List of full sensitivity spaced seeds for at most 2 mismatches

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Each spaced seed s is a periodic seed (b is a periodic block). It consists of n_b repetitions of the block and first n_d symbols of the blocks. Other parameters: w is the weight of the periodic seed, n_m is the maximum number of mismatches allowed to achieve the full sensitivity, L_{min} is the minimum length of a read required for the found seed.

We used the following selection criteria:

- by setting n_m and the length L of a read, we found all seeds of a maximum weight w;
- for a given weight w we found the shortest length L_{min} of reads when we are able to find seeds;
- among all seeds found for n_m , w and L_{min} , we used only seeds of maximum length.

If a seed s is found, then its reverse version \bar{s} (all digits are in the reverse order) can also be used. To form the seeds below lists of seed blocks b were used. Those blocks were found for sizes from 10 to 50 for $n_m = 3, 4, \ldots, 9$ and from 10 to 70 for $n_m = 2$. For each block size only sequences of maximum weight were used. There is a possibility that in a future longer seed blocks can be found and new spaced seeds can be formed for a given weight w (it will be possible to use them for shorter reads, i.e. L_{min} will be smaller).

- 1) $n_m = 2$, w = 16, $L_{min} = 32$, $n_b = 3$, $n_d = 5$, b = 1011100, s = 10111001011100101110010111
- 2) $n_m = 2$, w = 17, $L_{min} = 34$, $n_b = 1$, $n_d = 9$, b = 11111011110010, s = 111110111100101111110111
- 3) $n_m = 2$, w = 18, $L_{min} = 36$, $n_b = 4$, $n_d = 2$, b = 1110010, s = 111001011100101110010111001011
- 4) $n_m = 2$, w = 18, $L_{min} = 36$, $n_b = 4$, $n_d = 2$, b = 1100101, s = 1100101110010111100101111
- 5) $n_m = 2$, w = 19, $L_{min} = 37$, $n_b = 4$, $n_d = 3$, b = 1110010, s = 111001011110010111100101111
- 6) $n_m = 2$, w = 20, $L_{min} = 39$, $n_b = 4$, $n_d = 5$, b = 1011100, s = 10111001011110010111100101111
- 7) $n_m = 2$, w = 21, $L_{min} = 40$, $n_b = 2$, $n_d = 8$, b = 110111111000, s = 1101111110001101111111000110111111
- 8) $n_m = 2$, w = 22, $L_{min} = 42$, $n_b = 2$, $n_d = 7$, b = 111011110010, s = 111011110010111101111001011110111
- 9) $n_m = 2$, w = 22, $L_{min} = 42$, $n_b = 2$, $n_d = 7$, b = 110111100101, s = 110111100101110111110010111101111
- 10) $n_m = 2$, w = 22, $L_{min} = 42$, $n_b = 2$, $n_d = 7$, b = 101111100110, s = 1011111001101111111001101111111

- 12) $n_m = 2$, w = 24, $L_{min} = 44$, $n_b = 2$, $n_d = 6$, b = 1111110011010, s = 11111100110101111111100110101111111
- 13) $n_m = 2$, w = 25, $L_{min} = 46$, $n_b = 2$, $n_d = 8$, b = 1111101110010, s = 1111101110010111111011110010111111011
- 14) $n_m = 2$, w = 25, $L_{min} = 46$, $n_b = 2$, $n_d = 8$, b = 1111011100101, s = 111101110010111111011100101111110111

- 19) $n_m = 2$, w = 28, $L_{min} = 51$, $n_b = 3$, $n_d = 8$, b = 110111111000, s = 1101111110001101111111000110111111

- 22) $n_m = 2$, w = 30, $L_{min} = 54$, $n_b = 3$, $n_d = 7$, b = 110111100101, s = 1101111001011101111100101111011111
- 23) $n_m = 2$, w = 30, $L_{min} = 54$, $n_b = 3$, $n_d = 7$, b = 101111100110, s = 101111100110101111110011010111111
- 25) $n_m = 2$, w = 32, $L_{min} = 56$, $n_b = 3$, $n_d = 5$, b = 1111101110010, s = 111110111001011111101110010111111
- 26) $n_m = 2$, w = 32, $L_{min} = 56$, $n_b = 3$, $n_d = 5$, b = 1111110011010, s = 1111110011010111111100110101111111

- 77) $n_m = 2$, w = 52, $L_{min} = 85$, $n_b = 5$, $n_d = 8$,

- 92) $n_m = 2$, w = 58, $L_{min} = 94$, $n_b = 6$, $n_d = 4$, b = 1111110011010.
- 93) $n_m = 2$, w = 58, $L_{min} = 94$, $n_b = 6$, $n_d = 4$, b = 1111100110101,
- 94) $n_m = 2$, w = 58, $L_{min} = 94$, $n_b = 6$, $n_d = 4$, b = 1111001101011,
- 95) $n_m = 2$, w = 59, $L_{min} = 95$, $n_b = 6$, $n_d = 5$, b = 1111101110010,
- 96) $n_m = 2$, w = 59, $L_{min} = 95$, $n_b = 6$, $n_d = 5$, b = 1111110011010,
- 97) $n_m = 2$, w = 59, $L_{min} = 95$, $n_b = 6$, $n_d = 5$, b = 1111100110101
- 98) $n_m = 2$, w = 60, $L_{min} = 96$, $n_b = 6$, $n_d = 6$, b = 1111110011010,
- 99) $n_m = 2$, w = 61, $L_{min} = 98$, $n_b = 6$, $n_d = 8$, b = 1111101110010.
- 100) $n_m = 2$, w = 61, $L_{min} = 98$, $n_b = 6$, $n_d = 8$, b = 1111011100101,
- 101) $n_m = 2$, w = 61, $L_{min} = 98$, $n_b = 6$, $n_d = 8$, b = 1011111100110,
- 102) $n_m = 2$, w = 62, $L_{min} = 99$, $n_b = 6$, $n_d = 9$, b = 1111101110010,
- 103) $n_m = 2$, w = 63, $L_{min} = 101$, $n_b = 6$, $n_d = 11$, b = 1011111011100,
- 104) $n_m = 2$, w = 63, $L_{min} = 101$, $n_b = 6$, $n_d = 11$, b = 11010111111100,
- 105) $n_m = 2$, w = 64, $L_{min} = 102$, $n_b = 4$, $n_d = 8$, b = 11111111110001110110,
- 106) $n_m = 2$, w = 64, $L_{min} = 102$, $n_b = 4$, $n_d = 8$, b = 11111111100011101101
- 107) $n_m = 2$, w = 64, $L_{min} = 102$, $n_b = 4$, $n_d = 8$, b = 11111111110011011010,