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Supplementary Files

Supplementary File 1 : List of all hypothetical proteins from *Aliarcobacter butzleri* BNI-3166

>WP_004509091.1 hypothetical protein [*Aliarcobacter butzleri*]
MQVSNSTSQALNAFKQNSNSGVNSSTTTKQPETKEKSLEEIVNDSATKVTISMNAQYIL
FEMNASNVTKTNSLAQFGLTGLTDQQNDVLSFLNGGTS DGLTSDLGYQGKPIQLSQ
DEATQLVSEDGFFGVTQTSDRVAGFVLSFSGDNLDILQKREGIVKGFEEAEKLFGGQ
LPEISYKTQERTLALIDEKIKSLK GEE

>WP_004509184.1 hypothetical protein [*Aliarcobacter butzleri*]
MIKNSLDNPIFLLTILILAVISNLIASVHFLLVLFGGIIFTAFYRTLKRYYYLFFLVIVAFLFIEI
NSGLKPFSLSLLSFFIYIFIPRYESNSFSSLVYVIFFYLGLTIMWFLSFGLDERIIFALIINLFI
DLLFFGVFL

>WP_004509199.1 hypothetical protein [*Aliarcobacter butzleri*]
MNFENWVEMDLPILSFSSNAKILYSNSEAQFLLNRIKPKEIFDLALTYAPKTFGALTSY
IDLTMQNYTFYAITVMYENDEEIHVKLYKSAMVKKETNLNIKNINTTNIFTLVDLAISTSKIK
SNINFTKKYDPSIPEFKLDANSFIKTLNQVFEAFSNETKNVSCSILLKVGEHIKIDEKKYSL
ISVNISSYDKNSDFSINIKDSNSFIITCDRNQVVIDLPLVL

>WP_004509297.1 hypothetical protein [*Aliarcobacter butzleri*]
MVRVFFICSLFIMFLFAKDEKNIYETNCVKCHSRLPVSIDKYFYRYLLEYSSERAVKKAM
FDFLKNPSEETTIMPESFIKRFVKKKTKLSDEELNSALDKYWEEYKVSGKLK

>WP_004509394.1 hypothetical protein [*Aliarcobacter butzleri*]
MIVSIDKNYLFNIFGVNNFSSLETIIDSMAPSLVEYHLSSFCEDNSDTIYFNKRDVEKSFL
AGDYTLYLDYSENLYLELIESDIDEMTQSFV

>WP_004509513.1 hypothetical protein [*Aliarcobacter butzleri*]
MEELIVSKEELIYLFESKTLEDTGKGWLLEGEFFVDIIALHEVEPKFLSDISNAKFYKIVLK
KGK

>WP_004509575.1 hypothetical protein [*Aliarcobacter butzleri*]
MFLKDEWTQEELFRNKKILEKEGVKVVVIDTILKPLETITITYNPNYEMNNYPKNTVFVVFY
CDTGKTTKERIGYKKKFPNYKCVSLKGGRAYFRPNFQLSDDE

>WP_004509610.1 hypothetical protein [*Aliarcobacter butzleri*]
MNKIKELEKILKTDVLIQAEIDALEKLIAKKTSTDLENELEYMLDIKKFYNEALALIEKKGK
LTQEEATNILLDLEDMRADDDEI

>WP_004509628.1 hypothetical protein [*Aliarcobacter butzleri*]
MTKKEVTFHINN MAYTLNIDEEVKGVLT KYLDLNNNNDTKDLLKAYLELT YEYRQFQKEV
EDITNKLIGL

>WP_004509629.1 hypothetical protein [*Aliarcobacter butzleri*]
MEILEILNNRIDNLLYDYEKLKLENIALQQEIEKLNENDQLIRNNQDMFLKIDSTLTLLKV
QK

>WP_004509630.1 hypothetical protein [*Aliarcobacter butzleri*]

MLLMKLQSKEKFSFLQLAHYLARIDNNFGKREEEIILEYCTEMGIENLDSFDMENFSLEN
ILKDFKSEASKRIVILELMILIHIDHNFNINEQILIEKISKSFGIDIKDVNDYSQWGKSVAMLY
EVAKIFINEEKVS

>WP_004509788.1 hypothetical protein [Aliarcobacter butzleri]

MSKNKGEPTLEKIDDYNGNESKQKRNVIRLVIVLLLVFVAVLTYLNQPTQNELKKVVEEKT
AIPAK

>WP_004509886.1 hypothetical protein [Aliarcobacter butzleri]

MSSLMNCPECNHKILSRLGTICPNCGYTVGYFNGTSKRKEYGKFFALTVFIPFISFITILF
AQLNKYTMIVGIAVFFYLAIKSSPFLFKSIFFTKFEKIFFWIVWTVLNSLILITIINILRKG

>WP_004510063.1 hypothetical protein [Aliarcobacter butzleri]

MPISRVDKDFLENELENLDNFSYKIDNDDNHIYVIFSIIILGENSNKELTFKLLNNILYLHSITY
GWKPVEKGSANKYFWIEVLK

>WP_004510111.1 hypothetical protein [Aliarcobacter butzleri]

MKLLKLLVASSIALGLSTSLMADAAKGQKFYIKLLKEPCGMDGAKFAVKHTQDEWKSIA
ESGKFEQEVIKLCPNVKAGDIKPNQKEIIDFLIEYASDSGNVPSC

>WP_004510113.1 hypothetical protein [Aliarcobacter butzleri]

MILNISKIKTESLLLFCSDLILSYKDKINLNESELDKDIVEEFNNIGNDMLKQILNVTFFPQNY
YIQNAKHRYKAVLNGYNFINNEISKNLKENETFNPSMLYFSLALWFKELNKESTSKEYI
YFILYPYFQVYDKFLVNMKDPFEKFLNIKMIELA EKVIYNFDKYNLR

