

[Simple Scoring Scheme] Example 2

Seq. 1: GAT

Seq. 2: GCAAT

Match: +8 ( $w(a, b) = 8$ , if  $a = b$ )

Mismatch: -5 ( $w(a, b) = -5$ , if  $a \neq b$ )

Each gap symbol: -3 ( $w(-, b) = w(a, -) = -3$ )

Kun-Yao Chao  
2016/10/17

S

		G	C	A	A	T
	0	-3	-6	-9	-12	-15
G	-3	8	5	2	-1	-4
A	-6	5	3	13	10	7
T	-9	2	0	10	7	18

G - A - T  
G C A A T

G - - A T  
G C A A T

Kun-Mao Chao

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[Affine Gap Penalties] Example 2

Seq. 1: GAT

Seq. 2: GCAAT

Match: +8 ( $w(a, b) = 8$ , if  $a = b$ )

Mismatch: -5 ( $w(a, b) = -5$ , if  $a \neq b$ )

Each gap symbol: -3 ( $w(-, b) = w(a, -) = -3$ )

Each gap is charged an extra gap-open penalty: -4

D

		G	C	A	A	T
	-4	$-\infty$	$-\infty$	$-\infty$	$-\infty$	$-\infty$
G	-7	-14	-17	-20	-23	-26
A	-10	1	-6	-9	-13	-15
T	-13	-2	-4	2	-1	-6

I

		G	C	A	A	T
	-4	-7	-10	-13	-16	-19
G	$-\infty$	-14	1	-2	-5	-8
A	$-\infty$	-17	-6	-4	2	-1
T	$-\infty$	-20	-9	-11	-5	-3

S

		G	C	A	A	T
	0	-7	-10	-13	-16	-19
G	-7	8	1	-2	-5	-8
A	-10	1	3	9	6	-1
T	-13	-2	-4	2	4	14

⑤ ④ ③ ② ①  
 G - - A T  
 G C A A T