAACGATTTTTTTTT	26,79
TTTTTTTTACAACATA	27,0
CACTTGAGTTTTTTTTTTTTTTTTCTGCTCTA	28,15
CGAATCAAACTGTTAGTAGTTTGATCCTATGA	28,31
ATGTAGCATATGTGATCATAGGTATTCATAAC	28,47
ATATCAAGAGAAACTGGGAATGCACGATCGCC	28,63
TTTTTTTTGTCCCTCAAGATTGTATTTTTTTT	28,79
GCAATTGCTTTTTTTTTTTTTTTTACGCTTAG	30,15
AATGATTAGCAACCTAGGTACACCGACCAAGT	30,31
CAGGCTACGGAGCACTGATAGCTGGGATATCG	30,47
ACTGTACGGCGCGCCTTGGTGGTTGGAAGTTC	30,63
TTTTTTTTGGTTGGTTGGTCAGAATTTTTTTT	30,79
CTCGGCCCTTTTTTTTTTTTTTTTATCCGAAT	32,15
ACATGTAAGCCCAGCGGCTCGACCGCGCTTTC	32,31
GTGTCAAGTCACTTGCCGCCCACTCTATGAAC	32,47
TACTAAAAATTGAAAGGCCACTACGCGTATCG	32,63
TTTTTTTTTGGGTGTTCAGCCCATTTTTTTTT	32,79
GGCGGTACTTTTTTTTTTTTTTTTCTAATCCC	34,15
ATCTGGTCCAAGAACTATGTGGTTCCATTACG	34,31
GCGGCCATTCTAGCAGCCTACAATAGCTTTAT	34,47
CGACCATGTAAGCCACCCCCGGTAATACACAA	34,63
TTTTTTTTCAGTAGAAGTGCAGCTTTTTTTTT	34,79
CGTCTTAATTTTTTTTTTTTTTTTGCTGTATT	44,15
ACTTTCTGACACCGGCTCTTGCTTATGCCAGC	44,31
TTTTTGTCGGGTATAGTCATACGACAAACATT	44,47
AGAGTATACAAATCTGCGAATCGCGCGAAAAT	44,63
TTTTTTTTCCCCCGCAAATAAGGATTTTTTTT	44,79
GGAGGCGGTTTTTTTTTTTTTTTTTACCCACA	46,15
GATTGCCGTGACTACCCCTACTCTTTACTTGC	46,31
CCGCACGTGATATTCACATATATTGAGGATGT	46,47
TCTGGTTCAGGAGAAGCCACATGAATGTACCG	46,63
TTTTTTTTTAAATGGTAGCTCTGTTTTTTTTT	46,79
TTGGCTGATTTTTTTTTTTTTTTTAGTGGAGC	48,15
CGAGATGTCCCACTGTTCGTACAGTTGGACGG	48,31
CAGAAACTCACCTTTCTAGTCCACGATGGCCG	48,47
AGCCTACGAGGTCTACTCAAGGCCTGTCAAGT	48,63
TTTTTTTTACCGCTCTGAGGTAGCTTTTTTTT	48,79
CCCCAAGTTTTTTTTTTTTTTTTTACGACTTT	50,15
TTCCTTTTATCTTAGTCGGCATGCGGTCTAAA	50,31
CTCGTTCGTCTCATAATTCCGCGTGCTGTTCA	50,47
GTAAACGAAGGACGATCTAGGACCTAACCCTT	50,63
TTTTTTTTTCCGTGCAGGCGATACTTTTTTTT	50,79
CGTCGTCTTTTTTTTTTTTTTTTTTAGGTTTC	60,15
TCAAGCTGAGGAGATCGATACTTTGAAAAGGC	60,31
TGATTAGCGTCTTGCGACTCTCGTGCTACATG	60,47
GGAACTTGCTGCCCAGATGAACACCCCGCTGC	60,63
TTTTTTTTCCGCCGCATCGCAACGTTTTTTTT	60,79
TATTTGACTTTTTTTTTTTTTTTTGCACTGCC	62,15

TGCTGGTGAGCACGCATAACCTGGATAGGACA	62,31
GGTAGGTTCGACATCCACTTGGGATTAGGATC	62,47
TGTACTACGCTTAGGGAGTTCGTATATGCTCT	62,63
TTTTTTTTAAAGATACTGGATATCTTTTTTTT	62,79

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGTCCTATGTTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,55
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,71
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	3,23
TTCATGTCGCCTTTTCGAACGGTGACACACTT	3,39
GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	3,55
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	3,71
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	5,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	5,39
CCGGGCTAATGAAGCCGTGACCCCAGAGACTG	5,55
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	5,71
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	7,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	7,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	7,55
CGGAGCTACCTGACCTCAATCATACGTCCCAC	7,71
GGAAGGATTCATCCCCTTTAAGAATGATCGCA	9,23
CAGTCTTTGAGATGTTGAACATCTTTTGGTTG	9,39
GCGTAAAGATCTCGCATTCTGGTGCCAAAACT	9,55
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	9,71
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	11,23
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	11,39
CCGTCGAGCCCTGCGCGACAAACGCATATCCT	11,55
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	11,71
GCCTAAAGGTCCTTCCACGGTAATCGGGGGTG	13,23
ACTCCGGCCTCCTTGGTATATTAGCTTACCCA	13,39
CTCGCGTGGCACGTCTACGACTCGTCGAACGA	13,55
GGACTGTTCTACATAGTGACTTGGACGAGGTT	13,71
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	15,23
TCCCTGTCTGTCGAGCCCAGCGACCACTTCTG	15,39
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	15,55
CTTGGGGGTGATATACCTCACTAAACTCCTTC	15,71
TAATGTGACTAAGCGTTAACTCCAAAGGAAAC	17,23
CAGCTATCCCATATTCGATGTAAGCGGACATC	17,39
TATGCGCCCGATATCCGTTCAAACTAGGGGGC	17,55
TTCTGACCAAAGCTCATGAGAATTGTAAACAG	17,71
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	19,23
TACCTATGGACGGGGATATGCGACACCATGAT	19,39
CCGGATGAGTTATGAAGATCGTCATTGGGATA	19,55
TACAATCTCGAAGTAAAGCATAGCACCCTGCG	19,71
AAGATAGGGTCACAGCAGTAATACCTCTACCT	21,23
TGTTGGACGTAAGCGTGAAATAACGACCAGAA	21,39
AGCACGAGGATTATCACGTGTACCTCGAAATA	21,55
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	21,71
AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	23,23
TAACTGATTTTCTCCTGGTTCCGCTAGCTGAT	23,39
CTATGGTCCTTAATATAACCCTCGGAGGCAAG	23,55
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	23,71
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATAC	25,23
TCGTCAAGCCTGCTTTCCATAGCTAACCCGAT	25,39
TGTGCATTCCACGTGAGTCGTACTTAAAGCAA	25,55
ACGTGGGAGTGCCCGAGCGTCTGAGGTATGGT	25,71
TTACCCACTATGTTGTCTCAAGTGCTAACAGT	27,23
ACTAATTATCCATAACTGTGCACGTCAGGGAT	27,39
TCTCACCGGTGGCCGTTGCTACATCAGTTTCT	27,55
TTGCACTCCTGGGGAAACTATACTTACGCACT	27,71
GGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	29,23
ATTGTAGGCACAATTTTTGATTCGATCACATA	29,39
CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	29,55
AGCTGCACCGTGTCACCTTGATATTGAGGGAC	29,71
ACCTCGTCATTCGGATAAACCATACTGAGGGC	31,23
AGTGGGCGAGATCGGCTAATCATTAGTGCTCC	31,39
CTTAGTTAGTTCATAGTTCATTAGGGGCGGAA	31,55
ATGGGCTGGTGCCCCACGTACAGTAACCAACC	31,71
GGTGTACCTGTGGGTAGGGCCGAGCGCTGGGC	33,23
TTACATGTGCAAGTGAAATATATGACTTGGTC	33,39

GACCAGATCTGCTAGAAACCACCAACATCCTC	33,55
CTTGACACCTTTCAATTTTTAGTAAACACCCA	33,71
ACAGAGCTGAACTTCCCATGGTCGTTCTACTG	35,23
TCGTATGATCATAGGATCAAACTAAATACAGC	35,39
GTACCGCCAGTTCTTGTCCTTATTGGCGATCG	35,55
TGCATTCCAATGTTTGATGGCCGCGTGGCTTA	35,71
TTAAGACGGCCGGTGTAACCACATAAAGTCGT	37,23
CCGCCTCCGGTAGTCAACGCGGAACGTAATGG	37,39
CAGAAAGTCTATACCCGACAAAAACAGATTTG	37,55
TACCGGGGTGAACAGCACGTGCGGCTTCTCCT	37,71
GTATCGCCTTGTGTATTATACTCTTGCGGGGG	39,23
GGTCGAGCGCTCCACTGTAGTGGCCGGCCATC	39,39
GTGGACTAGAAAGCGCCGGCAATCTGAATATC	39,55
GCTACCTCCGATACGCGAACCAGAACCATTTA	39,71
AGAGTAGGGGCAGTGCTCAGCCAAACAGTGGGACATCTCGGAAAGGTG	41,23
TCCCAAGTGCAAGTAAAAAAGGAATTATGAGA	41,39
TCATGTGGGATCCTAAAGTTTCTGGTAGACCTCGTAGGCTAGAGCGGT	41,55
GATATCCACGGTACATTCGTTTACTGCACGGA	41,71
ACGAGAGTGCTGGCATAAGCAAGAGAAACCTAACTTGGGGACTAAGAT	43,39
CGTTGCGAATTTTCGCGCGATTCGCATGTAGCCGAACGAGATCGTCCT	43,71
AGACGACGGATCTCCT	56,8
GCATGCCGGTAGCACCGTCAAATATGCGTGCT	57,23
TTTAACGCTTTAGACCCAGCTTGACGCAAGACGCTAATCACTGGGCAG	57,39
GGTCCTAGGTTGCAGAAACCTACCCCCTAAGC	57,55
AGCGTAGTAAGGGTTACAAGTTCCTGCGGCGG	57,71
CTGTACGAATGAGTCC	59,23
GGCCTTGACATGACATTCTCCCACCCGTCCAACACCAGCAGGATGTCG	59,55
AGCCCACAACTTGACAGTAGTACAGTATCTTT	59,71
TTTCATGGCGGCGATGTCGCCGTTTGCTCGCGTGCGTACGGCTTTTAT	61,23
ATAGCGTAGACCGGACAACCCCGTAAATCGTA	61,39
AGAGTCGTTATGCCCCCCGGTTCTGCTAGAGTGGGACTGGATCAGATG	61,55
TTCAAGTATTCGGTGACCTCCCCGCATTACAA	61,71
CGCGCTTACCAAGTAACGTATGTACGACGCGATGCGAGTGAACGGGTG	63,39
GATGAATTTCGTTCGGGGCCAGGCGATCTAAGTCTGGCGCGTGAGGAC	63,71
ACGTAAGTTGAAGTAG	76,8
GAAGCTTTTTCTAGCCATAGCATCGACACTAC	77,23
GACCTGCTTTTCGACACGGACTGCATTCTGGACAGTAACTGCATTAAC	77,39
TACGTGCTCCCAACATAAGTGACGTCCTCAGC	77,55
AGTTGAAAATTATCTCGATAAGCAGAAGGACC	77,71
TGTATAACTGGCAAGA	79,23
GACAAGGCCGCTTCAGAAAGGATAGCCGGACCGTATTAATGCCGCGCC	79,55
AACGGTTTCCCGGACCTAGTGTCTATCAAGTC	79,71
TATTCTATGAAACCATTCTCGGGTCGAGCGGGTCACTGTTGTGACCTA	81,23
CGAGAAGCGTATAGATGTTCCGCGCGAATAGC	81,39
TCACAGGCGAACTACGTATGAATTGGTTTAAACGCTCCTCGGGAATTA	81,55
ATACGACAGGTGGCAAACCACCTCCGATGTCA	81,71
GCGCCGCATACCCATTCACTGTGAATTTCCACACCGAGGATTCGCAGG	83,39
TCCATGGGATTCACCAAGCTCGTATACACCCTGATTCTCCATGGCAGC	83,71
GCTTCGGTACAGGTCT	96,8
GAACTGGTAGATCACCATTAGTGTACCCAGCA	97,23
GTTCGGCTCCCTTGTGGACTCGGGATACCCGGTCGTCGTGTAATGCTG	97,39
TTCCGGGGTAAATCAAGCTTTATAAATTCCCG	97,55
ACGCTCTGTTCCAAACTTTAGAGCCCGGCCGT	97,71
AATCTCGGATTCCTTA	99,23
AAAACCAGGCGCAATCTCATGGCATAAACGAAACCCAATCATACGAGC	99,55
GTGGAGGGAAGTTATTCTACTGGCGTTTTCAT	99,71
GTATGATTTTTTTTTTTTTTTTTTTAAGGAAT	0,15
AGATGTTCAACCGTGAAGCTGTTCTCCCCGTC	0,31
ACCCGAGCCAACCAAATGCCATGAGATTGCGC	0,47
ATAATAGTTTGAGACTTCATCCGGTTACTTCG	0,63
TTTTTTTTATAGCCAGCCCTCCACTTTTTTTT	0,79
CACTGAGTTTTTTTTTTTTTTTTTGGTGATCT	2,15
AAGTAAACTACTCGATTCACATTAGAATATGG	2,31
ATTTCCGCCCATCCCTAGCCGAACTTGATTTA	2,47
AGCGAATTGCGGCCATGGCGCATATGAGCTTT	2,63
TTTTTTTTTCCGGTTTCAGAGCGTTTTTTTTT	2,79
GTATTAGCTTTTTTTT	4,15
GGGGTCACAAGTGTGTCACCGTTCCGCTCAGCCCCAGTGAGCTCGACA	4,47

