```
Xsp1132/690-821                                                   ERDVLLFASNGKTVRFSE-----RPKDDEADDAVVDDTGADESAAADDDVAGEEGDDARGARRKSRGGVKPTGRSSRGVRGIRLAKSEYYVSLIVAEPAVGQDE--DADD-VDAAADTEADAEARNGDEAD----AYILTATEN
Xsp4393/690-821                                                   ERDVLLFASNGKTVRFSE-----RPKDDETDDAAVDEAAADDGAVADDEAGGEEGDDARGARRKSRGGVKPTGRSSRGVRGIRLAKSEYYVSLIVAEPAVGQDE--DAED-VDAAADTEVEAEARNGDEAD----AYILTATEN
CBA16221.Xanthomonas_albilineans/690-821                          ERDVLLFASNGKTVRFSE-----RPKDEEVDEVAVDEAAADDALAADDEAAGEDGDETRGARRKSRGGVKPTGRSSRGVRGIRLAKSEYYVSLIVAEPAEGQDE--DADD-ADLAQEAEADAQTRTADDAD----AYILTATEN
YP_003376211.Xanthomonas_albilineans/690-821                      ERDVLLFASNGKTVRFSE-----RPKDEEVDEVAVDEAAADDALAADDEAAGEDGDETRGARRKSRGGVKPTGRSSRGVRGIRLAKSEYYVSLIVAEPAEGQDE--DADD-ADLAQEAEADAQTRTADDAD----AYILTATEN
ABY87166.Xanthomonas_albilineans/690-821                          ERDVLLFASNGKTVRFSE-----RPKDEEADEVAVDEAAADDALAADDEATGEDGDETRGARRKSRGGVKPTGRSSRGVRGIRLAKSEYYVSLIVAEPAEGQDE--DADD-ADLAQEAEADAQTRTADDAD----AYILTATEN
YP_201045.Xanthomonas_oryzae_pv_oryzae_KACC10331/690-784          DRDVLLFASNGKTVRFGE----------------------------------------------STVRSMGRTATGVRGIRLTKGEEVVSLIVAERAGGADEEIEADD-VDDVVETTDGAETAVIEVADDGNVAYILTATEN
ZP_02242791.Xanthomonas_oryzae_pv_oryzicola_BLS256/690-784        DRDVLLFASNGKTVRFGE----------------------------------------------STVRSMGRTATGVRGIRLTKGEEVVSLIVAERAGGADEEIEADD-VDDVVETTDGAETAVIEVADDGNVAYILTATEN
YP_363403.Xanthomonas_campestris_pv_vesicatoria_str_85_10/690-784 DRDVLLFASNGKTVRFGE----------------------------------------------STVRSMGRTATGVRGIRLTKGEEVVSLIVAERAGGVEEEIEGEE-VDDVVEATDGGESAVIEVADDGNVAYILTATEN
ZP_06704976.Xanthomonas_fuscans_subsp_aurantifolii_str_ICPB_11122/690-784 DRDVLLFASNGKTVRFGE----------------------------------------STVRSMGRTATGVRGIRLTKGEEVVSLIVAERAGGVEEEIEGDE-VDDVVEATDGSESAVIEVADDGNVAYILTATEN
NP_641963.Xanthomonas_axonopodis_pv_citri_str_306/690-784         DRDVLLFASNGKTVRFGE----------------------------------------------STVRSMGRTATGVRGIRLTKGEEVVSLIVAERAGGVEEEIEGDE-VDDVVEATDGGESAVIEVADDGNVAYILTATEN
ZP_06484730.Xanthomonas_campestris_pv_vasculorum_NCPPB702/690-784 DRDVLLFASNGKTVRFGE----------------------------------------------STVRSMGRTATGVRGIRLTKGEEVVSLIVAERAGGVEEEIEADD-VDDVVETTDGAEAAVIEVADDGNVAYILTATEN
NP_636945.Xanthomonas_campestris_pv_campestris_str_ATCC_33913/690-784 DRDVLLFASNGKTVRFGE----------------------------------------------STVRSMGRTATGVRGIRLAKGEEVVSLIVSERAGGVEDEVEDES-AEEVVETTDGAEPAVIDVADNGDVAYILTATEN
NP_299829.Xylella_fastidiosa_9a5c/690-784                         ERDVLLFASNGKTVRFSE----------------------------------------------NTVRSMGRTATGVRGIKLTEGEEVVSLIIAEPATGVDMLEEAEETADDDIQTANTADSVHIDPTQD-DILCILTATEN
ZP_00651473.Xylella_fastidiosa_Dixon/690-784                      ERDVLLFASNGKTVRFSE----------------------------------------------NTVRSMGRTATGVRGIKLTEGEEVVSLIIAEPATGVDMLEEAEETADDDIQTANTADSVHIDPTQD-DILCILTATEN
