```
S1  MDWTLSGGVPCVSLISLGTLYQDKYYISDECLKCLGEIYHKLISEDPSLRSLRRSLAFMDILNKDFIPLLLNSKD
S2  MDWTLSGGVPCVSLISLGTLYEDKYYISDDCLECLGEIEKKLSSEDSSTRSMRRAFGFMDVLNKDFIPILLWSKE


S1  EQAIFRETIKVLVEFTIPVECLLKDTANSSPLSLHVFHDLTQLMYNVKEAFLDPRPIRAIIEHFTHTIEKQPLSK
S2  KPAIFRAVVKILVELSVPVECLTSETPSKSPFSTYVLHDLTQLLHSIKEAFLDPRAVRSLIDHLNYTMDKKALLK


S1  EDCETVTCLLLLVRNILHAPERPPRRDD..VGEGNQEVLPTATTYSHA.....TNCSQQNKLLWNLFNQGFDRLL
S2  EDCDVINCLLLLVRNILHAPERPPRSMEEEAAATQEE..EETYYSHLHGPTTAGCSQQNQLLWNLFTQGFDRVL


S1  INVLSCPQKEEWTVPVVQLIALFYKDQHVESMQKLVGSWLDSASHS..DSDT.EDNESNTSPLNDSCISPQLLTS
S2  IHLLSSSQKEEWTVPIVQLIALFYKDQYVESMQKLLGSWLESTTTSNSDSDTDEDNESNTSPLNDACTSPQLLTS


S1  DPTSDSSDCVKKNGGKSTPTE....GSTEVSEPQSFDKKVGRKGAYKHYNSSSEK..SNHQSASSGIQSDHSSGN
S2  ....DSSDYAKKDAAKSSPPSPAGESVEEITETRPPEKKSTRKIASRHSVTVATRETCAMSTSSSGFHSSFSSD.


S1  FQQMSSSHSFGEMEKSTSSKES..LTRDSKRQHPSGCYKVTKKRNDTETAVD..QGNTSSSPDIGSSFHRLKIKL
S2  ...LASVQASIDLDQ.PPAKECLPLGKNVKRPHA.....ATKNWSDKALAADASGGTSSSSPDIEPAYNRPQMKH


S1  GSKQHLPGSPPEKEKRRKKLYKRSRSMVKKNQRGIMQYTPTEEDVSQLIKEFTLDFLLNGYNVLVGSLHQQLINK
S2  AGAMGSIGNPPEKEQRRKKLYKHSRSMGPKKLKRNSHYVPNEENVSQLIKEFTVDFLLHGYNTLVGTLHHQLIHG


S1  ETVSLDKSHFLWLISYFLRIASQLELDVKHLKDIFTVELLSHLTWEAVIETEQFGVASMIETVDLKPRMRRLHLG
S2  EAASLDKSHFLWLISYFIRIASQLEVDVKHLSEIFTVDLLSHLTWEAVMETELFAVASLVETSDLKPCLRRLHLG


S1  ITAIQEYLQALESYSRSTQLCPNDRETILAIREALPLIRDLRQVFLLQLRHFNPVIQSRHYLRDIITSNHVLLLT
S2  VTAIREYLQALETYSRLTHLCDEDRKTIMTIHSALPLIRDLRQVFVMQLRHFNPAIQSRHYLRDIITSNHVLILT


S1  VERAAQ..QFPNSKACFNMEQHLTQFCTETVIARYGTALEDFKTNGPFVNDCIMTILHHVGTDLGRADLLCVPVV
S2  IERAKAVPNMATSKGSFDIHEHLTQFCNKTIMNRYGTALEDFQTNGPFVNDCIMTILHHVGTGFGRVDLLCQPLI


S1  LRPFGKMWEEEFNMCDDWDDLIEFVVQKFLKNFDKNNLASESNENQ..EPES.......SCSMEGDQNPDCHNEP
S2  LRSFSKMWEEEFNMCDDWNDLIEFVVQKFLRNFNLRNETSRSGSKCSASPSQSIAVDSPQSAMETDQNSDA...T


S1  ENMTDAPSDLPHD...............NLPHEPTLP.......SLDSLKSQLIDSGFQKQLDWIQQSLLTLCSAR
S2  ENIADPPPPPSPPSSPSLALADATDAGDVGDPTFPTYESSLLTVESLKGQLMDSGFEKQLCWIQRSLLEMCSAR


S1  LGTYQGQEYKNPIACLSLKMNVSCPIVPWTDTEANALQSELFIFLLHRIGLLPANNVGLYPRIPREWDFNALYSV
S2  LGTFQGREYQYPIATLCLKMNVACPIVPWTDTEALGLKSEQFIYLLHRIGLLPANNGGLFPRIPCEWDCNALYTV


S1  ALFFGPIDQDDVDFDLARVKKLSLPIPNSPDDDTMGLNAHWNPAYLGPGPSTSFSAMPHHWLHWVEQSGGLLRSA
S2  ACFFGPVDETLVDFDLTRVKEVNLPIPQISDDQPLGLNVNWRPSYLGPGPSKYSSAMPHHWLHWVEQSGGLLRSA


S1  EVTSHIASSRSISNLSPRPMDSVSTTSSLEVHKTDSSEGEEMEGGPSEVLPIVPTPVADKSFLWPGTLSSEISSD
S2  EGTSQIPSSHSVCNFSLKPMDSVSTTSSLEVHKTDSSDNEEMEEEL...FNHVSAG......GTVSLISSDMSSD


S1  E
S2  E


X   non-conserved
X   similar
X   ≥ 50% conserved
X   ≥ 70% conserved
```

Figure 1: Podon leuckartii TIM

S1 - TRINITY DN1199 c0 g1 i5.p1 ORFtype complete len 1074
S2 - TRINITY DN3126 c0 g1 i30.p1 ORFtype complete len 1098