TTTTTTTTTAAGCGTTACAGGCGGCAGTCTCTTCTTTCTCGTATATCA	4,79
GAGGGAACTTTTTTTT	6,15
CCAGGTCAGTTCCGGTTCAGAAACCCTAGCTACTTTAGGCCCAAGGAG	6,47
TTTTTTTTACAGCTAAGTGGCTGGCCATTATACACGCGAGCTATGTAG	6,79
TTCTTAAATTTTTTTT	8,15
CACCAGAATTCCAGCTCCATATCCTGCGATCACATCTTTTGGGGTCGT	8,47
TTTTTTTTGTGGGACGTATGATTGAGTTTTGGCTCGACGGTTAATTTG	8,79
GAACTTGATTTTTTTTTTTTTTTTGGGGATGAATCCTTCCAACATCTC	10,15
CGCACGGCGCGTATCCTCCAAACCAAATTGTG	10,31
TGACGATCTCAGTCGTAAAGACTGTGCGAGATCTTTACGCGCTTGAAC	10,47
ATCGACTATATCCCAATGCCCATGGTGACACG	10,63
TTTTTTTTGAAGCGTAGAGTCGGCTTTTTTTT	10,79
AGCTTGGGTTTTTTTTTTTTTTTTTCGCGATCACACTGACACCCTTTT	12,15
CTAATATATTATGCTAGTGGGTAAGTTATGGA	12,31
CGTTTGTCTGGGTAAGGGCATCACCTAGAAATCAGAGCCGAGGTCAGG	12,47
CCAAGTCAAGGATATGCGGTGAGATTCCCCAG	12,63
TTTTTTTTAACCTCGTTAGCTCCGTTTTTTTT	12,79
ATTACCGTTTTTTTTTTTTTTTTTAAAAGCCCGGGCTGATCCCGCAAC	14,15
GTCGCTGGCACCCCCGGGGCACTCAAAGCAGG	14,31
CGAGTCGTCAGAAGTGAACAGCATGGCTTCATTAGCCCGGCTCCCGGT	14,47
TTAGTGAGTCGTTCGAAATGCACATCGGGCAC	14,63
TTTTTTTTGAAGGAGTGCATCAGATTTTTTTT	14,79
AGTTTCCTTTTTTTTTTTTTTTTTTGAGATGCGGATACTTTGAAAAGGC	16,15
CTTACATCGCCCCTCGCTACCGCTAGGAGAAA	16,31
AACTACTGGATGTCCGGACATGAATACTCTGAATGAACACCCCGCTGC	16,47
AATTCTCACTAATCACGACCATAGTGTTTCAC	16,63
TTTTTTTTCTGTTTACGCACCGAATTTTTTTT	16,79
TGGAGTTATTTTTTTTTTTTTTTTGAGCCACTTAACCTGGATAGGACA	18,15
GTCGCATAGTTTCCTTCCTATCTTACGCTTAC	18,31
GTTTGAACATCATGGTCAACAGTTGTGCGTTGAGTTCGTATATGCTCT	18,47
GCTATGCTGCCCCCTACTCGTGCTTCGAGAAA	18,63
TTTTTTTTCGCAGGGTCTATCTTCTTTTTTTT	18,79
GTATTACTTTTTTTTTTTTTTTTTCTGCTCTA	20,15
CGAATCAAAGGTAGAGGGCGATACAGTGGAGC	20,31
GGTACACGTATGTGATCATAGGTATTCATAAC	20,47
ATATCAAGTATTTCGATAGTCCACGCGTATCG	20,63
TTTTTTTTGTCCCTCAAGATTGTATTTTTTTT	20,79
TAGGTTAATTTTTTTTTTTTTTTTACGCTTAG	22,15
GTTATTTCCCAAGGCACGTCTTAATGACTACC	22,31
CGAGGGTTTTCTGGTCGATAGCTGGGATATCG	22,47
CGGAACAGCTTGCCTCACTTTCTGGCTGTTCA	22,63
TTTTTTTTGCCTGTTTGGTCAGAATTTTTTTT	22,79
GAGGCGGCTTTTTTTTTTTTTTTTGTATAGCG	24,15
GCGGAACCGTATAACCAGCTCTGTTCCTATGATCATACGACAAGAACT	24,31
AGTACGACATCAGCTAGACAGGGACCACCGCA	24,47
AGGTGGCCTTGCTTTAGGCGGTACCAAACATTGGAATGCATTTTTTTT	24,63
TTTTTTTTCCCGAGCCCCCCCAAGTTTTTTTT	24,79
CACTTGAGTTTTTTTTTTTTTTTTGGAAGGAC	26,15
AGCTATGGACTGTTAGGGTACACCTCACTTGCACATGTAATCTAGCAG	26,31
ATGTAGCAATCGGGTTGCCGGAGTAGACGTGC	26,47
TCAGACGCAGAAACTGATCTGGTCATTGAAAGGTGTCAAGTTTTTTTT	26,63
TTTTTTTTACCATACCAACAGTCCTTTTTTTT	26,79
GCAATTGCTTTTTTTTTTTTTTTTCTGACAGA	28,15
CGTGCACAGCAACCTAGACGAGGTGCCGATCTCGCCCACTCTATGAAC	28,31
CAGGCTACATCCCTGACCAGCCGCGCGCAGGG	28,47
AGTATAGTGCGCGCCTTAACTAAGTGGGGCACCAGCCCATTTTTTTTT	28,63
TTTTTTTTAGTGCGTAGCGGGCCGTTTTTTTT	28,79
AATGATTACCCCCGCAAGAGTATATTTTTTTTTTTTTTTTCTAATCCC	30,31
ACTGTACGGATATTCAGATTGCCGGGAGCACTCCTACAATAGCTTTAT	30,63
TTTTTTTTGGTTGGTTGTGCAGCTTTTTTTTT	30,79
TTTTTTTTATCCGAAT	31,0
CATATATTGCCCTCAGTATGGTTTTTTTTTTTTTTTTTTTACAACATA	32,31
TACTAAAATTCCGCCCCTAATGAAGACCAAGTTAATTAGTACGGCCAC	32,63
TTTTTTTTTGGGTGTTGAGTGCAATTTTTTTT	32,79
TTTTTTTTTACCCACA	33,0
TAGTTTGAGCCCAGCGCTCGGCCCTTTTTTTTTTTTTTTTTGCCGAGG	34,31
GCGGCCATGAGGATGTTGGTGGTTGCTGTATTCTTGACGATCACGTGG	34,63
TTTTTTTTTAAGCCACTCCCACGTTTTTTTTT	34,79

TTTTTTTTGGAAGTTC	35,0
CGACCATGTTTTTTTTTTTTTTTTGTGGGAGG	36,15
TTCCGCGTCAGTAGAATCTTGCTTATGCCAGC	36,31
AATAAGGACCATTACGATCAGTTAATATTAAG	36,47
CCGCACGTCGATCGCCCGAATCGCGCGAAAAT	36,63
TTTTTTTTAGGAGAAGCCTCTCCCTTTTTTTT	36,79
ATGTGGTTTTTTTTTTTTTTTTTGCTGTGAC	38,15
GCCACTACACGACTTTCCTACTCTTTACTTGC	38,31
TTTTTGTCGATGGCCGGTCCAACATGATAATC	38,47
TCTGGTTCCAAATCTGCCACATGAATGTACCG	38,63
TTTTTTTTTAAATGGTCTAACGATTTTTTTTT	38,79
TTGGCTGATTTTTTTTTTTTTTTTATACACAA	40,15
CGAGATGTCCCACTGTTCGTACAGTTGGACGG	40,31
CAGAAACTCACCTTTCGCTCGACCGCGCTTTC	40,47
AGCCTACGAGGTCTACTCAAGGCCTGTCAAGT	40,63
TTTTTTTTACCGCTCTGAGGTAGCTTTTTTTT	40,79
CCCCAAGTTTTTTTTTTTTTTTTTACACCGGC	42,15
TTCCTTTTATCTTAGTCGGCATGCGGTCTAAA	42,31
CTCGTTCGTCTCATAAGGAGGCGGGGGTATAG	42,47
GTAAACGAAGGACGATCTAGGACCTAACCCTT	42,63
TTTTTTTTTCCGTGCACCCCGGTATTTTTTTT	42,79
CGTCGTCTTTTTTTTTTTTTTTTTTAGGTTTC	56,15
TCAAGCTGAGGAGATCTACATACGTTACTTGG	56,31
TGATTAGCGTCTTGCGACTCTCGTGCTACATG	56,47
GGAACTTGCTGCCCAGGCCTGGCCCCGAACGA	56,63
TTTTTTTTCCGCCGCATCGCAACGTTTTTTTT	56,79
TATTTGACTTTTTTTTTTTTTTTTGCACTGCC	58,15
TGCTGGTGAGCACGCACCATGAAAGTCCGGTC	58,31
GGTAGGTTCGACATCCACTTGGGATTAGGATC	58,47
TGTACTACGCTTAGGGACGACTCTTCACCGAA	58,63
TTTTTTTTAAAGATACTGGATATCTTTTTTTT	58,79
AACGGCGATTTTTTTTTTTTTTTTGGACTCAT	60,15
CGTACGCACGCGAGCAGTTATACAGGTCCGGC	60,31
AGAACCGGATAAAAGCGTGGGAGAATGTCATG	60,47
CCAGTCCCACTCTAGCGCCTTGTCGGTCCGGG	60,63
TTTTTTTTCATCTGATTGTGGGCTTTTTTTTT	60,79
CACTCGCATTTTTTTTTTTTTTTTGGTGCTAC	62,15
ACGGGGTTCACCCGTTAAAGCTTCTGTCGAAA	62,31
GCGCCAGATACGATTTGCGTTAAATCTGCAAC	62,47
CGGGGAGGGTCCTCACAGCACGTAGAGATAAT	62,63
TTTTTTTTTTGTAATGACTACGCTTTTTTTTT	62,79
ACTTACGTTTTTTTTTTTTTTTTTTCGCGTCG	76,15
GCAGTCCGCTACTTCATCACAGTGAATGGGTA	76,31
AGTTACTGTCCAGAATTAAGCGCGCTTAGATC	76,47
TGCTTATCGTTAATGCTACGAGCTTGGTGAAT	76,63
TTTTTTTTGGTCCTTCAATTCATCTTTTTTTT	76,79
GATGCTATTTTTTTTTTTTTTTTTCATCGCCG	78,15
ATTAATACGTAGTGTCATAGAATAATCTATAC	78,31
CGTCACTTGGCGCGGCTACGCTATGGGGCATA	78,47
AGACACTAGCTGAGGAGCCTGTGATTGCCACC	78,63
TTTTTTTTGACTTGATTACTTGAATTTTTTTT	78,79
ACCCGAGATTTTTTTTTTTTTTTTTCTTGCCA	80,15
AACAGTGACCCGCTCGCCGAGATTTTCGTTTA	80,31
AATTCATATAGGTCACTATCCTTTCTGAAGCG	80,47
GAGGAGCGTTTAAACCCTGGTTTTAATAACTT	80,63
TTTTTTTTTAATTCCCAAACCGTTTTTTTTTT	80,79
TCCTCGGTTTTTTTTTTTTTTTTTGGCTAGAA	82,15
CGCGGAACCCTGCGAAACCAGTTCCACAAGGG	82,31
GGAGAATCGCTATTCGAGCAGGTCATGTTGGG	82,47
GAGGTGGTGCTGCCATCCCCGGAAGTTTGGAA	82,63
TTTTTTTTTGACATCGTTTCAACTTTTTTTTT	82,79
CCCGAGTCAGACCTGTACCGAAGCTTTTTTTTTTTTTTTTTGTGGAAAT	96,31
GCTCTAAACAGCATTACACGACGACCGGGTATTGCGGCGCAGGGTGTA	96,63
TTTTTTTTACGGCCGGCCCATGGATTTTTTTT	96,79
GATTGGGTTGCTGGGTACACTAATTTTTTTTTTTTTTTTTTATGGTTTC	98,31
GCCAGTAGCGGGAATTTATAAAGCGCTCGTATGCTTCTCGCGTAGTTC	98,63
TTTTTTTTATGAAAACTGTCGTATTTTTTTTT	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
GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	7,23
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	7,39
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	9,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	9,39
CCGGGCTAATGAAGCCGTGACCCCAGAGACTG	11,23
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	11,39
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	13,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	13,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	15,23
CGGAGCTACCTGACCTCAATCATACGTCCCAC	15,39
GTATGATTTTTTTTTTTTTTTTTTCTAGAAAT	0,15
AGCGAATTAACCGTGAATGAACACCCCGCTGC	0,31
TTTTTTTTTCCGGTTTTAGCTCCGTTTTTTTT	0,47
ACCCGAGCTTTTTTTTTTTTTTTTTCGCGATC	2,15
AAGTAAACTTGAGACTGATACTTTGAAAAGGC	2,31
TTTTTTTTCCATCCCTGGCATCACTTTTTTTT	2,47
ATTTCCGCTTTTTTTTTTTTTTTTTGTGCGTTG	4,15
CACCGTTCGCGGCCATTAGCCCGGCTCCCGGT	4,31
TTTTTTTTAAGTGTGTCTATCTTCTTTTTTTT	4,47
CACTGAGTTTTTTTTTTTTTTTTTGAGCCACT	6,15
ACAGGCGGTACTCGATGGGCTGATCCCGCAAC	6,31
TTTTTTTTTAAGCGTTCAACAGTTTTTTTTTT	6,47
GTATTAGCTTTTTTTTTTTTTTTTTACTCTGA	8,15
GTGGCTGGCGCTCAGCCAGAGCCGAGGTCAGG	8,31
TTTTTTTTACAGCTAAGCACCGAATTTTTTTT	8,47
GGGGTCACTTTTTTTTTTTTTTTTTGAGATGCG	10,15
TCAGAAACCAGTCTCTACACTGACACCCTTTT	10,31
TTTTTTTTGTTCCGGTGACATGAATTTTTTTT	10,47
CCAGGTCATTTTTTTTTTTTTTTTTGGCTTCAT	12,15
CCATATCCCCATTATAAGTTCGTATATGCTCT	12,31
TTTTTTTTTTCCAGCTGCATCAGATTTTTTTT	12,47
GAGGGAACTTTTTTTTTTTTTTTTTAAAAGCCC	14,15
TATGATTGCCTAGCTATAACCTGGATAGGACA	14,31
TTTTTTTTGTGGGACGAACAGCATTTTTTTTT	14,47