>WP_004510162.1 hypothetical protein [Aliarcobacter butzleri]

MKNKKLFIINLFLISTIYAQEIDSVLRKPEPKYEDILKYNQNVKYEDILEYKEKTEEEKESD
YSFGFNLDINRELMTIEGFKIDVGTGKFKGIN

>WP_004510191.1 hypothetical protein [Aliarcobacter butzleri]

MKKIVLFIILSLFLILNFSACSSKTQEEIQNTQSNDISKLLKTIIEKEKEINELNKKLEICESK
VIK

>WP_004510196.1 hypothetical protein [Aliarcobacter butzleri]

MIKKLILIIALCVTSNASINDAVQNLLGASDYNTHRNLINHIFKNSSSFYKNGQIDYVKITQ
ELSNNNLLKLDLGGTKDIEVSFSFNTNAKSMKNINDILKAIGQQNFITQSEVVIEDQLK
WTIRLKTAAAINPLRLSQELQSTNSSIVDIKREGNLKWSYFIDSTNSTVYKTEDLINNKSL
SLKKPNKPYIIIEISNTSAISSNINNSWYPSIVFYDKDFKIIIEIVEKDSLHKNLVIDVPNTR
YIKIDDLYSANLQKQGISITKE

>WP_004510253.1 hypothetical protein [Aliarcobacter butzleri]

MKEFFETYNQHQEDIEYFLQESLKNIGGLSNHKKNDFKQLYKIFPSLELVYIIDKHTKIQT
SNNFYRYKIDENAKNKDRSHLISKLHFTDSNMAFSKPYISSATRSTCVTVTIKEENEIFFL
DFRIDILLQKLNLIENKPFHSITKGFYIAGFSMIVLSILTIFFSLYDFMLYIFSNHDLSEMI
FKPIISLTLSIAIFDLAKTILEQEVFFKSYSKNSRVETKILTKFLTTIIIALSIEALIVVFKIAINDY
VQMVNAFYLIAGIALILVSLTIFIYFSQKKYIQS

>WP_004510306.1 hypothetical protein [Aliarcobacter butzleri]

MSYEVKRLPKKTVIIIISLIVSIAIVIFLVQKTLKEQRFAEILGTLGHTNITELKIINKLNVEDVQ
TKLKS NVFKVFFDKDLNQTICIGFLHKEKDDLYSKDFDCK

>WP_004510348.1 hypothetical protein [Aliarcobacter butzleri]

MKIEFKKVPQTAKELLTQFNSVEIEGIFCRISSSLVKVEAVLKGNTAIDCCRCGVSEIVEV
NEELRLLSDGIYKGNEEFLVIEIENSLIDFDEIIESELNSIKSDYYICKNCLQNSDNFEKE
F

>WP_004510486.1 hypothetical protein [Aliarcobacter butzleri]

MIIIPQTKGGVKGSTVAMQVIAPYLYKKHGGKITYEIDDENNDSRSFTRTEIVDKRMLGT
NKITDLDELILMDDKHEVIVDVGGNKTSSLVLDEIKKVGSGFNVKWIPLGDGELDGKNAI
ATMKKIKKIEKNPEDNLIFALTRAISMDDEDYYNEQFINFFGHKYLDSSNSVICDFVKEPKYF
PVKNDKIITMSRYLGSTVWEMAYNNTDFAAKAMSAKEMGDIESARKYLFFRRIQTEAKD
YVLNTLNRIFCDLDKWIEIKK

>WP_004510585.1 hypothetical protein [Aliarcobacter butzleri]

MINEDRLLNEANSLFLQKRFEELFLYSQLSSNFPDNKEYPIYALFCDIASEDVSKALSLY
DYFTVIKDDSLDEAIRYVEDIVNAYDGDIDKMMEILKDLSTSTVESLDAIRYEDFKKLEIVR
GSFRIAFEDIMFSTKVAIENKDDFYDFVTKLIDNDFNSTAYSYLDFNEFYTYDKEIEKLY
KKLEEKLETNHR

>WP_004510782.1 hypothetical protein [Aliarcobacter butzleri]

MALPFLGLGAGAVVAYNKSCLKDKTSKILEKTKDGLLEEVKEKINSTKETIKEKFEKK
EKAQTKAKRKYVRKPKAKETK

>WP_004510804.1 hypothetical protein [Aliarcobacter butzleri]

MTIQKELEKLIKDEVLEIEDYIDDLFEIASKKDDENVKEELKHMQEMKKDFEDMLEDLG
NNEIDDEECKEIEIEIKEMLKED

>WP_004510810.1 hypothetical protein [Aliarcobacter butzleri]

MKYEELITQLCEVIKESENDAEQIFSNTEDIASIIEDLEIPLYKREKITTLISNIYGSLQHQL
YRQKIERVVNYVCEKNDIDKSQYNLAPSAKTIDKTEDSLSDEELEALIKMQMD

>WP_004510865.1 hypothetical protein [Aliarcobacter butzleri]

MFGWFIKKKQKAKRKITYVCKHCKLSCETCVTMFCYACYSNSGNPCPRCGKTNQMQV
EEKILTKEYVTPIKS

>WP_004510901.1 hypothetical protein [Aliarcobacter butzleri]

MNLAIYELRANDVSEEHIELIMDRVKNRLTEENIDKELVCLGYPKIFTVDYDDYDNYDYD
NYSPTNKGNYEEID

>WP_004510950.1 hypothetical protein [Aliarcobacter butzleri]