NP_780116.Xylella_fastidiosa_Temecula1/690-784                    ERDVLLFASNGKTVRFSE----------------------------------------------NTVRSMGRTATGVRGIKLTEGEEVVSLIIAEPATGVDMLEEAEETADDDIQTANTAESVHIDPTQD-DILCILTATEN
ZP_00680440.Xylella_fastidiosa_Ann_1/690-784                      ERDVLLFASNGKTVRFSE----------------------------------------------NTVRSMGRTATGVRGIKLTEGEEVVSLIIAEPATGVDMLEEAEETADDDIQTANTADSVHIGPTQD-DILCILTATEN
ZP_05133559.Stenotrophomonas_sp_SKA14/690-781                     ERDILLFASNGKTVRFGE----------------------------------------------DKVRSMGRTATGVRGIKMPAGEEVVSLIVAESAGGIED--ENED-DNGVEEIAANGD-AVIDGADDASVQYILTATEN
YP_001972873.Stenotrophomonas_maltophilia_K279a/690-781           QRDILLFASNGKTVRFGE----------------------------------------------DKVRSMGRTATGVRGIKMPAGEEVVSLIVAESAGGIED--ENED-DSGVEEAAANGD-AVIEGADDASVQYILTATEN
YP_002028961.Stenotrophomonas_maltophilia_R551_3/690-781          ERDILLFASNGKTVRFGE----------------------------------------------DKVRSMGRTATGVRGIKMPAGEEVVSLIVAESAGGSED--ENED-DNGVEETAANGD-AVIDGADDASVQYILTATEN
ZP_04962496.Vibrio_cholerae_AM_19226/690-774                      ESEIMLFSKFGKVVRFKE----------------------SEETAVVDENGQPVLDENGQPEIKFKGVRPMGRTAAGVRGMKLADGDQVVSLIVPKTE-GD----------------------------------VLTVTEN
ZP_01955901.Vibrio_cholerae_MZO_3/690-774                         ESEIMLFSKFGKVVRFKE----------------------SEETAVVDENGQPVLDENGQPEIKFKGVRPMGRTAAGVRGMKLADGDQVVSLIVPKTE-GD----------------------------------VLTVTEN
ZP_04410790.Vibrio_cholerae_TM_11079_80/690-774                   ESEIMLFSKFGKVVRFKE----------------------SEETAVVDENGQPVLDENGQPEIKFKGVRPMGRTAAGVRGMKLADGDQVVSLIVPKTE-GD----------------------------------VLTVTEN
NP_230903.Vibrio_cholerae_O1_biovar_El_Tor_str_N16961/690-774     ESEIMLFSKFGKVVRFKE----------------------SEETAVVDENGQPVLDENGQPEIKFKGVRPMGRTAAGVRGMKLADGDQVVSLIVPKTE-GD----------------------------------VLTVTEN
ZP_04400652.Vibrio_cholerae_B33/690-774                           ESEIMLFSKFGKVVRFKE----------------------SEETAVVDENGQPVLDENGQPEIKFKGVRPMGRTAAGVRGMKLADGDQVVSLIVPKTE-GD----------------------------------VLTVTEN
ZP_05419603.Vibrio_cholera_CIRS_101/690-774                       ESEIMLFSKFGKVVRFKE----------------------SEETAVVDENGQPVLDENGQPEIKFKGVRPMGRTAAGVRGMKLADGDQVVSLIVPKTE-GD----------------------------------VLTVTEN
ZP_01979964.Vibrio_cholerae_MZO_2/690-774                         ESEIMLFSKFGKVVRFKE----------------------SEETAVVDENGQPVLDENGQPEIKFKGVRPMGRTAAGVRGMKLADGDQVVSLIVPKTE-GD----------------------------------VLTVTEN
ZP_01948050.Vibrio_cholerae_1587/690-774                          ESEIMLFSKFGKVVRFKE----------------------SEETAVVDENGQPVLDENGQPEIKFKGVRPMGRTAAGVRGMKLADGDQVVSLIVPKTE-GD----------------------------------VLTVTEN
ZP_04405090.Vibrio_cholerae_TMA_21/690-774                        ESEIMLFSKFGKVVRFKE----------------------SEETAVVDENGQPVLDENGQPEIKFKGVRPMGRTAAGVRGMKLADGDQVVSLIVPKTE-GD----------------------------------VLTVTEN