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGTCCTATGTTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	3,23
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	3,39
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	4,8
TTCATGTCGCCTTTTCGAACGGTGACACACTT	4,24
GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	6,8
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	6,24
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	9,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	9,39
CCGGGCTAATGAAGCCGTGACCCCAGAGACTG	11,23
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	11,39
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	12,8
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	12,24
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	14,8
CGGAGCTACCTGACCTCAATCATACGTCCCAC	14,24
GTATGATTTTTTTTTTCCATTATA	0,15
AGCGAATTAACCGTGAATTTCCGCAAGTGTGT	0,31
TTTTTCCGGTTTCCATATCCTTTT	0,43
TTTTGAGCCACTCAGAGCCGTTTT	1,4
TAACCTGGATAGGACAGCACCGAATACTCTGA	1,16
CAACAGTTTTTTTTTTAGGTCAGG	1,32
ACCCGAGCTTTTTTTTCCTAGCTA	2,15
AAGTAAACTTGAGACTCACTGAGTTAAGCGTT	2,31
TTTTCCATCCCTTATGATTGTTTT	2,43
TTTTGTGCGTTGACACTGACTTTT	3,4
AGTTCGTATATGCTCTGACATGAAGAGATGCG	3,16
CTATCTTCTTTTTTTTACCCTTTT	3,32
GTATTAGCTTTTTTTTGCGGCCAT	8,15
GTGGCTGGCGCTCAGCCCAGGTCATTCCAGCT	8,31
TTTTACAGCTAACACCGTTCTTTT	8,43
TTTTAAAAGCCCATGAACACTTTT	9,4
GGGCTGATCCCGCAACTAGCTCCGCTAGAAAT	9,16
AACAGCATTTTTTTTTCCCGCTGC	9,32
GGGGTCACTTTTTTTTTACTCGAT	10,15
TCAGAAACCAGTCTCTGAGGGAACGTGGGACG	10,31
TTTTGTTCCGGTACAGGCGGTTTT	10,43
TTTTGGCTTCATGATACTTTTTTT	11,4
TAGCCCGGCTCCCGGTGGCATCACTCGCGATC	11,16
GCATCAGATTTTTTTTGAAAAGGC	11,32

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGTCCTATGTTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,55
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,71
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	3,23
TTCATGTCGCCTTTTCGAACGGTGACACACTT	3,39
GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	3,55
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	3,71
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	5,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	5,39
CCGGGCTAATGAAGCCGTGACCCCAGAGACTG	5,55
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	5,71
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	7,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	7,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	7,55
CGGAGCTACCTGACCTCAATCATACGTCCCAC	7,71
GGAAGGATTCATCCCCTTTAAGAATGATCGCA	9,23
CAGTCTTTGAGATGTTGAACATCTTTTGGTTG	9,39
GCGTAAAGATCTCGCATTCTGGTGCCAAAACT	9,55
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	9,71
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	11,23
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	11,39
CCGTCGAGCCCTGCGCGACAAACGCATATCCT	11,55
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	11,71
GCCTAAAGGTCCTTCCACGGTAATCGGGGGTG	13,23
ACTCCGGCCTCCTTGGTATATTAGCTTACCCA	13,39
CTCGCGTGGCACGTCTACGACTCGTCGAACGA	13,55
GGACTGTTCTACATAGTGACTTGGACGAGGTT	13,71
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	15,23
TCCCTGTCTGTCGAGCCCAGCGACCACTTCTG	15,39
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	15,55
CTTGGGGGTGATATACCTCACTAAACTCCTTC	15,71
GTATGATTTTTTTTTTTTTTTTTTGTATAGCG	0,15
CACCGTTCAACCGTGAACACTGACACCCTTTT	0,31
ACCCGAGCAAGTGTGTGACAGGGACCACCGCA	0,47
ACAGGCGGTTGAGACTCAGAGCCGAGGTCAGG	0,63
TTTTTTTTTAAGCGTTCCCCCAAGTTTTTTTT	0,79
CACTGAGTTTTTTTTTTTTTTTTTGGAAGGAC	2,15
AAGTAAACTACTCGATGGGCTGATCCCGCAAC	2,31
ATTTCCGCCCATCCCTGCCGGAGTAGACGTGC	2,47
AGCGAATTGCGGCCATTAGCCCGGCTCCCGGT	2,63
TTTTTTTTTCCGGTTTAACAGTCCTTTTTTTT	2,79
GAGGGAACTTTTTTTTTTTTTTTTTGAGATGCG	4,15
TCAGAAACCCTAGCTACATCTTTTGGGGTCGT	4,31
CCAGGTCAGTTCCGGTGACATGAATACTCTGA	4,47
GTGGCTGGCCATTATACTCGACGGTTAATTTG	4,63
TTTTTTTTACAGCTAAGCACCGAATTTTTTTT	4,79
GTATTAGCTTTTTTTTTTTTTTTTTGAGCCACT	6,15
CCATATCCCGCTCAGCATCCTTCCAACATCTC	6,31
GGGGTCACTTCCAGCTCAACAGTTGTGCGTTG	6,47
TATGATTGCAGTCTCTCTTTACGCGCTTGAAC	6,63
TTTTTTTTGTGGGACGCTATCTTCTTTTTTTT	6,79
TTCTTAAATTTTTTTTTTTTTTTTTCGCGATC	8,15
CGCACGGCTGCGATCACCCAGTGAGCTCGACA	8,31
CACCAGAATCAGTCGTGGCATCACCTAGAAAT	8,47
ATCGACTAAGTTTTGGTCTTTCTCGTATATCA	8,63
TTTTTTTTGAAGCGTATAGCTCCGTTTTTTTT	8,79
AGCTTGGGTTTTTTTTTTTTTTTTAAAAGCCC	10,15
AGATGTTCTTATGCTACTTTAGGCCCAAGGAG	10,31
CGTTTGTCCAACCAAAAACAGCATGGCTTCAT	10,47
ATAATAGTAGGATATGCACGCGAGCTATGTAG	10,63
TTTTTTTTATAGCCAGGCATCAGATTTTTTTT	10,79
AGTTTCCTTTTTTTTTTTTTTTTTCTGACAGA	12,15
CTAATATAGCCCCTCGGATACTTTGAAAAGGC	12,31
AACTACTGTGGGTAAGCCAGCCGCGCGCAGGG	12,47
CCAAGTCACTAATCACATGAACACCCCGCTGC	12,63

TTTTTTTTAACCTCGTGCGGGCCGTTTTTTTT	12,79
ATTACCGTTTTTTTTTTTTTTTTTGGGGATGA	14,15
GTCGCTGGCACCCCCGTAACCTGGATAGGACA	14,31
CGAGTCGTCAGAAGTGAAAGACTGTGCGAGAT	14,47
TTAGTGAGTCGTTCGAAGTTCGTATATGCTCT	14,63
TTTTTTTTGAAGGAGTGAGTCGGCTTTTTTTT	14,79

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGTCCTATGTTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,55
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,71
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	1,87
TTCATGTCGCCTTTTCGAACGGTGACACACTT	1,103
GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	1,119
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	1,135
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	3,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	3,39
CCGGGCTAATGAAGCCGTGACCCCAGAGACTG	3,55
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	3,71
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	3,87
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	3,103
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	3,119
CGGAGCTACCTGACCTCAATCATACGTCCCAC	3,135
GGAAGGATTCATCCCCTTTAAGAATGATCGCA	5,23
CAGTCTTTGAGATGTTGAACATCTTTTGGTTG	5,39
GCGTAAAGATCTCGCATTCTGGTGCCAAAACT	5,55
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	5,71
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	5,87
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	5,103
CCGTCGAGCCCTGCGCGACAAACGCATATCCT	5,119
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	5,135
GCCTAAAGGTCCTTCCACGGTAATCGGGGGTG	7,23
ACTCCGGCCTCCTTGGTATATTAGCTTACCCA	7,39
CTCGCGTGGCACGTCTACGACTCGTCGAACGA	7,55
GGACTGTTCTACATAGTGACTTGGACGAGGTT	7,71
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	7,87
TCCCTGTCTGTCGAGCCCAGCGACCACTTCTG	7,103
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	7,119
CTTGGGGGTGATATACCTCACTAAACTCCTTC	7,135
TAATGTGACTAAGCGTTAACTCCAAAGGAAAC	9,23
CAGCTATCCCATATTCGATGTAAGCGGACATC	9,39
TATGCGCCCGATATCCGTTCAAACTAGGGGGC	9,55
TTCTGACCAAAGCTCATGAGAATTGTAAACAG	9,71
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	9,87
TACCTATGGACGGGGATATGCGACACCATGAT	9,103
CCGGATGAGTTATGAAGATCGTCATTGGGATA	9,119
TACAATCTCGAAGTAAAGCATAGCACCCTGCG	9,135
AAGATAGGGTCACAGCAGTAATACCTCTACCT	11,23
TGTTGGACGTAAGCGTGAAATAACGACCAGAA	11,39
AGCACGAGGATTATCACGTGTACCTCGAAATA	11,55
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	11,71
AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	11,87
TAACTGATTTTCTCCTGGTTCCGCTAGCTGAT	11,103
CTATGGTCCTTAATATAACCCTCGGAGGCAAG	11,119
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	11,135
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATAC	13,23
TCGTCAAGCCTGCTTTCCATAGCTAACCCGAT	13,39
TGTGCATTCCACGTGAGTCGTACTTAAAGCAA	13,55
ACGTGGGAGTGCCCGAGCGTCTGAGGTATGGT	13,71
TTACCCACTATGTTGTCTCAAGTGCTAACAGT	13,87
ACTAATTATCCATAACTGTGCACGTCAGGGAT	13,103
TCTCACCGGTGGCCGTTGCTACATCAGTTTCT	13,119
TTGCACTCCTGGGGAAACTATACTTACGCACT	13,135
GGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	15,23
ATTGTAGGCACAATTTTTGATTCGATCACATA	15,39
CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	15,55
AGCTGCACCGTGTCACCTTGATATTGAGGGAC	15,71
ACCTCGTCATTCGGATAAACCATACTGAGGGC	15,87
AGTGGGCGAGATCGGCTAATCATTAGTGCTCC	15,103
CTTAGTTAGTTCATAGTTCATTAGGGGCGGAA	15,119
ATGGGCTGGTGCCCCACGTACAGTAACCAACC	15,135
GTATGATTTTTTTTTTTTTTTTTTCTAATCCC	0,15
TCAGAAACAACCGTGACTTTAGGCCCAAGGAG	0,31

