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```
# Program: needle
# Rundate: Sat 8 Apr 2023 10:12:13
# Commandline: needle
#   -auto
#   -stdout
#   -asequence emboss_needle-I20230408-102623-0262-39074855-p2m.asequence
#   -bsequence emboss_needle-I20230408-102623-0262-39074855-p2m.bsequence
#   -datafile EBL0SUM62
#   -gapopen 10.0
#   -gapextend 0.5
#   -endopen 10.0
#   -endextend 0.5
#   -aformat3 pair
#   -sprtein1
#   -sprtein2
# Align_format: pair
# Report_file: stdout
```

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#
# Aligned_sequences: 2
# 1: YP_009047204.1
# 2: YP_009825051.1
# Matrix: EBL0SUM62
# Gap_penalty: 10.0
# Extend_penalty: 0.5
```

```
#
# Length: 1414
# Identity:      444/1414 (31.4%)
# Similarity:    666/1414 (47.1%)
# Gaps:          220/1414 (15.6%)
# Score: 1558.5
```

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YP_009047204.	1	MIHSVFLLMFLLTPTESYVDVGPDSVKSACIEVDIQQTFFDKTWPRPID-	49
YP_009825051.	1	----MFIFLLFLT LTS-----GSD-----LDRCTTFDDVQAPNYTQH	33
YP_009047204.	50	VSKADGIIYPQGRITYSNITITYQGLF-PYQGDHGDYVYSAGHATGTTPQ	98
YP_009825051.	34	TSSMRGVVYPDEIFRSDTLTLTQDLFLPFYSNVTGFHTINHTFGNPVPIF	83
YP_009047204.	99	K---LFVANYSQDVQKQFANGFVVRIGAAAN--STGTVIISPSTSATIRKI	143
YP_009825051.	84	KDGIYFAATEKSNV---VRGWV--FGSTMNKSQSVIIINNSTNVVIRAC	128
YP_009047204.	144	-----YPAFMLGSSVGNFSDGKMGRFFNHTLVLLPDGCGTLLRAFYCIL	187
YP_009825051.	129	NFELCDNPFFFAVSKPMGTQT-----HTMIF--D-----NAFNCTF	161
YP_009047204.	188	EPRSGNHCPAGNSYTSFATYHTPATDCSD--GNYNRNASLNSFKEYFNLR	235
YP_009825051.	162	E-----YISDAF----SLDVSEKSGNFKH-----LREFVFKN	189
YP_009047204.	236	NCTFMYTYNITEDEILEWFGITQTAQGVHLFSSRYVDLYGGNMFQFATLP	285
YP_009825051.	190	KDGFLLVYV-----KGYPIDVVR-----DLPSG-----	212
YP_009047204.	286	VYDTIKYYSIIPHSIR-----SIQSDRKAW----AAFYVYKLQPLT	322
YP_009825051.	213	-FNTLKPIFKLPLGINITNFRAILTAFSPAQDIWGTSAAYFVGYLKPTT	261
YP_009047204.	323	FLLDFSVDGYIRRAIDCGFNDLSQLHCSYESFDVESGVYSVSSFEAKPSG	372