MELMQDAIQTHVYTIYFFLCIMLFNLYSVLSQKNFISLAKRLKFMTPLYHLTNAIVIYTGTI
VAFYAQHFSLTIALMIPASIFLLVIEIKRYKKMRVIKSEQIELQNDFYKYAKKIYIIEISVLIFVY
AISKVF

>WP_004510999.1 hypothetical protein [Aliarcobacter butzleri]

MKYILVSLLSVFLFTACSGKKYFEPEDTSSNIELNEKSIPATIKSFNKIGATLEDNKVITKN
GISQNELPEGFEFLNLTEDGRIIATNYIDKILIGNQERKVSEVVVAASLRNEKLALIYSNNS
MELIDINTNKTLPKEYLPISLANDTRITNPFFMGNLILFPSLNGRVIIIVSSVNNEAVRNISVD
PDSQFNIIYIGVIESNQTLIVASPNRVVVISPRDVISKEYDLRDIIVNNNDIYIATIDGQIIKL
NATLDQVAKKKYKYAKIHALAFSDSLYAVESQGFLINIDENFDKDVYDFSDNEERMIAI
GNKIYFGSDYITLP

>WP_004511036.1 hypothetical protein [Aliarcobacter butzleri]

MKNÑKLKELIQSQYNVNVAFYIHLKEYNNKVREDLEKRISVFFFSKGVWDKFDSEFGIE
KAGERKTDILGYFIFRSVEVEKLLKLFLEEFKSYENALKISCSIAKYEKTQEDFFELDV

>WP_004511078.1 hypothetical protein [Aliarcobacter butzleri]

MYKIIVQDRCSFCQKSDLKNNLEFDSKDDALLKAIEMKNMNNKFKCKKHIFEIQEMFNN
FIKFYKEEQKTYCCGNGCCM

>WP_004511228.1 hypothetical protein [Aliarcobacter butzleri]

MENIILSIITLGALFYLYKKIFKNNGCNCGKGSCKSNEK
>WP_004511311.1 hypothetical protein [Aliarcobacter butzleri]
MIEVIIENMNRNLINELKDSINLDIEDIKAQKQEELLKRNDKKLSIIENITNLKQDLNQELIKQL
QAGIDVNIYRSKVDFLETNLKELNELNKKLASIVLPVQQMYKELIADVAAKQGGQIFDIKA
>WP_004511314.1 hypothetical protein [Aliarcobacter butzleri]
MEIGRVAQIDNAKQNNIEKAQKVSTIEEKNTIQDEEYKKNNSNILPDTELNEVIIDNVRFG
YNKESKDFVVKVTRGEAEYKYPTEDMMKVKAFLLELEKQNR
>WP_004511316.1 hypothetical protein [Aliarcobacter butzleri]
MDFLISSILGILLLYFISSANVYRSMYKKMNEEKSIIEDMVKLES LIERYEKQVKIGTNTL
KTNQENLQVARDDLQALRLENINLKNKINDLQKRNEELFAQVNAIV
>WP_012012021.1 hypothetical protein [Aliarcobacter butzleri]
MTNSCQYCSKKIPIISKVFCSAECKESFFQKIAISVPKPFVKKLYFFCSEEQKEYEIKTFAQ
RHNWHEKLVTEKIKELFEEYYQCG
>WP_012012133.1 hypothetical protein [Aliarcobacter butzleri]
MNYKNSIEKFLEIFKRSNLSISKFASMINKDRRTVTSWIDSVTDIEPNKEVKDKICQIFRY
PDYIWEDGCGYGEFLKSITQIPQKEVRIIDEDYKGRLLKYIIEHEKNRRFVIQAQFPGPMY
RDSAVQKVYKNGTSADIEELKQERIDQMLRYDYDTTEWYSIKSILSFCFASIGNFFTREE
KIKILELIYELFNNNYNKKLFLFDSFSRKIYGMETTYISINVKQKILFFKSPIESVFIEIRNKS
LVERMHKYYSSPIEAPSHVNFLESVKIILQDALKYNNNIKQAYETINRETNYGELFYNN
LSVDLQKEVSLPKSGQKRN
>WP_012012323.1 hypothetical protein [Aliarcobacter butzleri]
MSIFALQSIAGGFLEDELQHFNKKFDDWCIQFNTYEEAINIAKTLENPENIDVVEITPLSY
PKYFFPNLQGTIYVTRQIENKIICVVEPFIGSSFRIAICDLKTKDVRLTQTHYKNIPSIESAF
ANFKDIILS

>WP_012012330.1 hypothetical protein [Aliarcobacter butzleri]
MTIEEQEIFFNKIKETILPLAINMQDEQIKKIIQTVEETNENLPTGFSAFLFEQIIHKYNRTI
K
>WP_012012479.1 hypothetical protein [Aliarcobacter butzleri]
MKDLTINTGTPRNVLGHVISGAIASAVVSSAINYKKVQSKQISRNDAIKDTVKRTSQGAIA
TGSAIATANYIGQNSWLKAVTALSIGAAGIYALEVLEEKIEQKYL TNENIEIEGE
>WP_012012483.1 hypothetical protein [Aliarcobacter butzleri]
MLNITVLTSVAKSALVGAVATKLVDTFVSTKINNKFEQNKWLRSTKLELFSKLTEEIIIVDL
ENFQAQIKEIKRTCAKIILLVNDRNLENKIEDYLNRLNKFSQNEKIDKNALNLV NKDMISYL
QKNIRL
>WP_012012715.1 hypothetical protein [Aliarcobacter butzleri]
MKSLKNIFAFLLPLLSMLITFTIYLLISNIVENYKSKISRDISIIIVATNPIKNISELAGIKVEKI
QTLPNDKIIENIKSNLSNNSVELLKQKLPNFYQIYLEIFPTSTELEVIKNTLLANKDIKKVEV
FYKNHNQIYLLLLILNSVSFILFFIITLFAIIIAKQIKLWFHEYRVKISILRLHGASILYSASSIL
NYALLSSFLSFLIAGIFLVFISNNLDVLFPLELQEIVDVKINLVVELIKLFLSFFISIFTIFGVL
LKYKISND
>WP_012012782.1 hypothetical protein [Aliarcobacter butzleri]
MKLSKIIDKIKKYLKDSLKESKDKVKEIEKLEEKKEKIKKEIKESEKEKEKEKLQKELD
AIIKLIEKSKILI
>WP_012012784.1 hypothetical protein [Aliarcobacter butzleri]

