

```
#####
# Program: water
# Rundate: Thu 28 May 2026 15:51:56
# Commandline: water
#   -auto
#   -stdout
#   -asequence emboss_water-I20260528-155153-0118-39678349-
p1m.asequence
#   -bsequence emboss_water-I20260528-155153-0118-39678349-
p1m.bsequence
#   -datafile EBL0SUM62
#   -gapopen 10.0
#   -gapextend 0.5
#   -aformat3 pair
#   -sprotein1
#   -sprotein2
# Align_format: pair
# Report_file: stdout
#####
```

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#=====
#
# Aligned_sequences: 2
# 1: YP_003815435.1
# 2: NP_066246.1
# Matrix: EBL0SUM62
# Gap_penalty: 10.0
# Extend_penalty: 0.5
#
# Length: 688
# Identity:      450/688 (65.4%)
# Similarity:    526/688 (76.5%)
# Gaps:          26/688 ( 3.8%)
# Score: 2390.0
#
#
#=====
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```
YP_003815435.      1
MVTSGILQLPRERFRKTSFFVWVILFHKVFPIPLGVVHNNTLQVSDIDK      50
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|.:|||||:|:|:||||:|||||.:.|.||||:|:|:||||:|
NP_066246.1      1
MGVTGILQLPRDRFKRTSFFLWVILFQRTFSIPLGVIHNSTLQVSDVDK      50
```

```
YP_003815435.     51
LVCRDKLSSTSQKSVGLNLEGNGVATDVPTATKRWGFRAGVPPKVVNYE     100
```

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|||||||:|:|:|||||:|||||:|||||:|
NP_066246.1      51
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LVCRDKLSSTNQLRVGLNLEGNVATDVPSATKRWGFRSGVPPKVVNYE	100
YP_003815435. 101	
AGEWAENCYNLDIKKADGSECLPEAPEGVRGFPRCRYVHKVSGTGPCPEG	150
: . . . : : ... NP_066246.1 101	
AGEWAENCYNLEIKKPDGSECLPAAPDGIRGFPRCRYVHKVSGTGPCAGD	150
YP_003815435. 151	
YAFHKEGAFFLYDRLASTIIYRSTTFSEGVVAFLILPETKKDFFQSPPLH	200
: : . . : : : . . .	
NP_066246.1 151	
FAFHKEGAFFLYDRLASTVIYRGTTFAEGVVAFLILPQAKKDFSSHPLR	200
YP_003815435. 201	
EPANMTTDPSSYYHTVTLNYVADNFGTNMTNFLFQVDHLTYVQLEPRFTP	250
. . . . : : : : .	
NP_066246.1 201	
EPVNATEDPSSGYSTTIRYQATGFGTNETEYLFEVDNLTYVQLESRFTP	250
YP_003815435. 251	
QFLVQLNETIYTNGRRSNTTGTLIWKVNPTVDTGVGEWAFWENKKNFTKT	300
: : : : : . . : . : : . . :.	
NP_066246.1 251	
QFLQLNETIYTSGKRSNTTGKLIWKVNPEIDTTIGEWAFWETKKNLTRK	300
YP_003815435. 301	
LSSEELSVIFVPRAQDPGSNQKTKVTPTSFANNQTSKNHEDLVPEDPASV	350
:. : : :.... :.... :....	
NP_066246.1 301	
IRSEELSFTVVSNGAKNISGQSPARTSSDPGTNTTTEDHKIMASENSSAM	350
YP_003815435. 351 VQVRDLQRENTVP-----TPPPDTVPTTLIPDTMEEQTTSH----	
YE 388	
.... .. . :.. :..: .	
NP_066246.1 351	
VQVHSQGREAAVSHLTTLATISTSPQSLTTKPGPDNSTHNTVPYKLDISE	400
YP_003815435. 389	
PPNISRNHQERNNTAHPETLANNPPDNTTPSTPPQDGERTSSHHTPSPRP	438
..... :..: :.. :..: :..... :..	
NP_066246.1 401 ATQVEQHHRRTDN-----	
DSTASDTPSATTAAGPPKAENTNTSKSTDFLDP 446	

[illegible]

YP_003815435. 488
GAANLLTGSRRTRREITLRTQAKCNPNLHYWTTODEGAAIGLAWIPYFGP 537

YP_003815435. 538
AAEGIYTEGIMHNONGLICGLROLANETTOALQLFLRATTELRTFSILNR 587

YP_003815435. 588
KAIDFLLQRWGGTCHILGPDCCIEPHDWTKNITDKIDQIIHDFIDKPLPD 637

YP_003815435. 638 QTDNDNWWTGWRQWVPAGIGITGVIIAVIALLCICKFL 675

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