ACCCGAGCGTTCCGGTCCTACAATAGCTTTAT	0,47
GTGGCTGGTTGAGACTCACGCGAGCTATGTAG	0,63
CACTGAGTACAGCTAAGTGCAGCTATCCGAAT	0,79
CCATATCCTACTCGATCCCAGTGAGCTCGACA	0,95
ATTTCCGCTTCCAGCTCGCCCACTCTATGAAC	0,111
TATGATTGGCGGCCATTCTTTCTCGTATATCA	0,127
TTTTTTTTGTGGGACGCAGCCCATTTTTTTTT	0,143
GTATTAGCTTTTTTTTTTTTTTTTTGCCGAGG	2,15
AAGTAAACCGCTCAGCATCCTTCCAACATCTC	2,31
GGGGTCACCCATCCCTCTTGACGATCACGTGG	2,47
AGCGAATTCAGTCTCTCTTTACGCGCTTGAAC	2,63
GAGGGAACTCCGGTTTTCCCACGTACAACATA	2,79
CACCGTTCCCTAGCTACATCTTTTGGGGTCGT	2,95
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ACAGGCGGCCATTATACTCGACGGTTAATTTG	2,127
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ATTACCGTTTTTTTTTTTTTTTTTAAAAGCCC	4,15
AGATGTTCCACCCCCGCCTATCTTACGCTTAC	4,31
CGAGTCGTCAACCAAAAACAGCATGGCTTCAT	4,47
ATAATAGTTCGTTCGACTCGTGCTTCGAGAAA	4,63
AGTTTCCTATAGCCAGGCATCAGATCGCGATC	4,79
CGCACGGCGCCCCTCGCTACCGCTAGGAGAAA	4,95
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ATCGACTACTAATCACGACCATAGTGTTTCAC	4,127
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CACCAGAATGGGTAAGCAACAGTTGTGCGTTG	6,47
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GTCGCTGGTTATGCTAAGCTGTTCTCCCCGTC	6,95
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GAACTTGAGCCTGTTTAACAGTCCGTATAGCG	8,79
GCGGAACCGCGTATCCGACGAGGTGCCGATCT	8,95
TGACGATCATCAGCTAGACAGGGACCACCGCA	8,111
AGGTGGCCTATCCCAATAACTAAGTGGGGCAC	8,127
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GTATTACTTTTTTTTTTTTTTTTTGGGGATGA	10,15
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AATTCTCATATTTCGAAATGCACATCGGGCAC	10,63
TAGGTTAACTGTTTACGAGTCGGCCTGACAGA	10,79
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TCAGACGCGCGCGCCTTAGCCCGGCTCCCGGT	12,63
TATGGTTTACCATACCCTAACGATGTGGGAGG	12,79
CGTGCACAGCCCTCAGACACTGACACCCTTTT	12,95
CTAATGAAATCCCTGAATCAGTTAATATTAAG	12,111
AGTATAGTTTCCGCCCCAGAGCCGAGGTCAGG	12,127
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GAGGCGGCTTTTTTTTTTTTTTTTACGCTTAG	14,15
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AGTACGACTATGTGATGATAGCTGGGATATCG	14,47
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CACTTGAGGTCCCTCAGGTCAGAACTGCTCTA	14,79
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S4.7 XY-4H×4H×192B-cuboid crystal sequences

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GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	1,119
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	1,135
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	1,151
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	1,167
CCGGGCTAATGAAGCCGTGACCCCAGAGACTG	1,183
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GCCGACTCGTTCAAGCACTATTATCTGGCTAT	3,135
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CCGTCGAGCCCTGCGCGACAAACGCATATCCT	3,183
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ACCCGAGCTTCCAGCTACTCTCGTATCTTAGT	0,47
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CACTGAGTGTGGGACGCGAATCGCAGGAGATC	0,79
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S4.8 XY-4H×4H×256B-cuboid crystal sequences

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ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	1,167
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GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	1,215
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ACCGAGGATTCGCAGGTCCATGGGATTCACCA	15,119
AGCTCGTATACACCCTGATTCTCCATGGCAGC	15,135
GCTTCGGTACAGGTCTGAACTGGTAGATCACC	15,151
ATTAGTGTACCCAGCAGTTCGGCTCCCTTGTG	15,167
GACTCGGGATACCCGGTCGTCGTGTAATGCTG	15,183
TTCCGGGGTAAATCAAGCTTTATAAATTCCCG	15,199
ACGCTCTGTTCCAAACTTTAGAGCCCGGCCGT	15,215
AATCTCGGATTCCTTAAAAACCAGGCGCAATC	15,231
TCATGGCATAAACGAAACCCAATCATACGAGC	15,247
GTGGAGGGAAGTTATTCTACTGGCGTTTTCAT	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
CTAATATACGCTCAGCTCCAAACCAAATTGTG	0,159
GGGGTCACTGGGTAAGACACTAATCCGGGTAT	0,175
CCAAGTCACAGTCTCTTGCCCATGGTGACACG	0,191
GAGGGAACAACCTCGTCCCCGGAAGTTTGGAA	0,207
GTCGCTGGCCTAGCTAGACGAGGTGCCGATCT	0,223
CCAGGTCACAGAAGTGCCGAGATTTTCGTTTA	0,239
TTAGTGAGCCATTATATAACTAAGTGGGGCAC	0,255
TTTTTTTTGAAGGAGTCCCTCCACTTTTTTTT	0,271
TTCTTAAATTTTTTTTTTTTTTTTCATCGCCG	2,15
AAGTAAACTGCGATCATCACATTAGAATATGG	2,31
CACCAGAACCATCCCTCGTACGCATACGATTT	2,47
AGCGAATTAGTTTTGGGGCGCATATGAGCTTT	2,63
AGCTTGGGTCCGGTTTAGAACCGGTCACCGAA	2,79
CACCGTTCTTATGCTAAGCTGTTCTCCCCGTC	2,95
CGTTTGTCAAGTGTGTTAAGCGCGCACCCGTT	2,111
ACAGGCGGAGGATATGTCATCCGGTTACTTCG	2,127
ATTACCGTTAAGCGTTGCCTGGCCCTACTTCA	2,143
TCAGAAACCACCCCCGCCTATCTTACGCTTAC	2,159
CGAGTCGTGTTCCGGTGATGCTATTCCAGAAT	2,175
GTGGCTGGTCGTTCGACTCGTGCTTCGAGAAA	2,191
AGTTTCCTACAGCTAAAGCACGTAGAGATAAT	2,207
CCATATCCGCCCCTCGCTACCGCTAGGAGAAA	2,223
AACTACTGTTCCAGCTGTTATACAGGTCCGGC	2,239
TATGATTGCTAATCACGACCATAGTGTTTCAC	2,255
TTTTTTTTGTGGGACGAAACCGTTTTTTTTTT	2,271
GAGGCGGCTTTTTTTTTTTTTTTTGGGGATGA	4,15
CTTACATCGTATAACCCCTACTCTCACCTTTC	4,31
AGTACGACGATGTCCGAAAGACTGTGCGAGAT	4,47
AATTCTCATTGCTTTATTCCTTTTAGGTCTAC	4,63
CACTTGAGCTGTTTACGAGTCGGCCTGACAGA	4,79
GTCGCATAACTGTTAGTGGATATCATGCCAGC	4,95
ATGTAGCAATCATGGTCCAGCCGCGCGCAGGG	4,111
GCTATGCTAGAAACTGCCCCAAGTGCTACATG	4,127
GCAATTGCCGCAGGGTGCGGGCCGGGAAGGAC	4,143
GTTATTTCGCAACCTACGTCGTCTAGCACGCA	4,159
CAGGCTACTTCTGGTCGCCGGAGTAGACGTGC	4,175
CGGAACAGGCGCGCCTTCAAGCTGTCTGCAAC	4,191
TATGGTTTGCCTGTTTAACAGTCCGTATAGCG	4,207
GCGGAACCGCCCTCAGACTACGCTGGACTCAT	4,223
CTAATGAAATCAGCTAGACAGGGACCACCGCA	4,239
AGGTGGCCTTCCGCCCGTGGGAGATGTCAAGT	4,255
TTTTTTTTCCCGAGCCCCCCCAAGTTTTTTTT	4,271
TGGAGTTATTTTTTTTTTTTTTTTGAGCCACT	6,15
AGCTATGGGTTTCCTTGGTACACCTCACTTGC	6,31
GTTTGAACATCGGGTTCAACAGTTGTGCGTTG	6,47
TCAGACGCGCCCCCTAATCTGGTCATTGAAAG	6,63
GAACTTGAACCATACCCTATCTTCGAGATGCG	6,79
CGTGCACAGCGTATCCAGCTCTGTTCCTATGA	6,95
TGACGATCATCCCTGAGACATGAATACTCTGA	6,111
AGTATAGTTATCCCAAGGCGGTACCAAACATT	6,127
GTATTACTAGTGCGTAGCACCGAAAAAAGCCC	6,143
CGAATCAAAGGTAGAGCGTCTTAATGACTACC	6,159
GGTACACGTATGTGATAACAGCATGGCTTCAT	6,175
ATATCAAGTATTTCGAACTTTCTGGCTGTTCA	6,191
TAGGTTAAGTCCCTCAGCATCAGATCGCGATC	6,207
AATGATTACCAAGGCAGGCGATACAGTGGAGC	6,223
CGAGGGTTGGAGCACTGGCATCACCTAGAAAT	6,239
ACTGTACGCTTGCCTCTAGTCCACGCGTATCG	6,255
TTTTTTTTGGTTGGTTTAGCTCCGTTTTTTTT	6,271
CTCGGCCCTTTTTTTTTTTTTTTTTGCCGAGG	8,15
ACTTGGGAGCCCAGCGATAGAATATAGGTCAC	8,31
TGGTGGTTTTACTTGCCTTGACGATCACGTGG	8,47
AGCCTACGGAGGATGTCGCGGAACTTTAAACC	8,63
CGACCATGACCGCTCTTCCCACGTACAACATA	8,79
TCTTGCTTCAGTAGAATGTCGTATAATGGGTA	8,95

