

Q2

Saturday, November 18, 2023

11:13 AM

	1	2	3	4	5	6	7	8
	//	A	T	T	C	G	A	C
1	//	0	-2	-4	-6	-8	-10	-12
2	A	-2	1	-1	-3	-5	-7	-9
3	T	-4	-1	2	0	-2	-4	-6
4	C	-6	-3	0	1	-1	-3	-5
5	A	-8	-5	-2	-1	0	0	-2
6	C	-10	-7	-4	-3	0	-2	-1

→

A	T	T	C	G	A	C
A	-	T	C	-	A	C

- $[1,1] = 0$
- $[1,2] = -2$  (gap)
- $[1,3] = -4$  (gap)
- $[2,1] = -2$  (gap)
- $[3,1] = -4$  (gap)

Annotation:  $[2, 6] = A - G$   
 row ↗ column ↖

Match = +1

Mismatch = -1

Gap = -2

- $[2,2] = 1$   
 + Top: -4  
 + Left: -4  
 + Diag:  $\begin{bmatrix} 1 \end{bmatrix}$  (match)

- $[2,3] = -1$   
 + Top: -6  
 + Left:  $\begin{bmatrix} -1 \end{bmatrix}$   
 + Diag: -3 (mismatch)

- $[3,2] = -1$   
 + Top:  $\begin{bmatrix} 1 \end{bmatrix}$   
 + Left: -6  
 + Diag: -3 (mismatch)

- $[3,3] = 2$   
 + Top: -3  
 + Left: -3  
 + Diag:  $\begin{bmatrix} 2 \end{bmatrix}$  (match)