

Muhammad Salah El-Okda

12p6022

Assignment ii

| | Global Alignment | Semi-Global Alignment | Local Alignment |
|------------|------------------|-----------------------|-----------------|
| Sequence 1 | 77 | 97 | 106 |
| Sequence 2 | -4 | 21 | 21 |
| Sequence 3 | -10 | 21 | 21 |

Alignment G1:

TGG-T--AGATTC-C--CACGAGATCTACCGAG-TATGAGTAGGGGGAC-GTTCGCT-CGG-
 -GCCTCTA-ACACACTGCACGAGATCAACCGAGATATGAGTAAT---ACAG--CGGTACGGG

Alignment G2:

CTGTCGCTGCACG
 -TGCCG-TG----

Alignment G3:

CAGCACTTGGATTCTCGG
 CAGC----G--T----GG

Alignment S1:

---TGGTAGATTC-C--CACGAGATCTACCGAG-TATGAGTAGGGGGAC-GTTCGCT-CGG-
GCCTC-TA-ACACACTGCACGAGATCAACCGAGATATGAGTAAT---ACAG--CGGTACGGG

Alignment S2:

CTGTCGCTGGCAC

-TGCCG-TG----

Alignment S3:

CAGCACTTGGGGCTCTTA

CAGCG-T-GG-----

Alignment L1:

CACGAGATCTACCGAG-TATGAGTA

CACGAGATCAACCGAGATATGAGTA

Alignment L2:

TGTCGCTG

TGCCG-TG

Alignment L3:

CAGCACTTGG

CAGCG-T-GG

- Semi Global Alignment is always better than Global Alignment.
- Local Alignment is always better than the Global Alignment and maybe equal to the scores in the semi global Alignment.

Was the semi-global alignment algorithm able to detected better alignments than the global alignment algorithm?

-Yes as it always gets a better score than the global method.

Was the local alignment algorithm able to detect region(s) of similarity that were overlooked by the global alignment?

-Of course, the local method got smaller alignment than in the global one but this was better