MFARYQKELNIVKVKLKAINFYLEEDKDYKATFGNGTIWKIDVVGKWYDEYCYITIRNES
FDESKTGKTGFPLWILMKIFGVNPNARTIDEKLNFLIEYKDKIFDEKFQYKKIYEEIEESIK
NKKE

>WP_012012985.1 hypothetical protein [Aliarcobacter butzleri]
MIKLNSQSSIAIVFAILFFALCLYFPKIYLRNNIYYTSKDINKLYAHYISLQEENTFLSQLE
DMKFKNQILDSLLFNPLQQIDQSKDLQED

>WP_012147610.1 hypothetical protein [Aliarcobacter butzleri]
MQLĒVSAEVILSQLGYSQNEASLKQAQKMIEVTQGFDKFAKHILSLNDHLKKNMAYVAL
SNTTNYLKVKCEESESEKEILEEFHDTVSHWASKYNVNLERLPNKPIYYILGTQN

>WP_012147905.1 hypothetical protein [Aliarcobacter butzleri]
MSAŠFINEPENFVPFLDLLKQLIRVPSVTGAEHSFLLYLKRELEEIGIKTQYYDGLLVAQG
NNPTKGILSAHIDRHGVICTGPNEFQFAAFLAKNRSDLRGNSLSEQTYQLIAKRYINQQV
LAYEPWSGSYLGIGQIKDAFMCEEINNLIFEIEGLSHLQPGTPIAFSDKLRKDDLISAQL
DNVISAIIIYLYQNGFQGTAFFTAQEEAGKSWRYVYEWFKKNNLSTNELLVLDTSFYDT
RDEADKQLVVLNRNKDVNAKFKSPILKQLKEFCHKNDIDFCKDTFIEEKNKIREENGLPIL
SLGSTELGRIVMESNGTIQGTTLQIPTTGYHTVEETASIKSVKAILHILSSLYIDKCLKK

>WP_012147952.1 hypothetical protein [Aliarcobacter butzleri]
MKKĀKFFKVGIVFSLLLFFCTNLNAENYILNDDKLIDDRAKEKINQIGDEVKSKLGVNIYY
AKSTLGLDDNIKTKEKIEIVKSNENQILQNLKAPYILMTIYVEENMVNLIFTEDFKNIIDKNE
ILDGYVVPLLASKDKNSLYAKVSAATLNGYAAIADTLADSKNIKLENSIGNSGKVSGETIWR
VFMYTLVVALLVYTYAVLRKRK

>WP_014469277.1 hypothetical protein [Aliarcobacter butzleri]
MVIĒRFSQNLINSGIFKIYIATGFFATLIFFVNSELSPIEMILGSILITIILKGLSNLMLSFM
VSSFLENKKAEFDFKYNEEKINILLNQLVAKEADEKLNKDSVNNDFFSAQNNDKTAQV
EAS

>WP_014469291.1 hypothetical protein [Aliarcobacter butzleri]
MNLĒDELKKRREQNFLSHKKKKREYYLKNKMKKEIDYEKELNDDNFKLKMKSIAQQKQ
YIDNRKESIVAKINDYKESKKAYYEQNKAKRLEYDKEYRERKKEELKEYRKKYYELMKE
NKLKKE

>WP_014469416.1 hypothetical protein [Aliarcobacter butzleri]
MKKMVIFALPILGAIMFSGCATILGGGNQQTISINSDKPMKGLVYEDGKGEQYFTTPAT
VNVDRRSKDIISSDNDEFSTKTQKSNVNGWFWGNILIGLLGSTTDMAGGAAWKYDE
TVNLSSK

>WP_020847189.1 hypothetical protein [Aliarcobacter butzleri]
MFKEKNVQSKVLEYIYTTSKQPILLKDMLVANRQFNNGMQVDPGKLGFRRLRSRAYFLY
IGIVLVILVPISELLTHKALAKVDSHISILGAMVITAIIFIGFNFFRDKMRDIMTKELIKKSWKLH
FPFFSYEDYSIKIDSIFEKAMKEEISKKDLERYILDKLTAN

>WP_020847250.1 hypothetical protein [Aliarcobacter butzleri]
MIEKLYKLKKNQTDQKLIQKATLEQEVDKIDSEVVFTQHKIDTATVDRFGAISDFLILAMH
KDTMRLHIQKLLNRKNSLLSQIANLVNEIVELQKESEQFKYILDEEKKEKFKKILAAEEEA
ASEYVQSKYIRG

>WP_020847373.1 hypothetical protein [Aliarcobacter butzleri]
MKSSKVLLGIVVLLLAILTTIIFKIIDSNNKVEEIEVENKEPQQSSIQDRRNALKEVFK

>WP_020847597.1 hypothetical protein [Aliarcobacter butzleri]

MKEFEKYFIIDEFEDGWGMENVESEEQLFDYCTEVLFIIPDDKIEELNMKDDELEIILADL
ESEDINDDWYVNULLKNAKES

>WP_020847879.1 hypothetical protein [Aliarcobacter butzleri]

