```
S1  MSVKSQSSIGSSKIKRNAPSTVSDDCHEAEYEMDEKGVIKRKSRNLSEKKRRDQFNILINELCSMVCTGKRKMDK
S2  ....................MTCLQISDGLDDEMDEKGVIKRKSRNLSEKKRRDQFNVLINELCSMVGTGKRKMDK

S1  SAVLKTAISFIRNHNQTTIQSQSKEVPEDWKPSFLSNEEFTHLMLEALDEFIIVFSASGKILYVSENITCLLGHA
S2  SAVLKTAISCIRNHNQTTVQSHNQEVPEDWKPSFLSNEEFTHLMLEALDEFIIVFSTSGKIFYVSENITCLLGHA

S1  PSNLIGSSIFDLVWEKERDVIQSLLKSWAGEEMNHSGKDNHTSLSCHLRRGNISDTSPDE..NNYELVFFSGYYR
S2  PSDLIGSTIFDLIWDGERSIIQSLLKSWADDEINGSAKEIHTGLRCHLRRGNINDASQDEYSNKYELVNFSGYYR

S1  MQGNPDASRVTMSSWGDDSKESTNCADALSQHNGLVFVASARLQTPQLLVEMSIVDVSKSEFTSRHSLEWKFLFL
S2  MQGNPEEVRKSLSAWGEDSKESTSGADALSQRNGLVFVASARLQTPQLLVEMSIVDVSKSEFTSRHSLEWKFLFL

S1  DHRGPPIIGYLPFEVLGTSGYDYYHIDDLEKVSECHETLMQKGEVTSCCYRFLTKGQQWVWLKTKYYITYHQWYS
S2  DHRGSPIIGYLPFEVLGTSGYDYYHIDDLQKVSECHEVLMQKGEVTSCCYRFLTKGQQWIWLKTKYYITYHQWYS

S1  KPEFIVCSHRVLSYNEVMGHQLVKLENEDTVQDRNTDDDIPASIIMNSKAKPEEQGRSSHDKLRKPTSHSSVKDR
S2  KPEFIVCSHRVLSYNEVTGHQQVKLEDEEPVQDRNTDEDIPVPIIVSNNLKSENHTH.SAQKIGKPTSHSPGKVR

S1  RLSSEDDSYSSRNVRKQKENGRPRSNSSPKVVSQRNRSHQSQRAPANVSEPNSPISKTPLLRQPYLAPGTESASS
S2  RSSNKEES.........CYNGRPRSSS..NVESNRNRFPHTPRPTSNISEPNSPSSKTPIRRPQYLPPANESVSS

S1  QHSS.......RVGAGFSDTGSVSSAGSFQSAASQHSLQSDQSMHSFHSQQSHHSMQSVHNQQTHEVPMRSAYQP
S2  HHSSRQASGSSRVGTVFSDTGSVSSTGSFQSAASQHSRLSDQSMHSFHSQQSHHSMQSVQNHQTH....RSSYQP

S1  GYGSSMNAGQQHLYEETPNYPPHPPHFSIMNYGQPKHPREFLNGP..SDVETYLSTPKSLAENASGHQFLQPRVS
S2  GYSSSMNAYQQPANEETTR.SLHQSHMPTVNYGLHTNSTEFPNNPRTSDVETYLSSPKSPPENSTGHQFLQPRVS

S1  SGTAARRNAPGTAECGNLPTGNSLYPIGDSSNRAFAYLT..DEESPNPARQ..GVAVHQRLLEGFPVVPLPGFVA
S2  SGNTSRRNISGTASA........TSSIGDSSNESVTYQPVYNADPSNLVHQEIALPVHQRILEGLPVVTLPGLVA

S1  HEVSQIQIISFHVMFLFVHLQPAMMSAAQKELHEQLKEKHYQLQRQIASQQNELRRISEQLILSQYGAWNPTVIK
S2  RE.................PVMMTAAQKQFHEQLKVKHYQLQRQIAAQQNELRRVSEQMLLNQYGAWGPTVLK

S1  MAVPCTESNGAG................LTATDAPSGFSQGAFQFGQPG..PIAISTSTPILVHSSEFQRYTANSE
S2  MAVPYSESNGTTSNGPHVLSAGGLVTCLTTDEASNSLSQVYPQFGGPTTVPITISPGTPILVSNTDFQRQSPNVE

S1  PISITSDSSQVPMRTVQQQENLVQLSQQDIQMLLAQNLL..............
S2  ATSVTGDCSQVLTRTAQQQENLVQLSQQDIQMLLAQNLLQDNQQSSTEYLS
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☒ non-conserved
☒ similar
☒ ≥ 50% conserved
☒ ≥ 70% conserved

Figure 1: Podon leuckartii CLK
S1 - TRINITY DN5164 c0 g1 i42.p1 ORFtype complete len 907
S2 - TRINITY DN5164 c0 g2 i1.p1 ORFtype complete len 888