

match/mismatch: $s(a_i, b_j) = \begin{cases} 1 & \text{if } a_i = b_j \\ -1 & \text{if } a_i \neq b_j \end{cases}$

indel: $-\delta = -1$

initialization: $M_{i,0} = -\delta i \quad M_{0,j} = -\delta j$

recursion:
$$M_{i,j} = \max \begin{cases} M_{i-1,j-1} + s(a_i, b_j) \\ M_{i-1,j} - \delta \\ M_{i,j-1} - \delta \end{cases}$$

[illegible]

		A	C	G	T	C	C	C	T	A	G	T
	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11
A	-1	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9
T	-2	0	0	-1	0	-1	-2	-3	-4	-5	-6	-7
C	-3	-1	1	0	-1	1	0	-1	-2	-3	-4	-5
A	-4	-2	0	0	-1	0	0	-1	-2	-1	-2	-3
C	-5	-3	-1	-1	-1	0	1	1	0	-1	-2	-3
G	-6	-4	-2	0	-1	-1	0	0	0	-1	0	-1
C	-7	-5	-3	-1	-1	0	0	1	0	-1	-1	-1
T	-8	-6	-4	-2	0	-1	-1	0	2	-1	0	0
T	-9	-7	-5	-3	-1	-1	-2	-1	1	1	0	1
A	-10	-8	-6	-4	-2	-2	-2	-2	0	2	-1	0

		A	C	G	T	C	C	C	T	A	G	T	
		0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11
A	-1	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	
T	-2	0	0	-1	0	-1	-2	-3	-4	-5	-6	-7	
C	-3	-1	1	0	-1	1	0	-1	-2	-3	-4	-5	
A	-4	-2	0	0	-1	0	0	-1	-2	-1	-2	-3	
C	-5	-3	-1	-1	-1	0	1	1	0	-1	-2	-3	
G	-6	-4	-2	0	-1	-1	0	0	0	-1	0	-1	
C	-7	-5	-3	-1	-1	0	0	1	0	-1	-1	-1	
T	-8	-6	-4	-2	0	-1	-1	0	2	-1	0	0	
T	-9	-7	-5	-3	-1	-1	-2	-1	1	1	0	1	
A	-10	-8	-6	-4	-2	-2	-2	-2	0	2	-1	0	

		A	C	G	T	C	C	C	T	A	G	T	
		0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11
A		-1	1	-0	-1	-2	-3	-4	-5	-6	-7	-8	-9
T		-2	0	0	-1	0	-1	-2	-3	-4	-5	-6	-7
C		-3	-1	1	0	-1	1	0	-1	-2	-3	-4	-5
A		-4	-2	0	0	-1	0	0	-1	-2	-1	-2	-3
C		-5	-3	-1	-1	-1	0	1	1	0	-1	-2	-3
G		-6	-4	-2	0	-1	-1	0	0	0	-1	0	-1
C		-7	-5	-3	-1	-1	0	0	1	0	-1	-1	-1
T		-8	-6	-4	-2	0	-1	-1	0	2	-1	0	0
T		-9	-7	-5	-3	-1	-1	-2	-1	1	1	0	1
A		-10	-8	-6	-4	-2	-2	-2	-2	0	2	-1	0

optimal alignments (score 0):

ACGTC-C-CTAGT-	ACGTC-C-CT-AGT	ACGTC-C-C-TAGT
A--TCACGCT--TA	A--TCACGCTTA--	A--TCACGCTTA--