

i : 0 1 2                      3 4 5 6 7

Ax : 0 0 0                      1 1 1 1 1

X : A C G - - - - T G T T C

Y : A C C A T T C T A - - C

Ay : 0 0 0 1                      1 1 1 1                      0

j : 0 1 2 3 4 5 6 7 8                      9

The diagram illustrates a sequence alignment between two sequences, Ax and Ay. The sequences are represented as rows of characters, with indices i and j shown at the top and bottom respectively. The alignment is visualized using colored boxes: a red box highlights the region from index 0 to 7, and a green box highlights the region from index 3 to 6. The sequences are: Ax: 0 0 0 1 1 1 1 1, X: A C G - - - - T G T T C, Y: A C C A T T C T A - - C, Ay: 0 0 0 1 1 1 1 1 0. The alignment shows that the first three characters of Ax (0 0 0) correspond to the first three characters of X (A C G) and the first three characters of Y (A C C). The fourth character of Ax (1) corresponds to the fourth character of X (-) and the fourth character of Y (A). The fifth character of Ax (1) corresponds to the fifth character of X (-) and the fifth character of Y (T). The sixth character of Ax (1) corresponds to the sixth character of X (-) and the sixth character of Y (T). The seventh character of Ax (1) corresponds to the seventh character of X (-) and the seventh character of Y (C). The eighth character of Ax (1) corresponds to the eighth character of X (T) and the eighth character of Y (T). The ninth character of Ax (1) corresponds to the ninth character of X (G) and the ninth character of Y (A). The tenth character of Ax (1) corresponds to the tenth character of X (T) and the tenth character of Y (-). The eleventh character of Ax (1) corresponds to the eleventh character of X (T) and the eleventh character of Y (-). The twelfth character of Ax (1) corresponds to the twelfth character of X (C) and the twelfth character of Y (C).