MKKYMPIITVVIVVAIIVIFLSMSSSKQMVVLKEDNMSQVPLEIVLGKYQSDCGMIINSL
DYASQVVAPDGKTWFFHDHGGMVNWLKNKPKFDTAKIWWMSKDTKRYIDGRNAWYS
RTDETPMRSGFGAYEELKDGLISFEEVQLRVLRNETLANPAYRKELITK

>WP_020847880.1 hypothetical protein [Aliarcobacter butzleri]

MKRKKYFSFFGILSATTNRKLLSIGCRISSILSKMPEIIKQLLEKQLKPIKLYSTNNIK

>WP_020848019.1 hypothetical protein [Aliarcobacter butzleri]

MQNRIICQKCIYYFVTWEPKPHGCKSYGFKSRMIPSMVVKNSSGEDCKFFSPKNQAN
RS

>WP_020848321.1 hypothetical protein [Aliarcobacter butzleri]

MIKFLIPFLCTTIVFAESSADNNKKIEDTIQKSYNPNVDCLILEDENSIICKFEVIKDSQNE
QKIVINWVNPNGEISRTREMLIPAGDSSAYDFRYLDGRESKWKDFKIIYNEKEYSTSFEL
K

>WP_020848383.1 hypothetical protein [Aliarcobacter butzleri]

MIKKTVFLAILASSAFAHSAIMNCFDNGDGTITCEGGFSDGSSASGVYFIIEQNGKEIFE
TKMNENSEVTFKKPNGDFRILDAGEGHEVYIKSKDITQ

>WP_020848489.1 hypothetical protein [Aliarcobacter butzleri]

MIEILVITISNPLLIIGIYENKKLIKEYKLDGKTSVDLPTLFQKLLNHYNIKKIIVNTPGSFMAI
KVAYIFLKTVCLTKNIELNSVSGFEFNNNSPIKALGQKYFINETNNLKVDFLEKDCIICDFK
LPLCIEKYNFNKETLPIYNLPAV

>WP_020848726.1 hypothetical protein [Aliarcobacter butzleri]

MIKKLLLTIFLGVVAFANPLAVDSTVSELKIKDQFEKEHTLNANIKTILFASDKATSDMLRD
YLLPLSEKENILEKNNAVYIADISGMPSLISKYIALPKMKKYPFSILLDDTNKDNFTKEDG
KIIVYTLDNLKVITNITKISTPQELANIIK

>WP_041644687.1 hypothetical protein [Aliarcobacter butzleri]

MDNÑSSLRLIDANLNLRLREGIRVVEDIFRYVYNNKEVATKLNLRHLARTQNYELLETR
DVKNDVLRSEIKSEQNRDNLNSILIANFKRAQESARVLEEFTKLTSIKDSENFKYIRYELY
NLEIVLTKITSNSK

>WP_041644892.1 hypothetical protein [Aliarcobacter butzleri]

MKFDLEMQKEVAKIGMTATLGATVVTSMFMKNSLAKKTHVIAGVALCGFALWHHMLYQ
PKTSKCLKNSKEENLQAN

>WP_046991750.1 hypothetical protein [Aliarcobacter butzleri]

MILKLSFLSLILNCSLFAVTVLVSKTAIKYEEKIDSSNVIVKEVESINKACTPLTLQQLESNQ
FVTTHYINKNMIICDKDKVKSSENEGVVFNFGGVKIEKKGRIIFENNEFIRIKNLDGTIEQIY
KDGRLLK

>WP_046991778.1 hypothetical protein [Aliarcobacter butzleri]

MKNŞFSLLEIIITLISSIVIIYSTLFTKELSLERNYNQELEIDKINFLATKVFIEKNKYNISNLQ
FSNGNLYFENNLLLKDVKEFNITKTSKQITIYINFKDKIIQTWEFSL

>WP_046991942.1 hypothetical protein [Aliarcobacter butzleri]

MQVİISIAIFIVVVTVIIYKINDRFKREFIIFLLIIIFTTIGFIYYENSVDNFFPKMFKEKYEKEK
NTQIESLEAQLLNKVVSSKDKFIYKFTYLVKKDNKEFLCTMNNVEINKIQKEFIFKDFAN
LQEECIEK

>WP_046992870.1 hypothetical protein [Aliarcobacter butzleri]
MEIVLFRGTGEKIEVNTPKELKEILKYCNPLMMNFYKKQLPMLLEIKGFGESIEINKIGITR

>WP_046992878.1 hypothetical protein [Aliarcobacter butzleri]
MPKTIGELYDSILIKIEKAEESQSYQTGSGEQLVRGQLSTLYAERSRLLLEKIERYGRNYIE
GQNTAPTGDTAYASFV

>WP_046994187.1 hypothetical protein [Aliarcobacter butzleri]
MKLFDKYSVNGNFTNYSLESMLKDLNIDSKLINEIIIRNSISSLTKEFIEKLLKKTDESDNHIN
LILEFFLLADRMKPISCDKKTLTKLGLSERQIDEKRRARQLPFIQLSGGNETGRKIIVYD
PVEVTNYIHKDKVKVIA

>WP_046994194.1 hypothetical protein [Aliarcobacter butzleri]
MSDKSKLSIEIQLENDINVTSPVDFILNPKDKILLIALHQLKEKIENNKLDIEVLKC

>WP_046994252.1 hypothetical protein [Aliarcobacter butzleri]
MKKELIIFIVILIVLTMTMHYKEFINYPLTHLKNFPNSSAYGFGIFHPLVFASIIYVLSIPRLVI
KLFKRKNHEKSN