AATAAGGATAGGTTTCTAATTAGTACGGCCAC	8,111
CTCGTTCGCGATCGCCTCCTCGGTAGGGTGTA	8,127
ATGTGGTTAGGACGATGAGTGCAACTAATCCC	8,143
GCGTTAAAACGACTTTACCGAAGCTGCTGGGT	8,159
TTTTTGTCGGTCTAAACCTACAATAGCTTTAT	8,175
GGTAGGTTCAAATCTGCCCGAGTCTTGATTTA	8,191
AGAGTATAGCTTAGGGGTGCAGCTATCCGAAT	8,207
TCAAGGCCCCCCCGCACAGAGCGTTAAGGAAT	8,223
GATTGCCGATGTCATGCGCCCACTCTATGAAC	8,239
TGTACTACGATATTCATGCCATGAAATAACTT	8,255
TTTTTTTTAAAGATACCAGCCCATTTTTTTTT	8,271
TTGGCTGATTTTTTTTTTTTTTTTACGCTTAG	10,15
CATATATTCCCACTGTCCATGAAAATAAAAGC	10,31
CCACATGAGACCAAGTGATAGCTGGGATATCG	10,47
TACTAAAATTAGGATCACGGGGTTACTCTAGC	10,63
GTAAACGATGGGTGTTGGTCAGAACTGCTCTA	10,79
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GCGGCCATGCGAAAATCACTCGCACTTAGATC	10,127
CGGCATGCTAAGCCACAGATTGTAGCTGTGAC	10,143
TTCCGCGTGGTGCTACACTTACGTGTAGTGTC	10,159
TGATTAGCCCATTACGGTCCAACATGATAATC	10,175
CCGCACGTCTGCCCAGGCAGTCCGATGTTGGG	10,191
GGAACTTGAGGAGAAGCTAACGATGTGGGAGG	10,207
GCCACTACCCGCCGCATTTCAACTTCTTGCCA	10,223
TGCTGGTGGATGGCCGATCAGTTAATATTAAG	10,239
TCTGGTTCCGACATCCTATCCTTTGGTCCGGG	10,255
TTTTTTTTTAAATGGTCCTCTCCCTTTTTTTT	10,271
ACCCGAGATTTTTTTTTTTTTTTTGCACTGCC	12,15
TACGCTATCCCGCTCGATCCTTCCAACATCTC	12,31
GCCTGTGAGTCCGGTCCGAGATGTTCTCATAA	12,47
CCAGTCCCCGTAGTTCCTTTACGCGCTTGAAC	12,63
GAGGTGGTCATCTGATCAGAAACTATGTACCG	12,79
TACATACGTGACATCGCATCTTTTGGGGTCGT	12,95
CCCATGGATCGCGTCGACTCTCGTATCTTAGT	12,111
GCGCCAGATGGTGAATCTCGACGGTTAATTTG	12,127
ACCAGTTCGTCCTCACCGAATCGCAGGAGATC	12,143
AGCAGGTCGGTGATCTCTTTAGGCCCAAGGAG	12,159
CACGACGATGTCGAAATATTTGACGTCTTGCG	12,175
CGTCACTTCAGCATTACACGCGAGCTATGTAG	12,191
GCTCTAAAGCTGAGGACTAGGACCTAACCCTT	12,207
GCCTTGTCACGGCCGGCCCAGTGAGCTCGACA	12,223
GATTGGGTCTGAAGCGTCGTACAGTTGGACGG	12,239
AGACACTAGCTCGTATTCTTTCTCGTATATCA	12,255
TTTTTTTTGACTTGATTGTGGGCTTTTTTTTT	12,271
AACGGCGATTTTTTTTTTTTTTTTTACCCACA	14,15
GCTTCTCGCGCGAGCATAACCTGGATAGGACA	14,31
ACGACTCTATCTATACACATGTAATCTAGCAG	14,47
GAGGAGCGGGGGCATAAGTTCGTATATGCTCT	14,63
CGGGGAGGTAATTCCCGTGTCAAGGGAAGTTC	14,79
TCACAGTGTTGTAATGGATACTTTGAAAAGGC	14,95
AATTCATCGTGGAAATTCATACGACAAGAACT	14,111
GGAGAATCCCGAACGAATGAACACCCCGCTGC	14,127
AAAGCTTCGCTGCCATGGAATGCAACACCGGC	14,143
AGCCGAACGGCTAGAAGGGCTGATCCCGCAAC	14,159
AGTTACTGCACAAGGGGGAGGCGGGGGTATAG	14,175
TATAAAGCGTTAATGCTAGCCCGGCTCCCGGT	14,191
TGCTTATCCGGGAATTCCCCGGTAATACACAA	14,207
CTGGTTTTGGTCCTTCACACTGACACCCTTTT	14,223
ATTAATACGATTGCGCGCTCGACCGCGCTTTC	14,239
GCCAGTAGGGCGCGGCCAGAGCCGAGGTCAGG	14,255
TTTTTTTTATGAAAACGAGGTAGCTTTTTTTT	14,271

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,31
AACTGTTGTGTCCTATGTTTACTTAGGGATGG	1,47
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,63
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,79
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	3,31
TTCATGTCGCCTTTTCGAACGGTGACACACTT	3,47
GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	3,63
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	3,79
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	5,31
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	5,47
CCGGGCTAATGAAGCCGTGACCCCAGAGACTG	5,63
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	5,79
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	7,31
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	7,47
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	7,63
CGGAGCTACCTGACCTCAATCATACGTCCCAC	7,79
GGAAGGATTCATCCCCTTTAAGAATGATCGCA	9,31
CAGTCTTTGAGATGTTGAACATCTTTTGGTTG	9,47
GCGTAAAGATCTCGCATTCTGGTGCCAAAACT	9,63
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	9,79
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	11,31
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	11,47
CCGTCGAGCCCTGCGCGACAAACGCATATCCT	11,63
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	11,79
GCCTAAAGGTCCTTCCACGGTAATCGGGGGTGACTCCGGCCTCCTTGG	13,47
TATATTAGCTTACCCACTCGCGTGGCACGTCTACGACTCGTCGAACGA	13,79
GGACTGTTCTACATAGTGACTTGGACGAGGTTTCACTGGGCGCTATAC	17,31
AGGAAACTCGAGGGGCTCCCTGTCTGTCGAGC	17,47
CCAGCGACCACTTCTGGAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	17,63
CTTGGGGGTGATATACCTCACTAAACTCCTTC	17,79
TAATGTGACTAAGCGT	19,31
TAACTCCAAAGGAAACCAGCTATCCCATATTCGATGTAAGCGGACATC	19,63
TATGCGCCCGATATCCGTTCAAACTAGGGGGC	19,79
TTCTGACCAAAGCTCA	22,16
TGAGAATTGTAAACAGGAACAGCTTAGAGCAG	23,31
TCAAGTTCGGATACGCTACCTATGGACGGGGATATGCGACACCATGAT	23,47
CCGGATGAGTTATGAAGATCGTCATTGGGATA	23,63
TACAATCTCGAAGTAAAGCATAGCACCCTGCG	23,79
AAGATAGGGTCACAGCAGTAATACCTCTACCT	25,31
TGTTGGACGTAAGCGTGAAATAACGACCAGAA	25,47
AGCACGAGGATTATCACGTGTACCTCGAAATA	25,63
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	25,79
AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	27,31
TAACTGATTTTCTCCTGGTTCCGCTAGCTGAT	27,47
CTATGGTCCTTAATATAACCCTCGGAGGCAAG	27,63
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	27,79
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATAC	29,31
TCGTCAAGCCTGCTTTCCATAGCTAACCCGAT	29,47
TGTGCATTCCACGTGAGTCGTACTTAAAGCAA	29,63
ACGTGGGAGTGCCCGAGCGTCTGAGGTATGGT	29,79
TTACCCACTATGTTGTCTCAAGTGCTAACAGT	31,31
ACTAATTATCCATAACTGTGCACGTCAGGGAT	31,47
TCTCACCGGTGGCCGTTGCTACATCAGTTTCT	31,63
TTGCACTCCTGGGGAAACTATACTTACGCACT	31,79
GGTTTGGAGGGATTAGGCAATTGCTAGGTTGC	33,31
ATTGTAGGCACAATTTTTGATTCGATCACATA	33,47
CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	33,63
AGCTGCACCGTGTCACCTTGATATTGAGGGAC	33,79
ACCTCGTCATTCGGATAAACCATACTGAGGGC	35,31
AGTGGGCGAGATCGGCTAATCATTAGTGCTCC	35,47
CTTAGTTAGTTCATAGTTCATTAGGGGCGGAA	35,63
ATGGGCTGGTGCCCCACGTACAGTAACCAACC	35,79
GTATGATTTTTTTTTTTTTTTTTTATCCGAAT	0,23
TCAGAAACAACCGTGACATCTTTTGGGGTCGT	0,39
ACCCGAGCGTTCCGGTCGCCCACTCTATGAAC	0,55
GTGGCTGGTTGAGACTCTCGACGGTTAATTTG	0,71

TTTTTTTTACAGCTAACAGCCCATTTTTTTTT	0,87
CACTGAGTTTTTTTTTTTTTTTTTCTAATCCC	2,23
AAGTAAACTACTCGATATCCTTCCAACATCTCAAAGACTGTGCGAGAT	2,39
ATTTCCGCCCATCCCTCCTACAATAGCTTTAT	2,55
AGCGAATTGCGGCCATCTTTACGCGCTTGAACGAGTCGGCTTTTTTTT	2,71
TTTTTTTTTCCGGTTTGTGCAGCTTTTTTTTT	2,87
GTATTAGCTTTTTTTTTTTTTTTTACAACATA	4,23
CACCGTTCCGCTCAGCACACTGACACCCTTTT	4,39
GGGGTCACAAGTGTGTTAATTAGTACGGCCAC	4,55
ACAGGCGGCAGTCTCTCAGAGCCGAGGTCAGG	4,71
TTTTTTTTTAAGCGTTGAGTGCAATTTTTTTT	4,87
AGCTTGGGTTTTTTTTTTTTTTTAAAAGCCC	6,23
CCATATCCTTATGCTAAACAGTCCGCCCCTCG	6,39
CGTTTGTCTTCCAGCTAACAGCATGGCTTCAT	6,55
TATGATTGAGGATATGGTCGCTGGGTATATCA	6,71
TTTTTTTTGTGGGACGGCATCAGATTTTTTTT	6,87
AGATGTTCCCTAGCTAGAGGGAACTTTTTTTTTTTTTTTTGAGATGCG	8,39
ATAATAGTCCATTATACCAGGTCACAACCAAAGACATGAATACTCTGA	8,71
TTTTTTTTATAGCCAGGCACCGAATTTTTTTT	8,87
TTTTTTTTGGGGATGA	9,8
TTCTTAAATTTTTTTTTTTTTTTGAGCCACT	10,23
CGCACGGCTGCGATCAATTACCGTGGAAGGAC	10,39
CACCAGAATCAGTCGTCAACAGTTGTGCGTTG	10,55
ATCGACTAAGTTTTGGCACGCGAGTGGGTAAG	10,71
TTTTTTTTGAAGCGTACTATCTTCTTTTTTTT	10,87
GCCGGAGTTTTTTTTTTTTTTTTTCTGACAGA	12,23
GACAGGGACCAAGGAGAATTCTCAGCGTATCC	12,39
CGAGTCGTGCTCGACACCAGCCGCGCGCAGGG	12,55
TTAGTGAGTCGTTCGATCATCCGGTTACTTCG	12,71
TTTTTTTTGAAGGAGTGCGGGCCGTTTTTTTT	12,87
CCAAGTCATTTTTTTTTTTTTTTTTCGCGATC	16,23
CCCAGTGAAACCTCGTTCACATTAGAATATGG	16,39
TCTTTCTCGTATAGCGGGCATCACCTAGAAAT	16,55
AACTACTGCCACCGCATGGAGTTAGGATATCG	16,71
TTTTTTTTCTAATCACTAGCTCCGTTTTTTTT	16,87
AGCTGTTCTTTTTTTTTTTTTTTTCTATGTAG	18,23
CTTACATCCTGCTCTAGGGCACTCAAAGCAGG	18,39
TGACGATCGATGTCCGAGTTTCCTCAGAAGTG	18,55
GTTTGAACTATCCCAAAATGCACATCGGGCAC	18,71
TTTTTTTTGCCCCCTACCCCCAAGTTTTTTTT	18,87
GGTCAGAATTTTTTTTTTTTTTTTCACCCCCG	22,23
CATAGGTATGAGCTTTCCTATCTTACGCTTAC	22,39
GTCGCATATCCCCGTCCTTTAGGCAGACGTGC	22,55
GCTATGCTATCATGGTCTCGTGCTTCGAGAAA	22,71
TTTTTTTTCGCAGGGTCTAATATATTTTTTTT	22,87
GTATTACTTTTTTTTTTTTTTTTTCTGTTTAC	24,23
AGCTATGGAGGTAGAGGACGAGGTGCCGATCT	24,39
GGTACACGATCGGGTTGAACTTGATTCATAAC	24,55
TCAGACGCTATTTCGATAACTAAGTGGGGCAC	24,71
TTTTTTTTACCATACCAGATTGTATTTTTTTT	24,87
TAGGTTAATTTTTTTT	26,23
CGAGGGTTTTCTGGTCGTTATTTCCCAAGGCATCCAAACCAAATTGTG	26,55
TTTTTTTTGCCTGTTTCGGAACAGCTTGCCTCTGCCCATGGTGACACG	26,87
GAGGCGGCTTTTTTTTTTTTTTTTTACGCTTAG	28,23
GCGGAACCGTATAACCGTGGGTAAGTTATGGA	28,39
AGTACGACATCAGCTAGATAGCTGGTTTCCTT	28,55
AGGTGGCCTTGCTTTACGGTGAGATTCCCCAG	28,71
TTTTTTTTCCCGAGCCGGCGCATATTTTTTTT	28,87
TATGGTTTTTTTTTTTTTTTTTTTGCCGAGG	30,23
CGTGCACAGCCCTCAGGGGCTGATCCCGCAAC	30,39
CTAATGAAATCCCTGACTTGACGATCACGTGG	30,55
AGTATAGTTTCCGCCCTAGCCCGGCTCCCGGT	30,71
TTTTTTTTAGTGCGTATCCCACGTTTTTTTTT	30,87
CACTTGAGTTTTTTTTTTTTTTTTGTGGGAGGCTACCGCTAGGAGAAA	32,23
CGAATCAAACTGTTAGGATACTTTGAAAAGGC	32,39
ATGTAGCATATGTGATATCAGTTAATATTAAGGACCATAGTGTTTCAC	32,55
ATATCAAGAGAAACTGATGAACACCCCGCTGC	32,71
TTTTTTTTGTCCCTCACCTCTCCCTTTTTTTT	32,87

GCAATTGCTTTTTTTTTTTTTTTTGCTGTGAC	34,23
AATGATTAGCAACCTATAACCTGGATAGGACA	34,39
CAGGCTACGGAGCACTGTCCAACATGATAATC	34,55
ACTGTACGGCGCGCCTAGTTCGTATATGCTCT	34,71
TTTTTTTTGGTTGGTTCTAACGATTTTTTTTT	34,87

