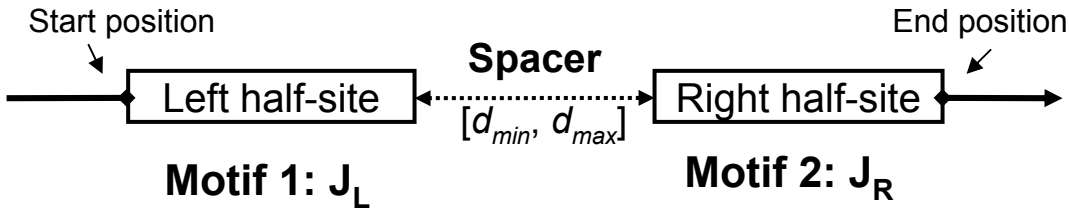
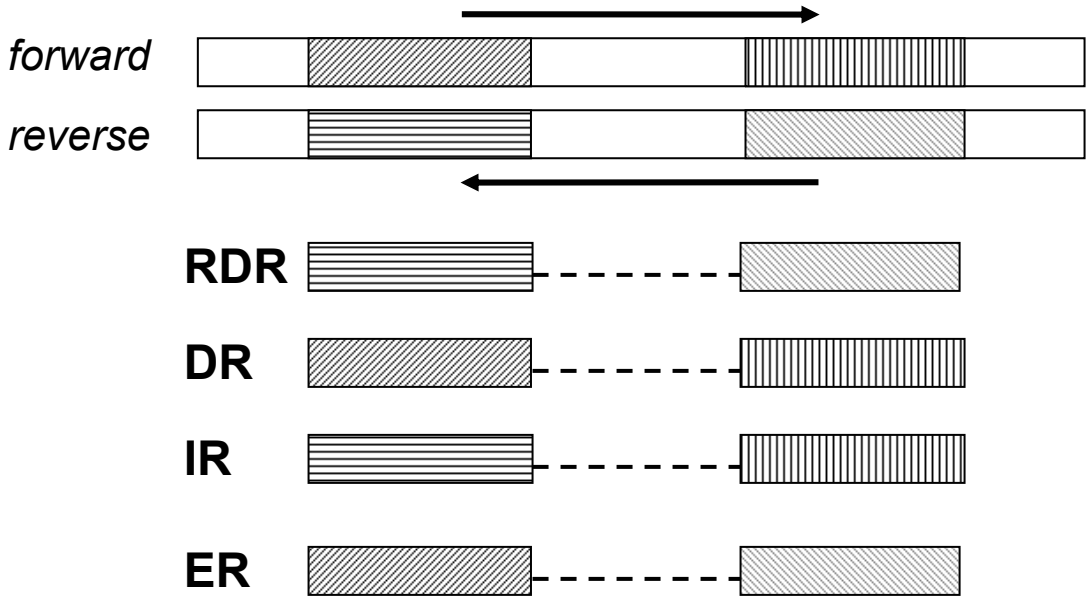
(a)



(b)



Bipartite pattern configuration on a double helical DNA. (a) A bipartite module is an independent functional unit on the upstream/downstream of a regulated gene and recognized by a homodimer or heterodimer. We assume that two subunit cooperatively bind to the module with constrained spacers. A bipartite pattern can be expressed as JL<D>JR. Jm is the width of motif m and D is the gap range as defined in the text. (b) Four possible types of a bipartite pattern. The arrows point from 5' to 3' direction. Filled areas are motifs. 4 possible types of a bipartite pattern: RDR - Reverse Direct Repeats, DR - Direct Repeats, ER - Everted Repeats and IR - Inverted Repeats.