>WP_046994438.1 hypothetical protein [Aliarcobacter butzleri]
MKKSLVFATSIFTMSLLLTGCNDDKEKFELSENTIDKTYLLNKQNGELFYIDNKTMYKVV
TETETKNKIGEILNLEDTLEYSKISIKTKVYNDVYRNFNLQYLPLIVEINDEANPSQKIKK
DLSKVNFDWEWRKTILSLDKNYSLTLVFVDQDNFTVATKTIPLRNLTVNFKDGITYEGSFAI
DKSIATKINTLQYYYYFPEFNKIQ

>WP_046994440.1 hypothetical protein [Aliarcobacter butzleri]
MDKIKLKRKIFKLSNFITFKRKIYFLILCMILEPISLIFFGALYFNNLNLNETFLKLATYSNDVI
DAYVVIALGFGGFKFVFIDYWNK

>WP_046995285.1 hypothetical protein [Aliarcobacter butzleri]
MKKTIFILIFFISNIFAIDSDIQKAFVAVGIFHENETGENIQHVTSTTQDYNGTCYSKIVILGNY
NKNTNVEVRIGDSIGIYQSYIPISNKITKKIFAYELTFKHQNVVTQGYFEVKVNNKLYDSKVF
VK

>WP_046995322.1 hypothetical protein [Aliarcobacter butzleri]
MNYELLSKIAMKESDALKKEVAILQKRDELLNLEITNLKSMIEIEKEKTELREERNHLKNE
KNTLNAEKLLLEERNLSLEKEIISLKRDLDFLRKTTNMEIKIQQEKEKKEEIQKQTSFEFY
S

>WP_046996571.1 hypothetical protein [Aliarcobacter butzleri]
MIIIEIKDEFFTRLVNFMENENLALYNELKEIKPLDVNSLERARKIRTQRVKDLIKKAIQELEI
QNISPTKYQIHKKTKIAYITINKYFDEILEELKKR

>WP_046997080.1 hypothetical protein [Aliarcobacter butzleri]
MLKKFFNYLAPEASGKKIGLFRTLAAIFGGLIAYLGMTLVAFLLPMKVSQSGIISIMFNTF
AWACTATWIALSYTKLSALLKVLIPVIFSISLYILY

>WP_046997115.1 hypothetical protein [Aliarcobacter butzleri]
MKRNYWPLFFIGIFCFVFSMIIWTITKAVSVPTVEDRSFMKKYQDVDEHFNVMMESNQK
FLSKYNFEMYLNDKEFDLTTEEDIKYSQRVIEKYSENKNLLKIGQNNIKIVITDKITKEKKDV
KIDLIVSKTMTNDSDISISNDNFTNTNTNTFSSNFDIKEANNWIITGSFNVDDETIGYIYIKTNA
I

>WP_046997452.1 hypothetical protein [Aliarcobacter butzleri]
MNEÑEILIGVCGAHMSGLPLNWQLTDLEATFVKKCKTKKGYRLFLENKTPIRPGMIYD
SNVNSQLELEVWSMKVENFGKFMKQIASPLGIGTVFLEDESSVYGFLEVDYVKNKE
ITSLGSWRNFLCQQQQ

>WP_046997912.1 hypothetical protein [Aliarcobacter butzleri]
MFKILIFLFLISLFLVSCSTSKNNAFRYFDKAELEAKGIKATKKADIVKDKEVNVIFMATYLNQ
VDNMKDDTKTEDFLVFTYFSSLDSQNIEDNGYLFFLNENEPVSIEKIEKGNEKYKDLML
KNYWGNYYLVKFNNIEIDDDKKSFVLNLILQDQASNKVTLGFAK

>WP_046997949.1 hypothetical protein [Aliarcobacter butzleri]
MPFLKEEKEELLKVKYVGETVIKRFEQIGIDSLEKLSNSSVVEITDIVSDILGSSCWKNSP
QAKKAVFNAIEFARENQNAK

>WP_046998309.1 hypothetical protein [Aliarcobacter butzleri]
MIKDIIENPNYKELIEKQIQDIIVFLLDNNQEFSITANITPITFNPVLP EEIKSQLHKFSLFVLS
NYTYTTIEINEEFLSFEAGFGNENFGSVVKIPLHAIFQIIVEDSILYLNSIATVEKFNRLK
NSFNIFKNNPNNKRFN

>WP_050070995.1 hypothetical protein [Aliarcobacter butzleri]
MSLDLLIPFGILLILVIYLIYTRTKFEKNIVALYEDKFDNWKNSFVNIEKKSHKELVGLIFRK
DDKINIELLDENVQYLIRKKGKFEIKNIRDEKDE

>WP_050071141.1 hypothetical protein [Aliarcobacter butzleri]
MQIGNTTTILGTTSQNSSINIDENSSSSNEFGVLLNKTKEQKTEEEESLRKQLLDELNF
VAKTGFTKEELEEEIKKILEELAKQRAESGQTAQTPEEYIKNLKADLQYAVEKVTGKRMDF
NEDMLNMFVNSQNSSSQVLATTSTDEELRLIGDLKQKK

>WP_050071160.1 hypothetical protein [Aliarcobacter butzleri]
MKLE^YAGFRPIISQHGISFKRGKDDKFIYLPFAYEILNALNNDYDSTKNHSHSIKIEELNIE
KILKI^{ISSI}YSKIDTELDEKVKSYIKHLDEEEKEVENRTT^{LS}DIEKNIYLENLKLMRTYKIQR
AKNKIFYYYCVWAIVEI^{IK}KNKIRKIDLPFNEKFWHILKSIQSKLQSQNISSTIKVDELEGLK
IKFTVNIF