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

CCAGGTTAAGTGGCTCAATCATACTCACGGTT	1,23
AACTGTTGTGTCCTATGTTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,55
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,71
AAAGTATCCGCATCTCACTCAGTGATCGAGTA	1,87
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GTGTTCATTCAGAGTAGCGGAAATATGGCCGC	1,119
TTCGGTGCGCAGCGGGCCGCCTGTAACGCTTA	1,135
ATCAGCCCGGGCTTTTGCTAATACGCTGAGCG	3,23
ATGCTGTTGTTGCGGGGTTTCTGAACCGGAAC	3,39
CCGGGCTAATGAAGCCGTGACCCCAGAGACTG	3,55
TCTGATGCACCGGGAGCCAGCCACTTAGCTGT	3,71
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	3,87
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	3,103
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	3,119
CGGAGCTACCTGACCTCAATCATACGTCCCAC	3,135
GGAAGGATTCATCCCCTTTAAGAATGATCGCA	5,23
CAGTCTTTGAGATGTTGAACATCTTTTGGTTG	5,39
GCGTAAAGATCTCGCATTCTGGTGCCAAAACT	5,55
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	5,71
AAAAGATGTCTGTCAGCCCAAGCTTAGCATAA	5,87
GCGGCTGGACGACCCCGCCGTGCGACGACTGA	5,103
CCGTCGAGCCCTGCGCGACAAACGCATATCCT	5,119
CGGCCCGCCAAATTAATAGTCGATTACGCTTC	5,135
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ACTCCGGCCTCCTTGGTATATTAGCTTACCCA	7,39
CTCGCGTGGCACGTCTACGACTCGTCGAACGA	7,55
GGACTGTTCTACATAGTGACTTGGACGAGGTT	7,71
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	7,87
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GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	7,119
CTTGGGGGTGATATACCTCACTAAACTCCTTC	7,135
TAATGTGACTAAGCGTTAACTCCAAAGGAAAC	9,23
CAGCTATCCCATATTCGATGTAAGCGGACATC	9,39
TATGCGCCCGATATCCGTTCAAACTAGGGGGC	9,55
TTCTGACCAAAGCTCATGAGAATTGTAAACAG	9,71
GAACAGCTTAGAGCAGTCAAGTTCGGATACGC	9,87
TACCTATGGACGGGGATATGCGACACCATGAT	9,103
CCGGATGAGTTATGAAGATCGTCATTGGGATA	9,119
TACAATCTCGAAGTAAAGCATAGCACCCTGCG	9,135
AAGATAGGGTCACAGCAGTAATACCTCTACCT	11,23
TGTTGGACGTAAGCGTGAAATAACGACCAGAA	11,39
AGCACGAGGATTATCACGTGTACCTCGAAATA	11,55
ATCGTTAGTTTCTCGACTGTTCCGAAACAGGC	11,71
AGCGGTAGCCTCCCACTTAACCTATGCCTTGG	11,87
TAACTGATTTTCTCCTGGTTCCGCTAGCTGAT	11,103
CTATGGTCCTTAATATAACCCTCGGAGGCAAG	11,119
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	11,135
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATACTCGTCAAGCCTGCTTT	13,39
CCATAGCTAACCCGATTGTGCATTCCACGTGAGTCGTACTTAAAGCAA	13,71
ACGTGGGAGTGCCCGAGCGTCTGAGGTATGGTTTACCCACTATGTTGT	13,103
CTCAAGTGCTAACAGTACTAATTATCCATAACTGTGCACGTCAGGGAT	13,135
TCTCACCGGTGGCCGTTGCTACATCAGTTTCTTTGCACTCCTGGGGAA	17,23
ACTATACTTACGCACTGGTTTGGAGGGATTAG	17,39
GCAATTGCTAGGTTGCATTGTAGGCACAATTTTTGATTCGATCACATA	17,55
CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	17,71
AGCTGCACCGTGTCACCTTGATATTGAGGGACACCTCGTCATTCGGAT	17,87
AAACCATACTGAGGGCAGTGGGCGAGATCGGC	17,103
TAATCATTAGTGCTCCCTTAGTTAGTTCATAGTTCATTAGGGGCGGAA	17,119
ATGGGCTGGTGCCCCACGTACAGTAACCAACC	17,135
GGTGTACCTGTGGGTA	19,23
GGGCCGAGCGCTGGGCTTACATGTGCAAGTGAAATATATGACTTGGTC	19,55
GACCAGATCTGCTAGAAACCACCAACATCCTCCTTGACACCTTTCAAT	19,87
TTTTAGTAAACACCCAACAGAGCTGAACTTCCCATGGTCGTTCTACTG	19,119
TCGTATGATCATAGGATCAAACTAAATACAGC	19,135
GTACCGCCAGTTCTTG	22,8

TCCTTATTGGCGATCGTGCATTCCAATGTTTG	23,23
ATGGCCGCGTGGCTTATTAAGACGGCCGGTGTAACCACATAAAGTCGT	23,39
CCGCCTCCGGTAGTCAACGCGGAACGTAATGG	23,55
CAGAAAGTCTATACCCGACAAAAACAGATTTGTACCGGGGTGAACAGC	23,71
ACGTGCGGCTTCTCCTGTATCGCCTTGTGTAT	23,87
TATACTCTTGCGGGGGGGTCGAGCGCTCCACTGTAGTGGCCGGCCATC	23,103
GTGGACTAGAAAGCGCCGGCAATCTGAATATC	23,119
GCTACCTCCGATACGCGAACCAGAACCATTTA	23,135
AGAGTAGGGGCAGTGCTCAGCCAAACAGTGGG	25,23
ACATCTCGGAAAGGTGTCCCAAGTGCAAGTAA	25,39
AAAAGGAATTATGAGATCATGTGGGATCCTAA	25,55
AGTTTCTGGTAGACCTCGTAGGCTAGAGCGGT	25,71
GATATCCACGGTACATTCGTTTACTGCACGGA	25,87
ACGAGAGTGCTGGCATAAGCAAGAGAAACCTA	25,103
ACTTGGGGACTAAGATCGTTGCGAATTTTCGC	25,119
GCGATTCGCATGTAGCCGAACGAGATCGTCCT	25,135
AGACGACGGATCTCCTGCATGCCGGTAGCACC	27,23
GTCAAATATGCGTGCTTTTAACGCTTTAGACC	27,39
CAGCTTGACGCAAGACGCTAATCACTGGGCAG	27,55
GGTCCTAGGTTGCAGAAACCTACCCCCTAAGC	27,71
AGCGTAGTAAGGGTTACAAGTTCCTGCGGCGG	27,87
CTGTACGAATGAGTCCGGCCTTGACATGACAT	27,103
TCTCCCACCCGTCCAACACCAGCAGGATGTCG	27,119
AGCCCACAACTTGACAGTAGTACAGTATCTTT	27,135
TTTCATGGCGGCGATGTCGCCGTTTGCTCGCG	29,23
TGCGTACGGCTTTTATATAGCGTAGACCGGAC	29,39
AACCCCGTAAATCGTAAGAGTCGTTATGCCCC	29,55
CCGGTTCTGCTAGAGTGGGACTGGATCAGATG	29,71
TTCAAGTATTCGGTGACCTCCCCGCATTACAA	29,87
CGCGCTTACCAAGTAACGTATGTACGACGCGA	29,103
TGCGAGTGAACGGGTGGATGAATTTCGTTCGG	29,119
GGCCAGGCGATCTAAGTCTGGCGCGTGAGGAC	29,135
ACGTAAGTTGAAGTAGGAAGCTTTTTCTAGCC	31,23
ATAGCATCGACACTACGACCTGCTTTTCGACA	31,39
CGGACTGCATTCTGGACAGTAACTGCATTAAC	31,55
TACGTGCTCCCAACATAAGTGACGTCCTCAGC	31,71
AGTTGAAAATTATCTCGATAAGCAGAAGGACC	31,87
TGTATAACTGGCAAGAGACAAGGCCGCTTCAG	31,103
AAAGGATAGCCGGACCGTATTAATGCCGCGCC	31,119
AACGGTTTCCCGGACCTAGTGTCTATCAAGTC	31,135
TATTCTATGAAACCATTCTCGGGTCGAGCGGG	33,23
TCACTGTTGTGACCTACGAGAAGCGTATAGAT	33,39
GTTCCGCGCGAATAGCTCACAGGCGAACTACG	33,55
TATGAATTGGTTTAAACGCTCCTCGGGAATTA	33,71
ATACGACAGGTGGCAAACCACCTCCGATGTCA	33,87
GCGCCGCATACCCATTCACTGTGAATTTCCAC	33,103
ACCGAGGATTCGCAGGTCCATGGGATTCACCA	33,119
AGCTCGTATACACCCTGATTCTCCATGGCAGC	33,135
GCTTCGGTACAGGTCTGAACTGGTAGATCACC	35,23
ATTAGTGTACCCAGCAGTTCGGCTCCCTTGTG	35,39
GACTCGGGATACCCGGTCGTCGTGTAATGCTG	35,55
TTCCGGGGTAAATCAAGCTTTATAAATTCCCG	35,71
ACGCTCTGTTCCAAACTTTAGAGCCCGGCCGT	35,87
AATCTCGGATTCCTTAAAAACCAGGCGCAATC	35,103
TCATGGCATAAACGAAACCCAATCATACGAGC	35,119
GTGGAGGGAAGTTATTCTACTGGCGTTTTCAT	35,135
GTATGATTTTTTTTTTTTTTTTTTAGACCTGT	0,15
AGATGTTCAACCGTGACCTATCTTACGCTTAC	0,31
ACCCGAGCCAACCAAAACACTAATCCGGGTAT	0,47
ATAATAGTTTGAGACTCTCGTGCTTCGAGAAA	0,63
CACTGAGTATAGCCAGCCCCGGAAGTTTGGAA	0,79
CGCACGGCTACTCGATCTACCGCTAGGAGAAA	0,95
ATTTCCGCTCAGTCGTCCGAGATTTTCGTTTA	0,111
ATCGACTAGCGGCCATGACCATAGTGTTTCAC	0,127
TTTTTTTTGAAGCGTACCCTCCACTTTTTTTT	0,143
GTATTAGCTTTTTTTTTTTTTTTTATGGTTTC	2,15
AAGTAAACCGCTCAGCTCACATTAGAATATGGGATAGCTGGGATATCG	2,31
GGGGTCACCCATCCCTAACAGTGAGCTATTCG	2,47

AGCGAATTCAGTCTCTGGCGCATATGAGCTTTGGTCAGAACTGCTCTA	2,63
GAGGGAACTCCGGTTTAATTCATATTGCCACC	2,79
CACCGTTCCCTAGCTAAGCTGTTCTCCCCGTCCATAGGTATTCATAAC	2,95
CCAGGTCAAAGTGTGTTGCGGCGCCCTGCGAA	2,111
ACAGGCGGCCATTATATCATCCGGTTACTTCGAGATTGTATTTTTTTT	2,127
TTTTTTTTTAAGCGTTTACGAGCTTTTTTTTT	2,143
TTCTTAAATTTTTTTTTTTTTTTTCTACTTCA	4,15
TCAGAAACTGCGATCACTTTAGGCCCAAGGAG	4,31
CACCAGAAGTTCCGGTGATGCTATTCCAGAAT	4,47
GTGGCTGGAGTTTTGGCACGCGAGCTATGTAG	4,63
AGCTTGGGACAGCTAAAGCACGTAGAGATAAT	4,79
CCATATCCTTATGCTACCCAGTGAGCTCGACA	4,95
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TATGATTGAGGATATGTCTTTCTCGTATATCA	4,127
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GTATTACTTTTTTTTTTTTTTTTTGGGGATGA	6,15
CTAATATAAGGTAGAGCGGTGAGAAGTGCGTA	6,31
GGTACACGTGGGTAAGAAAGACTGTGCGAGAT	6,47
CCAAGTCATATTTCGAGCAATTGCAGCTTTAT	6,63
TAGGTTAAAACCTCGTGAGTCGGCCTGACAGA	6,79
GTCGCTGGCCAAGGCAGTGCAGCTGCCCTCAG	6,95
CGAGGGTTCAGAAGTGCCAGCCGCGCGCAGGG	6,111
TTAGTGAGCTTGCCTCAATGATTATGGGGCAC	6,127
TTTTTTTTGAAGGAGTGCGGGCCGTTTTTTTT	6,143
CTTACATCCACCCCCGATTACCGTTTTTTTTTTTTTTTTTAAAAGCCC	8,31
AATTCTCATCGTTCGACGAGTCGTGATGTCCGAACAGCATGGCTTCAT	8,63
GTCGCATAGCCCCTCGAGTTTCCTCTGTTTACGCATCAGATCGCGATC	8,95
GCTATGCTCTAATCACAACTACTGATCATGGTGGCATCACCTAGAAAT	8,127
TTTTTTTTCGCAGGGTTAGCTCCGTTTTTTTT	8,143
TTTTTTTTACGCTTAG	9,0
TGGAGTTATTTTTTTTTTTTTTTTGAGCCACT	10,15
GTTATTTCGTTTCCTTGAGGCGGCTGCCGAGG	10,31
GTTTGAACTTCTGGTCCAACAGTTGTGCGTTG	10,47
CGGAACAGGCCCCCTAAATGCACAATCGGGTT	10,63
GAACTTGAGCCTGTTTCTATCTTCGAGATGCG	10,79
GCGGAACCGCGTATCCTCAGACGCTCGGGCAC	10,95
TGACGATCATCAGCTAGACATGAATACTCTGA	10,111
AGGTGGCCTATCCCAATAATTAGTACTGTTAG	10,127
TTTTTTTTCCCGAGCCGCACCGAATTTTTTTT	10,143
CTTGACGATTTTTTTTTTTTTTTTGCTGTGAC	12,15
TCCAAACCAAAGCAGGAATAAGGATAAGCCAC	12,31
AGTACGACCTAATCCCGTCCAACATGATAATC	12,47
CAGGCTACTTGCTTTAGGAGGCGGGGGTATAG	12,63
GTGGGTAAGCGCGCCTCTAACGATGTGGGAGG	12,79
CGCCCACTACAACATACCGCACGTCCCCCGCA	12,95
CGTGCACAGCCGATCTATCAGTTAATATTAAG	12,111
ACTGTACGATCCCTGATAGTCCACGCGTATCG	12,127
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CCTACAATTTCCCCAGGCCGGAGTAGACGTGC	16,47
CGAATCAAAAATTGTGCTCGGCCCGAGGATGT	16,63
ATATCAAGTATGTGATAACAGTCCGTATAGCG	16,79
GACGAGGTGTCCCTCAATCTGGTCGGAAGTTC	16,95
TAACTAAGATCCGAATGACAGGGACCACCGCA	16,111
CTAATGAACTATGAACTACTAAAATCCTATGA	16,127
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GGCGATACATTGAAAGTGCCCATGGTGACACG	18,79
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TAGTTTGAGATATTCACACTCGCACTTAGATC	18,127
TTTTTTTTGCTGTATTCAGCCCATTTTTTTTT	18,143
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CGTCTTAACAAGAACTCCTACTCTCACCTTTC	22,31