ZP_05715247.Vibrio_mimicus_VM573/690-774                          ESEIMLFSKFGKVVRFKE----------------------SEETAVVDENGQPVLDENGQPEIKFKGVRPMGRTAAGVRGMKLADGDQVVSLIVPKAE-GD----------------------------------VLTVTEN
ZP_05719378.Vibrio_mimicus_VM603/690-774                          ESEIMLFSKFGKVVRFKE----------------------SEETAVVDENGQPVLDENGQPEIKFKGVRPMGRTAAGVRGMKLADGDQVVSLIVPKAE-GD----------------------------------VLTVTEN
ZP_06078960.Vibrio_sp_RC586/690-774                               ESDIMLFSKFGKVVRFKE----------------------SEETAVVDENGQPVLDENGQPEIKFKGVRPMGRTAAGVRGMKLADGDQVVSLIVPKAE-GD----------------------------------VLTVTEN
ZP_05925312.Vibrio_sp_RC341/690-760                               ESDIMLFSKSGKVVRFNE----------------------------------KPIEDEEGNTK---GGVRPMGRTAAGVRGIKLVEGDQVVSLIVPKND-GD----------------------------------ILTVTEN
ZP_02197384.Vibrio_sp_AND4/690-774                                DSEIMLFSKAGKVVRFKE----------------------AEEIPVLDEQGKPVLDENGQPEIKFKGVRPMGRTASGVRGMKLAENDQVVSLIVPSNE-GD----------------------------------ILTVTQN
ZP_05881832.Vibrio_metschnikovii_CIP_69_14/690-760                ESDIMLFSKSGKVVRFNE----------------------------------KPIVDDEGNVK---GGVRPMGRTASGVRGMKLVKGDQVVSLIVPKTD-GD----------------------------------ILTVTEN
ZP_01237041.Vibrio_angustum_S14/690-760                           DCDIMLFSAFGKVVRFYE----------------------------------SPVIDAEGNAK---GGVRGMGRTAAGVRGIKLAEGDKVISLIVPHND-GD----------------------------------VLTVTEN
ZP_01160577.Photobacterium_sp_SKA34/690-760                       DCDIMLFSAFGKVVRFYE----------------------------------SPVIDAEGNAK---GGVRGMGRTAAGVRGIKLAEGDKVISLIVPHND-GD----------------------------------VLTVTEN
YP_927606.Shewanella_amazonensis_SB2B/690-774                     SSEIMLFSDAGKVVRFKE----------------------GEEVAVVDENGNPVLDEEGKPQINFKGVRPMGRGATGVRGIALEEGQRVVSLIVPKDD-SA----------------------------------ILTVTAN
YP_001554832.Shewanella_baltica_OS195/690-769                     DDEIMLFSNEGKVVRFGE-----------------KVRDSETGEVKTDPETGEEVL-----------SLRPMGRTATGVRGIRLEEGQKVVSLIVPKGD-GA----------------------------------ILTVTEN
YP_001050432.Shewanella_baltica_OS155/690-769                     DDEIMLFSNEGKVVRFGE-----------------KVRDSETGEVKTDPETGEEVL-----------SLRPMGRTATGVRGIRLEEGQKVVSLIVPKGD-GA----------------------------------ILTVTEN
YP_963331.Shewanella_sp_W3_18_1/690-769                           DDEIMLFSNEGKVVRFGE-----------------KVRDSETGEVKTDPETGEEVL-----------SLRPMGRTATGVRGIRLEEGQKVVSLIVPKGD-GA----------------------------------ILTVTEN
YP_734050.Shewanella_sp_MR_4/716-800                              DDEIMLFSNEGKVVRFKE----------------------GEEVSVLDENGNPVLDEEGNPQINFKGVRPMGRGATGVRGIKLEEGQKVVSLIVPKGD-GA----------------------------------ILTVTEN
YP_738104.Shewanella_sp_MR_7/716-800                              DDEIMLFSNEGKVVRFKE----------------------GEEVAVLDENGNPVLDEEGNPQINFKGVRPMGRGATGVRGIKLEEGQKVVSLIVPKGD-GA----------------------------------ILTVTEN