>WP_050071245.1 hypothetical protein [Aliarcobacter butzleri]
MKIIIFFLVPIFLFSSTLVKKYETGETFQFAEKDMLEEIKNHIENNRTQIENKLEEYKKVAKE
KVNNYKPADLKKLTPAIKNNTFYPDMTYTNPNNVYDNNGNIIYPKGFQFNPLDYQTLPY
KMIVIDGNSKAQLDWLVENNYIDNMKYMILLSDGNYQEVGEK^{LK}QPVFYAMPKITEKFN
LEHTPSVITQIGNKMEVKEICLSCKEEVKK

>WP_050071256.1 hypothetical protein [Aliarcobacter butzleri]
MSKN^{EGT}GTYEQTPLKLTFFDFIFNIEHSIKKYDNDLKHTINGKQEYVFKEDK^{FV}GESKI
KFSSKAKEVIEKNQEAYKQFVISLNIKFPNISI^{ESS}N^{TL}LHYKFRGINNV

>WP_050071373.1 hypothetical protein [Aliarcobacter butzleri]
MTY^{EE}WFLNQGKEHQIITKLKDYNINEI^{IDY}FKFENMVINEPNFCLLYKENKKCHNIENL
NCYLCACPYFRFNDKGLKKQENKILYSYCSIDSKNGSKFESENFIHHD^{CS}NCTIPHKEK
FIKKNFNKNWFEIMKDCRI

>WP_050071665.1 hypothetical protein [Aliarcobacter butzleri]
MGIKDKLKENS^{NK}LISIASENATKAFDYPKIKSQQLKDAINLKIREKAILSTKARLIENHKT
DDFSD^{ED}LEIIIADEERKIVDDLKTKSLVVALAALGLNFFV

>WP_050071839.1 hypothetical protein [Aliarcobacter butzleri]
MQR^LLILIFFIASEL^{CY}LLIAQTGIVEYFSSNLFLIAPLP^{IGG}VIGSLLVSYIKIKNKVSLFLVA
QLILSFMYPHYNLLTLFILGFVVGSMAPLIINEVKKTTFLELGLALSLSYVTGTMLFN^{YEV}S
QREIIAVTLTMITLFCSLFLNYMKEGEKLN^{TT}SHSLLMMILWVFLDSALFESLSRDLAVSI
WRGGFTFEIALFHVIGVFSALFFKIEKNQKELLI^{TL}FALS^{YLF}YFLREGFILSLIYPPVISY
NVVILQSIKKLDFRTISFYMIFIGWMASGAGLSIALANLIFFVPITLLFAIFR^{VMS}KEYLPNN
KEIKYV

>WP_050071893.1 hypothetical protein [Aliarcobacter butzleri]
MKEEYIYIHKHIKNVFMIGNYELEEVSILLISVVVVYIFQEQLKLGFMGLIYLYGLGMLWL
HELKATSVKSFKYHLAYKFGFRNSSKFPKSYIREFTGN

>WP_050071895.1 hypothetical protein [Aliarcobacter butzleri]
MKKFIIFLILLANSICLNANCIVPNIILKTVQITENETSNPYLIRTNEDVNTFYNIVNRFTYKK
QEDKNVIDCLNKENCTYITNSLIENNITNIDLGLHQINYKSYKYPAYAYFDKVVQSSINACSI
EDKIKMNKNKWSWEVLASYHSITPHLNRKYKEKLIKNIYIKLISQIQN

>WP_050071896.1 hypothetical protein [Aliarcobacter butzleri]
MIKDTKELIKKNLGINLKTFCIQNGFDLDTLNNLLSGKTKGNREGTNAYKIKQFLIEHGLF
TQENEKETVQIDTDNIKNPLLKNFFIVTFNKKFSTKTMKEFIKFTHKKVPAILDLYFDTTVQ
DYIKDKYFIEKNINAKDFSQFCFGTSDGSTKGSKAYFIKQKLIENGILPIISK

>WP_050071898.1 hypothetical protein [Aliarcobacter butzleri]
MAGIDFDELDDIEFNTFNDQDKKANFLNKRKKVIKGTSEEKTERIGLKFTP KYKQELEEY
KKSLGVRTFNALLYKLIELGKETHIQELQKLIKDD

>WP_050072122.1 hypothetical protein [Aliarcobacter butzleri]
MKELIKSLVPEASGKKIGLFRTLCAIFGGLIVAYLGMTLLIYMIPGKPGESIVVPLLNTM
AWAIVALWISLGYSKLSAILRVIPTLIFSILIAILYNI

>WP_080950644.1 hypothetical protein [Aliarcobacter butzleri]
MIQTEDIKIASFFSIIAHTPGRRLRVVNPKITQASGNITLSDIEDLPNKIDGIENIKINKIIASV
TIHYNPDIFEPKLWEDLVKNENIEELSILINKLAKEVI

>WP_123378119.1 hypothetical protein [Aliarcobacter butzleri]
MKKLFKISLILFTPIYLFHAHSLVLSLYDNNDGTISVVGFEFNTGESAAAGALVKLVAIHSGEILF
QQRLTDDDEMVAIPKIPYKVIDDGGEGHTQEKMGIAPQNGFEKVEEKELKTETKKEEK
PSRSLMQISSSPAFTISIVLAFVLLFATIFISIKNTNKLLKEIQK

>WP_151943039.1 hypothetical protein [Aliarcobacter butzleri]
MEYGMVSKLSQFTDNKALEVQKVQTSSQSAEIKNRQNLESIQEKSIEKSKESSNASQV
QNQKSATSQKYEVLLTNTNFGYVNSRDFVVKVERGKVENQYPTEQMMKMKAYIQNL
QQS