ATGTGGTTACACCGGCGGGCACTCTCACGTGG	22,47
TTTTTGTCACGACTTTTTCCTTTTAGGTCTAC	22,63
CCCCGGTACAAATCTGAGCTATGGACCATACC	22,79
GCTCGACCGCTGTTCATGGATATCATGCCAGC	22,95
GCCACTACAGTGGAGCTCCCACGTGTTATGGA	22,111
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TACGCTATCCCACTGTACCGAAGCTGCTGGGT	24,31
CCACATGAGTCCGGTCGCGGCCATTGACTACC	24,47
CCAGTCCCTTAGGATCCCCGAGTCTTGATTTA	24,63
GTAAACGACATCTGATACTTTCTGAGGAGAAG	24,79
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TCGCAACGTCGCGTCGAGAGTATAGCGCTTTC	24,111
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TTTTTTTTGTCCTCACGAGGTAGCTTTTTTTT	24,143
CGGCATGCTTTTTTTT	26,15
TGATTAGCTTACTTGCACTTGGGAGGTGCTACATAGAATATAGGTCAC	26,47
GGAACTTGACCGCTCTAGCCTACGCTGCCCAGCGCGGAACTTTAAACC	26,79
TGCTGGTGTAGGTTTCTCTTGCTTCCGCCGCATGTCGTATAATGGGTA	26,111
TTTTTTTTAGGACGATCTCGTTCGCGACATCCTCCTCGGTAGGGTGTA	26,143
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ACGACTCTGGTCTAAAACATGTAAGCCCAGCG	28,47
GGTAGGTTGGGGCATAGCAGTCCGATGTTGGG	28,63
CGGGGAGGGCTTAGGGTGGTGGTTTCTAGCAG	28,79
TCAAGGCCTTGTAATGTTTCAACTTCTTGCCA	28,95
AATTCATCATGTCATGAGCTCTGTTGGGTGTT	28,111
TGTACTACCCGAACGATATCCTTTGGTCCGGG	28,127
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ACCAGTTCTTTTTTTTTTTTTTTTCATCGCCG	30,15
AGCAGGTCGGTGATCTATCCTTCCAACATCTC	30,31
CACGACGATGTCGAAACGTACGCATACGATTT	30,47
CGTCACTTCAGCATTACTTTACGCGCTTGAAC	30,63
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GCCTTGTCACGGCCGGCATCTTTTGGGGTCGT	30,95
GATTGGGTCTGAAGCGTAAGCGCGCACCCGTT	30,111
AGACACTAGCTCGTATCTCGACGGTTAATTTG	30,127
TTTTTTTTGACTTGATGCCTGGCCTTTTTTTT	30,143
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AGTTACTGATCTATACTATTTGACGTCTTGCGTCAAGCTGTCTGCAAC	32,47
GAGGAGCGGTTAATGCTAGCCCGGCTCCCGGT	32,63
TGCTTATCTAATTCCCCTAGGACCTAACCCTTACTACGCTGGACTCAT	32,79
TCACAGTGGGTCCTTCACACTGACACCCTTTT	32,95
ATTAATACGTGGAAATTCGTACAGTTGGACGGGTGGGAGATGTCAAGT	32,111
GGAGAATCGGCGCGGCCAGAGCCGAGGTCAGG	32,127
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ACCCGAGATTTTTTTTTTTTTTTTGCACTGCC	34,15
AGCCGAACCCCGCTCGTAACCTGGATAGGACA	34,31
GCCTGTGACACAAGGGCGAGATGTTCTCATAA	34,47
TATAAAGCCGTAGTTCAGTTCGTATATGCTCT	34,63
GAGGTGGTCGGGAATTCAGAAACTATGTACCG	34,79
CTGGTTTTTGACATCGGATACTTTGAAAAGGC	34,95
CCCATGGAGATTGCGCACTCTCGTATCTTAGT	34,111
GCCAGTAGTGGTGAATATGAACACCCCGCTGC	34,127
TTTTTTTTATGAAAACCGAATCGCTTTTTTTT	34,143

S4.11XY-8H×4H×96B-channel crystal sequences

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AACTGTTGTGTCCTATGTTTACTTAGGGATGG	1,39
TACGAACTCAACGCACGCTCGGGTAGTCTCAA	1,55
GAAGATAGAGAGCATAAATTCGCTAAACCGGA	1,71
AAAGTATCCGCATCTCACTCAGTGATCGAGTATTCATGTCGCCTTTTC	1,87
GAACGGTGACACACTTGTGTTCATTCAGAGTA	1,103
GCGGAAATATGGCCGCTTCGGTGCGCAGCGGG	3,23
CCGCCTGTAACGCTTAATCAGCCCGGGCTTTT	3,39
GCTAATACGCTGAGCGATGCTGTTGTTGCGGG	3,55
GTTTCTGAACCGGAACCCGGGCTAATGAAGCC	3,71
GTGACCCCAGAGACTGTCTGATGCACCGGGAGCCAGCCACTTAGCTGT	3,103
GTCAGTGTGATCGCGAGTTCCCTCTAGCTAGG	5,23
GTGATGCCAAAAGGGTGGATATGGAGCTGGAA	5,39
CGGCTCTGATTTCTAGTGACCTGGTATAATGG	5,55
CGGAGCTACCTGACCTCAATCATACGTCCCAC	5,71
GGAAGGATTCATCCCCTTTAAGAATGATCGCA	7,23
CAGTCTTTGAGATGTTGAACATCTTTTGGTTG	7,39
GCGTAAAGATCTCGCATTCTGGTGCCAAAACT	7,55
GCCGACTCGTTCAAGCACTATTATCTGGCTAT	7,71
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CGGCCCGCCAAATTAATAGTCGATTACGCTTC	9,71
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ACTCCGGCCTCCTTGGTATATTAGCTTACCCA	11,39
CTCGCGTGGCACGTCTACGACTCGTCGAACGA	11,55
GGACTGTTCTACATAGTGACTTGGACGAGGTT	11,71
TCACTGGGCGCTATACAGGAAACTCGAGGGGC	13,23
TCCCTGTCTGTCGAGCCCAGCGACCACTTCTG	13,39
GAGAAAGATGCGGTGGCAGTAGTTGTGATTAG	13,55
CTTGGGGGTGATATACCTCACTAAACTCCTTCTAATGTGACTAAGCGT	13,71
TAACTCCAAAGGAAACCAGCTATCCCATATTC	13,87
GATGTAAGCGGACATCTATGCGCCCGATATCC	13,103
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TGAGAATTGTAAACAGGAACAGCTTAGAGCAG	15,39
TCAAGTTCGGATACGCTACCTATGGACGGGGA	15,55
TATGCGACACCATGATCCGGATGAGTTATGAAGATCGTCATTGGGATA	15,87
TACAATCTCGAAGTAAAGCATAGCACCCTGCG	15,103
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GGTTCCGCTAGCTGATCTATGGTCCTTAATAT	17,103
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GCCGCCTCGGTTATACTCGTCAAGCCTGCTTT	19,55
CCATAGCTAACCCGATTGTGCATTCCACGTGA	19,71
GTCGTACTTAAAGCAAACGTGGGAGTGCCCGAGCGTCTGAGGTATGGT	19,103
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ACTAATTATCCATAACTGTGCACGTCAGGGAT	21,39
TCTCACCGGTGGCCGTTGCTACATCAGTTTCT	21,55
TTGCACTCCTGGGGAAACTATACTTACGCACT	21,71
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ATTGTAGGCACAATTTTTGATTCGATCACATA	23,39
CATGGGCAATAAAGCTGTAGCCTGAGGCGCGC	23,55
AGCTGCACCGTGTCACCTTGATATTGAGGGAC	23,71
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ATGGGCTGGTGCCCCACGTACAGTAACCAACC	25,71
GGTGTACCTGTGGGTAGGGCCGAGCGCTGGGC	27,23
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GACCAGATCTGCTAGAAACCACCAACATCCTC	27,55
CTTGACACCTTTCAATTTTTAGTAAACACCCA	27,71
ACAGAGCTGAACTTCCCATGGTCGTTCTACTG	29,23

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GTACCGCCAGTTCTTGTCCTTATTGGCGATCG	29,55
TGCATTCCAATGTTTGATGGCCGCGTGGCTTATTAAGACGGCCGGTGT	29,71
AACCACATAAAGTCGTCCGCCTCCGGTAGTCA	29,87
ACGCGGAACGTAATGGCAGAAAGTCTATACCC	29,103
GACAAAAACAGATTTGTACCGGGGTGAACAGC	31,23
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TATACTCTTGCGGGGGGGTCGAGCGCTCCACT	31,55
GTAGTGGCCGGCCATCGTGGACTAGAAAGCGCCGGCAATCTGAATATC	31,87
GCTACCTCCGATACGCGAACCAGAACCATTTA	31,103
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AGATGTTCAACCGTGAGTTTGAACCTGTTTAC	0,31
ACCCGAGCCAACCAAACCGCACGTCCCCCGCA	0,47
ATAATAGTTTGAGACTGAACTTGATTCATAAC	0,63
CACTGAGTATAGCCAGTAGTCCACGATGGCCG	0,79
GACATGAATACTCGATGTCGCATATTACTTCG	0,95
TTTTGAAAAGGCGAGGTAGCTTTT	0,107
GCACCGAATTTTTTTTGGAAGTTC	2,15
AAGTAAACCCCGCTGCCCCAGTGAGCTCGACA	2,31
AACAGCATCCATCCCTTCATACGACAAGAACT	2,47
AGCGAATTCCCGCAACTCTTTCTCGTATATCA	2,63
GTGGCTGGTCCGGTTTGGAATGCAACGACTTT	2,79
ATGAACACACAGCTAATGGAGTTAGATGTCCG	2,95
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GGGCTGATCCTAGCTACTTTAGGCCCAAGGAG	4,31
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CACCAGAATTCCAGCTCGCCCACTCTATGAAC	6,47
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GGTCAGAATTTTTTTTGGGGATGA	8,15
CGCACGGCTGAGCTTTTCCAAACCAAATTGTG	8,31
CATAGGTATCAGTCGTAAAGACTGTGCGAGAT	8,47
ATCGACTATCCCCGTCTGCCCATGGTGACACG	8,63
TTTTTTTTGAAGCGTAGAGTCGGCTTTTTTTT	8,79
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CTAATATATTATGCTAGTGGGTAAGTTATGGA	10,31
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GCTATGCTGAATATGGCTACCGCTATCAGCTA	14,95
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GGTACACGTATGTGATAATTCTCAGCGTATCC	16,47
ATATCAAGTATTTCGAAGAGTATAGCGCTTTC	16,63
TAGGTTAAGTCCCTCATCATCCGGATCATGGT	16,79
ATCAGTTACCAAGGCAGCCACTACGCGTATCG	16,95
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CCTCTCCCTTTTTTTTGTATAGCG	18,15
GTTATTTCTGTTTCACAGCTCTGTTCCTATGA	18,31
CTTGACGATTCTGGTCGACAGGGACCACCGCA	18,47