YP_009825051.	262	FMLKYDENGITITDAVDCSQNPLAELKCSVKSFEDKGIYQTSNFRVVP	311
YP_009047204.	373	SVVEQAEGVE - CDFSPLLSGTP - PQVYNFKRLVFTNC - - NYNLTKL	418
YP_009825051.	312	DVVRFPNITNLCPFGEVFNATKFPSVYAWERKKISNCVADYSVLNSTFF	361
YP_009047204.	419	SVNDFTCSQISPAAIASNCYSSLILDYFSYPLSMKSD - - - LSVSSAGPI	464
YP_009825051.	362	ST - - FKCYGVSATKLNLCFSNVYADSF - - - VVKGDDVRQIAPGQTGVI	405
YP_009047204.	465	SQFNYKQSFNSNPTCLILATVPHNL - - - TTITKPLKYSYINKCS - RLLSDD	510
YP_009825051.	406	ADYNYKLPDDFMGC - VLAWNTRNIDATSTGNYNYKYRYLRHGKLRPFERD	454
YP_009047204.	511	RTEVPQLVNAVQYSPCVSIVPSTVWEDGDYRQKQLSPLEGGGWLVASGST	560
YP_009825051.	455	ISNVPFSPDG - - - KPCTPPALNCYWPLNDY - - - - - GFYTTTGIG	490
YP_009047204.	561	VAMTEQLQMFGGITVQYGTDTNSVC - PKLEFANDTKIASQLGNCVEYSLY	609
YP_009825051.	491	YQPYRVVVLSEFLLNAPAT - - - VCGPKL - - - STDLIKQ - - - CVNFNFN	530
YP_009047204.	610	GVSGRGVFNCTAVGVRQQRFFVYDAYQNLVGYYSD - - - - - GNYCYLRA	653
YP_009825051.	531	GLTGTGVL - - - TPSSKRFPF - - - QQFGRDVSDFTDSVRDPKTSEILDISP	575
YP_009047204.	654	CVSVPVSVIY - - DKETKTHATLFGSVACEHISSTM - - SQYSRSTRSMLKR	699
YP_009825051.	576	CAFGGVSVITPGTNASSEVAVLYQDVNCTDVSTAIHADQLTPAWR - IYST	624
YP_009047204.	700	RDSTYGPLQTPVGCVLGL - - VNSSLFVEDCKLPLGQSLCALPDTPTLTP	747
YP_009825051.	625	GNNVF - - - QTQAGCLIGAETHVDTSY - - - ECDIPIGAGICASYHTVSLRS	668
YP_009047204.	748	RSVRSVPGEMRLASIAFNHPIQVD - QLNSSYFKLSIPTNFSFGVTQEYIQ	796
YP_009825051.	669	TSQKSI - - - - - VAYTMSLGADSSIAYSNNTIAIPTNFSISITTEVMP	710
YP_009047204.	797	TTIQKVTVDCKQYVCNGFQKCEQLLREYQGFCSKINQALHGANLRQDDSV	846
YP_009825051.	711	VSMAKTSVDCNMICYGDSSTECANLLLQYGSFCTQLNRALSGIAAEQDRNT	760
YP_009047204.	847	RNLFASVKSSQSSPIIPGFGGFNLTLLEPVSISTGSRARSASIEDLLFD	896
YP_009825051.	761	REVFAQVKQMYKTPTLKYFGG - FNFSQILPDPLKP - - - TKRSFIEDLLFN	806
YP_009047204.	897	KVTIADPGYMQGYDDCMQGPASARDLICAQYVAGYKVLPLMDVNMEAA	946
YP_009825051.	807	KVTLADAGFMKQYGECL - - GDINARDLICAQKFNGLTVLPPLTDDMIAA	854
YP_009047204.	947	YTSSLLGSIAGVGTAGLSSFAAIPFAQSIFYRLNGVGITQQVLSNQKL	996
YP_009825051.	855	YTAALVSGTATAGWTFGAGAALQIPFAMQMAYRFNGIGVTQNVLYENQKQ	904
YP_009047204.	997	IANKFNQALGAMQTGFTTTNEAFQKVQDAVNNAQALSKLASELSNTFGA	1046
YP_009825051.	905	IANQFNKAISQIQESLTTTSTALGKLQDVVNQNAQALNTLVKQLSSNFGA	954
YP_009047204.	1047	ISASIGDIIQRLDVLEQDAQIDRLINGRLTTLNAFVAQQLVRSESAALSA	1096
YP_009825051.	955	ISSVLNDILSRDLKVEAEVQIDRLITGRQLQSLQTYVTQQLIRAAEIRASA	1004
YP_009047204.	1097	QLAKDKVNECVKAQSKRSGFCGQGTHIVSFVVNAPNGLYFMHVGYYPSNH	1146
YP_009825051.	1005	NLAATKMSECVLGQSKRVDFCGKGYHLSFPQAAPHGVVFLHVTYVPSQE	1054
YP_009047204.	1147	IEVVSAYGLCDAANPTNCIAPVNGYFIKTNNTTRIVDEWYSYTGSSFYAPEP	1196
YP_009825051.	1055	RNFTTAPAIC - - - HEGKAYFPREGVFFV - FNGT - - - SWFITQRNFFSPQI	1096

YP_009047204.	1197	ITSLNTKYVAP--QVTYQNI	1243
YP_009825051.	1097	ITTDNT-FVSGNCDVVIGI	1142
YP_009047204.	1244	TSIPNFGSLTQINTTLLD	1293
YP_009825051.	1143	SPDVDLGDISGINASVV	1192
YP_009047204.	1294	KWPWYIWLGFIAGLVAL	1343
YP_009825051.	1193	KWPWYVWLGFIAGLIAI	1241
YP_009047204.	1344	DLEP--HKVHVH--	1353
YP_009825051.	1242	DSEPVLKGVKLHYT	1255
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