YP_869609.Shewanella_sp_ANA_3/690-774                             DDEIMLFSNEGKVVRFNE----------------------GEEVAVLDENGNAVLDEEGNPQINFKGVRPMGRGATGVRGIKLEEGQRVVSLIVPKGD-GA----------------------------------ILTVTEN
YP_562954.Shewanella_denitrificans_OS217/690-769                  SDDIMLFSNEGKVVRFNE-----------------KARDSETGEVKIDAETGEEII-----------ALRPMGRTATGVRGIKLEDGQKVVSLIVPKGD-GA----------------------------------ILTVTEN
YP_002311810.Shewanella_piezotolerans_WP3/690-769                 NDDIMLFSNEGKVVRFNE-----------------KARNAETGEVKIDPETGEEVI-----------ALRAMGRTATGVRGIKLEDGQTVVSLIVPKED-GA----------------------------------ILTVTEN
ZP_02156186.Shewanella_benthica_KT99/690-769                      KSDIMLFSDAGKVVRFNE-----------------MVRDSETGLVKLDAETNEELV-----------ALRPMGRTATGVRGIRLEDGQKVVSLIVPKAD-GA----------------------------------ILTITEN
ZP_04716873.Alteromonas_macleodii_ATCC_27126/690-769              DDDIMLFSDAGKVVRFNE-----------------KLRDSETGEVKRDPETGEELL-----------ALRPMGRTATGVRGIRLQDGQKVVSLIVPKGD-GP----------------------------------ILTATEN
YP_662040.Pseudoalteromonas_atlantica_T6c/690-769                 SSDIMLFSDAGKVVRFNE-----------------KARDSETGAVKIDPETGEEIL-----------ALRPMGRTATGVRGIRLQDGQKVVSLIVPQGD-GA----------------------------------ILTATEN
ZP_01614517.Alteromonadales_bacterium_TW_7/692-768                TNEIMLFTDAGKVVRFKE----------------------AEESAVVDEN--------GNPEIRFKGVRPMGRTATGVRGIKMTDEQRVVSLIVPKTD-GA----------------------------------ILTVTEN
YP_339939.Pseudoalteromonas_haloplanktis_TAC125/692-776           SNEIMLFTDAGKVVRFKE----------------------AEETTVVDENGNPVLDEEGNPEIRFKGVRPMGRTATGVRGIKMPEGQRVVSLIVPKTD-GA----------------------------------ILTVTEN
ZP_01215928.Psychromonas_sp_CNPT3/691-775                         ENEIMIFSDAGKVVRFKE----------------------AEETLVVDEQGNPVLDENGVQEIKFKGVRPMGRTATGVRGIKLKEGEKAVSLIVPNAT-GH----------------------------------ILTCTEN
YP_856853.Aeromonas_hydrophila_subsp_hydrophila_ATCC_7966/691-788 SNEIMLFSDAGKVVRFAEGSGRADA---DATDEVDTDD----DAGNDDDGSDNGEG---TESKGTFKGVRPMGRTAAGVRGIKLGAGDKVVSLIVPRGD-GA----------------------------------ILTATEN
YP_001141770.Aeromonas_salmonicida_subsp_salmonicida_A449/691-798 SNEIMLFSDAGKVVRFNEGSGRADAADADVSDDVDGDDESVIDAGNDDDGSDNGEGSESTESKGTFKGVRPMGRTAGGVRGIRLLNGDKVVSLIVPRGE-GA----------------------------------ILTATEN
YP_003466665.Xenorhabdus_bovienii_SS_2004/691-763                 SNEVMLFSAKGKVVRFLE----------------------------------EDEETLEDGTIRVKGVRAMGRTAAGVRGIKLSAGDKVVSLIIPRGE-GE----------------------------------ILTVTEN
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Multiple sequence alignment of partial gyrase A proteins from *Xanthomonas albilineans* and other gamma-proteobacteria. The 43 amino acid insert, which was previously reported to be unique to *X. albilineans*, is highlighted in yellow.