CGGAACAGAAAGCAGGGGCGGTACCAAACATT	18,63
TCAGACGCGCCTGTTTCCCCCAAGGTTTCCTT	18,79
GACCATAGACCATACCATGTGGTTCCATTACG	18,95
TTTTATATTAAGCTTACATCTTTT	18,107
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GGGCACTCACTGTTAGGGTACACCTCACTTGC	20,31
ATGTAGCATGCCGAGGGCCGGAGTAGACGTGC	20,47
AATGCACAAGAAACTGATCTGGTCATTGAAAG	20,63
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GCAATTGCTTTTTTTTCTGACAGA	22,15
CGTGCACAGCAACCTAGACGAGGTGCCGATCT	22,31
CAGGCTACATCCCTGACCAGCCGCGCGCAGGG	22,47
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CCCCGGTATTTTTTTTCTAATCCC	24,15
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ACTGTACGAGTGGAGCCTTTACGCGCTTGAAC	24,63
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CATATATTGCCCTCAGACACTGACACCCTTTT	26,31
CTAATGAAGACCAAGTTAATTAGTACGGCCAC	26,47
TACTAAAATTCCGCCCCAGAGCCGAGGTCAGG	26,63
TTTTTTTTTGGGTGTTGAGTGCAATTTTTTTT	26,79
CTCGGCCCTTTTTTTTCTTGCCTC	28,15
TAGTTTGAGCCCAGCGATTTCCGCTAAGCGTT	28,31
TGGTGGTTGCTGTATTAGGTGGCCGTATAACC	28,47
GCGGCCATGAGGATGTGTATTAGCGTTCCGGT	28,63
CGTCTTAATAAGCCACAGCTATGGTCGGGCAC	28,79
ACTTTCTGACACCGGCGCATCAGACAGTCTCT	28,95
TTTTGGGTATAGAGTACGACTTTT	28,107
CGACCATGTTTTTTTTGCTGTGAC	30,15
GGCGATACCAGTAGAATAACCTGGATAGGACA	30,31
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TCTGGTTCTGACTACCGATACTTTAAGTGTGT	30,95
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S5.1 Offset-ZX-6H×6H×64B-cuboid crystal sequence

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ACTCAGTGATCGAGTATTCATGTCGCCTTTTC	3,23
GAACGGTGACACACTTGTGTTCATTCAGAGTA	3,39
GCGGAAATATGGCCGCTTCGGTGCGCAGCGGG	3,55
CCGCCTGTAACGCTTAATCAGCCCGGGCTTTT	3,71
GCTAATACGCTGAGCGATGCTGTTGTTGCGGG	5,23
GTTTCTGAACCGGAACCCGGGCTAATGAAGCC	5,39
GTGACCCCAGAGACTGTCTGATGCACCGGGAGCCAGCCACTTAGCTGT	5,71
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CGGCCCGCCAAATTAATAGTCGATTACGCTTC	11,71
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TATATTAGCTTACCCACTCGCGTGGCACGTCT	13,39
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GATCGTCATTGGGATATACAATCTCGAAGTAA	19,55
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AGTAATACCTCTACCTTGTTGGACGTAAGCGT	21,39
GAAATAACGACCAGAAAGCACGAGGATTATCA	21,55
CGTGTACCTCGAAATAATCGTTAGTTTCTCGA	21,71
CTGTTCCGAAACAGGCAGCGGTAGCCTCCCACTTAACCTATGCCTTGG	23,23
TAACTGATTTTCTCCTGGTTCCGCTAGCTGAT	23,39
CTATGGTCCTTAATATAACCCTCGGAGGCAAG	23,55
GGGAGAGGGTGAAACAGGCCACCTGGCTCGGG	23,71
GAGTGCCCCCTCGGCAGCCGCCTCGGTTATACTCGTCAAGCCTGCTTT	25,23
CCATAGCTAACCCGATTGTGCATTCCACGTGA	25,39
GTCGTACTTAAAGCAAACGTGGGAGTGCCCGA	25,55
GCGTCTGAGGTATGGTTTACCCACTATGTTGT	25,71
CTCAAGTGCTAACAGTACTAATTATCCATAAC	27,23
TGTGCACGTCAGGGATTCTCACCGGTGGCCGT	27,39
TGCTACATCAGTTTCTTTGCACTCCTGGGGAA	27,55
ACTATACTTACGCACTGGTTTGGAGGGATTAG	27,71
GCAATTGCTAGGTTGCATTGTAGGCACAATTT	29,23
TTGATTCGATCACATACATGGGCAATAAAGCT	29,39
GTAGCCTGAGGCGCGCAGCTGCACCGTGTCACCTTGATATTGAGGGAC	29,71
ACCTCGTCATTCGGATAAACCATACTGAGGGC	31,23
AGTGGGCGAGATCGGCTAATCATTAGTGCTCCCTTAGTTAGTTCATAG	31,39
TTCATTAGGGGCGGAAATGGGCTGGTGCCCCA	31,55
CGTACAGTAACCAACCGGTGTACCTGTGGGTA	33,23
GGGCCGAGCGCTGGGCTTACATGTGCAAGTGA	33,39
AATATATGACTTGGTCGACCAGATCTGCTAGA	33,55
AACCACCAACATCCTCCTTGACACCTTTCAAT	33,71
TTTTAGTAAACACCCAACAGAGCTGAACTTCCCATGGTCGTTCTACTG	35,23
TCGTATGATCATAGGATCAAACTAAATACAGC	35,39
GTACCGCCAGTTCTTGTCCTTATTGGCGATCG	35,55
TGCATTCCAATGTTTGATGGCCGCGTGGCTTA	35,71

GTATGATTAAAAGCCCGGGCTGATACAGCTAACCAGGTCACTGACAGA	0,15
CTATCTTCATAGGACACAACAGTTAACCGTGAATAATAGTGGGGTCGT	0,47
TTTTTTTTGGCTTCATTAGCCCGGTATGCTCTCTCGACGGTTAATTTG	0,79
GACATGAATTTTTTTT	2,15
GCACCGAAGTGCGTTGAGTTCGTAGAAAAGGCTATGATTGTGCGATCA	2,47
TTTTTTTTGAGATGCGGATACTTTCCCGCTGCAGATGTTCAGTTTTGG	2,79
AACAGCATTTTTTTTT	4,15
GTGGCTGGTACTCTGAATGAACACCCCGCAACACACTGACACCCTTTT	4,47
CGTTTGTCTTTTTTTTTTTTTTTTTCGCTCAGCGTATTAGCGTTCCGGT	6,15
CCATATCCAGGATATGTGGAGTTAGATGTCCG	6,31
CAGAGCCGTTCCAGCTTCAGAAACCTCCCGGTGCATCAGACAGTCTCT	6,47
AGCTTGGGCTAGAAATGGTCAGAAGCCCCCTA	6,63
GAGGGAACTTTTTTTTTTTTTTTTTTACTCGATCACTGAGTAAGTGTGT	8,15
AAAGACTGCCTAGCTAAGTTTCCTCAGAAGTG	8,31
TAGCTCCGAACATCTCCACCGTTCGCGGCCATATTTCCGCTAAGCGTT	8,47
GAGTCGGCAGGTCAGGAACTACTGGAAGGAGT	8,63
TTTTTTTTGCTTGAACACAGGCGGTTTTTTTT	8,79
ATCCTTCCTTATGCTAGGGGTCACGAGCCACTTAACCTGGCCATCCCT	10,15
CGCACGGCGGGGATGACTTTAGGCTGGGTAAG	10,31
CTTTACGCTCAGTCGTAAGTAAACTTGAGACTACCCGAGCTCCGGTTT	10,47
ATCGACTATGCGAGATCGAGTCGTAACCTCGT	10,63
TTTTTTTTGAAGCGTAAGCGAATTTTTTTTTT	10,79
ATTACCGTACGCTTAGCATCTTTTATAGCCAG	12,15
GCCGGAGTCACCCCCGCGGAACAGAGGAGAAA	12,31
AACAGTCCCCAAGGAGCCAGCCGCGCGCAGGG	12,47
GGCGCATACTATGTAGGACCATAGTGTTTCAC	12,63
TTTTTTTTGGATATCGGCGGGCCGTTTTTTTT	12,79
GACAGGGATTTTTTTTTTTTTTTTGTGGGACG	14,15
CACGCGAGGCTCGACAGCTATGCTAGGTAGAG	14,31
CCCCCAAGAGACGTGCTTCTTAAACAACCAAA	14,47
CCCAGTGAGTATATCAGTTATTTCTATTTCGA	14,63
TTTTTTTTGTATAGCGCACCAGAATTTTTTTT	14,79
GATAGCTGTTTTTTTTTTTTTTTTTCGCGATC	16,15
TCTTTCTCGAATATGGAGCTGTTCTCCCCGTC	16,31
AATTCTCACCACCGCAGGCATCACCCATTATA	16,47
TCACATTACTGTTTACTGACGATCGTGGGAGG	16,63
CGAGGGTTTTTTTTTTTTTTTTTTGTTTCCTT	18,15
GTCGCATACTTGCCTCGCAATTGCTATGTGAT	18,31
TCATCCGGATCATGGTCTTACATCTGAGCTTT	18,47
TAGGTTAATTCATAACGTGCAGCTGCGCGCCT	18,63
GAACTTGATTTTTTTTTTTTTTTTTGCCCCTCG	20,15
GTCCAACAGCGTATCCCACTTGAGATCCCTGA	20,31
AGATTGTAACGCTTACGTCGCTGGCTAATCAC	20,47
CTAACGATTTACTTCGATGTAGCAAGTGCGTA	20,63
TTTTTTTTTCGAGAAATTAGTGAGTTTTTTTT	20,79
CCTATCTTCCAAGGCAGTTTGAACGGAAGGAC	22,15
GCGGAACCGCTGTGACGGGCACTCATCGGGTT	22,31
CTCGTGCTATCAGCTACTAATATATCGTTCGA	22,47
AGGTGGCCTGATAATCAGTACGACACCATACC	22,63
TTTTTTTTCCCGAGCCCCAAGTCATTTTTTTT	22,79
GAGGCGGCCTAATCCCCTACCGCTGCCTGTTT	24,15
CTTGACGAGTATAACCTACTAAAATCCTATGATCATACGACAAGAACT	24,31
TCCCACGTAAAGCAGGATCAGTTAATATTAAG	24,47
TGCCCATGTCGGGCACGGCGGTACCAAACATTGGAATGCATTTTTTTT	24,63
TTTTTTTTAGCTTTATCCTCTCCCTTTTTTTT	24,79
TAATTAGTTTTTTTTTTTTTTTTTCGCAGGGT	26,15
AATGCACAGTTATGGAACTGTACGGCCCAGCGCTCGGCCCGACCAAGT	26,31
GAGTGCAATCACGTGGGTATTACTTTCTGGTC	26,47
GTGGGTAATTCCCCAGCATATATTGAGGATGTTGGTGGTTTTTTTTTT	26,63
TTTTTTTTACAACATAGGTACACGTTTTTTTT	26,79
CCTACAATTTTTTTTTTTTTTTTTCTGCTCTA	28,15
CGGTGAGAAAATTGTGGACGAGGTGCCGATCTCGCCCACTTTCCGCCC	28,31
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TCCAAACCGTCCCTCACTAATGAAGGAAGTTCAGCTCTGTTGGGTGTT	28,63
AATGATTACGATCGCCAATAAGGATTTTTTTTTTTTTTTTGCAACCTA	30,31
CGACCATGCTATGAACTAACTAAGGGAGCACTCGAATCAAGTGACACG	30,63
TTTTTTTTATCCGAAT	31,0
ACATGTAAGCCCTCAGTATGGTTTTTTTTTTTTTTTTTTACTGTTAG	32,31

GTGTCAAGTGGGGCACCAGCCCATTCACTTGCCGTGCACAAGAAACTG	32,63
TTTTTTTTATTGAAAGAGTATAGTTTTTTTTT	32,79
TTTTTTTTGGTTGGTT	33,0
TAGTTTGATACCCACAGGTACACCCAGTAGAACAGGCTACTGCCGAGG	34,31
GCGGCCATTCTAGCAGATCTGGTCGCTGTATTAGCTATGGTTGCTTTA	34,63
TTTTTTTTTAAGCCACTCAGACGCTTTTTTTT	34,79