>WP_151944557.1 hypothetical protein [Aliarcobacter butzleri]
MKQLLTLFLVAFVFLGCNQQVQLKMPNQKSVPTKVKEDKTTVVVEEFISNDSIIKEEV
IDNSNNGSMNTVQPQADEETVAQQSININIDETRANVKLAFVYPSTLVSKYAKSSLSTIS
GYLSYKQANYNLIVVDSKNESYENINNAF SKLKEEGVTKVIALFTPALNNLNKIVTDDF
KVYLPLIEKKDSLENNDNLIFGSISYDDQLKLSYYSNGKNSTFYQETYLGTKLKNSYDF
VIGNSNLRKEISNDEKNFKNIVNDSRLRNSSLFLNTDLVKSSLILSQMTVYEINPNTILAT
QILFDPMLMVLQTERDRQNLIANSIGDVDSKLDKDEIATVGGNITFEWVDYSTLVGTNYLF
SNGNSSLISTKIENNQAVYTPRLFKSTDIGFLEIK

>WP_151945168.1 hypothetical protein [Aliarcobacter butzleri]
MLKNIFLLATIFILSGCIPKTTSPSIIERFSNLKEISTFDSCNTNFSYISQIDDIKYGKLFVEHIN
LNSDCKWNGGLARGYFISLFMDTIKAKSYKLVRLDFSNIEVNTYLVDDMYIINIVNQYKV
FEDIFIIDYKGFYTTNLVKKYDSNYTNIYLQKPRLD TNYSNSLVRMNFINSYFSKERESFA
N

>WP_151945571.1 hypothetical protein [Aliarcobacter butzleri]

MTKINPEIIFAKVFIFLDLCIFIYALVFQNKLLWLLNTQIAFISSLLITIASFVSYKKNIQNRLS
NFDYSKISKGEDRDKIDEIDDPYDLYTEYEEIPENELTAEKIKEIINDEKSKVKRNSVKNTI
FSASGFLSIYRIFGYIILIFGFFVLNNKIFMPIAFIIGLGIVPFGVLISKLIKK

>WP_151949059.1 hypothetical protein [Aliarcobacter butzleri]

MRKFLLSIIPIFLFAHKINFLDYENGNLFINSYFANAKGCINCKFEIKDKDGNLIFSDILNE
NGEYNYKTNIEELTVVDAGAGHIVSKEVKETIKDEKVEVNSNDEINKLQEENRQLKNHI
KVLLEEQLNYFEIFKVIFGLILIALIFIFLKRVKH

>WP_151950314.1 hypothetical protein [Aliarcobacter butzleri]

MQYFGEIQTKEYEEIFLTQSYMYFNEEGEEISVKEFKNLIKTTKDRKQNIIGTVFLYNPVVT
PMGFDSNKYLLEQDFEDFDKLIELKAENYITVFKQAMRESCKGKIVEIKNLFNLIERNIDA
STLLIKFNEDLERYNSAQNTEFDRDIMYLDAAFIPTGKVFVFCWGDKIKEKEFPYINEY
AKTLYENAIKLGKKVAVYVYKKEKTEQGSIEFLQFSNPSQNQKYKASISSAIKKSFEQFPPI
PTPYE

>WP_151950332.1 hypothetical protein [Aliarcobacter butzleri]

MGIEFSSKFKCTCNAQKKVERKTPNHILHLLLTIFLGSFTLGIGGIWILVWIGISMNASGR
WVCSTCGGKDFE

>WP_152017617.1 hypothetical protein [Aliarcobacter butzleri]

MSSLQYTSKEMFSSTELVRKSKNIFDKLNKKEIEKAIILRDGKPNITILLDFEYEEKIMTDYL
KLKGGKDTVEIPSIESEKNETVKSDKNISKKENIEDEDFQAALNKIDDLEFFTDSSSELKKDK
DETLKEFWDKD

>WP_152018419.1 hypothetical protein [Aliarcobacter butzleri]

MGLKRYIVSTVILAILLFGFLYSLELDYEISLFGYSQILPVSVWIILPFLFLAIATYLHLFFY
AACDFFKKWAVSKDHETMIEFINAQLLGKDSATKFRTKKFRELYAVLSQLNISVKSETFT
SLNEDLNKTVAAVQDINKGKFKSVKLNENSDLAKQNLLNKIEEQVDFAVDVIKKPENYS
FDVVKKAFLKVLSEKTMTTIKKLYKNIKLDKELAQKLFKDALNNEFGFTQEEILALVKEL
NFDKKDYLNLAKTYEKILNPDEIISIFEKLSSSENDEATTAYLHVLCFEMIDKLREVLANTQ
ENEFLPFKALLDLKDAGKKYNVETLSYK

>WP_152019012.1 hypothetical protein [Aliarcobacter butzleri]

MKKIFLGLAIVIIGAICLGLRSTVNSKIQSKVEELNKNGLVLSHEHSFDHYQTIGKKGKIEII
YDPKVASYLFSKIEDEDTKKSLEKQYNLLDRATKDRVFEGITFDYNFVMNNISSKLDLDL
YLTNLSQRRTMYKLEQTYSYAPQTNWLKPLLENKKIHLNIDENKNFKLDDINITIPNDSFITI
RGVHGTQNNIKVALFKIADVYDDSYTKGSLIDNLAFDYSSQKEKKSSKLDIENLEFIDYT
NVVSIKNLILDSQSLQDKDNISGNSKISFDELNIVKDNKLYLTSSSKNIGLNKTSLDIAFDKI
PYKKYEEMLSISDKDFLQKYDDFMKAVSQNGFQMTINGASNNFKIDENKYFNTLKFN
STFKMNQNFDSMNKIKSIKDIFEVVKATLDIDADSVKSLSSLLKDEEFKAIDIENNQKRFEI
ELKDDGLYFNSKKFLDQKDLEFSSLNTLGTSVLAENGKVVSSYELVDKNLLRVTFKYTT
NLENTAGGLAVSFPQLKDASKIKAHNTKSFDKIDYYKGGQEIYSGMLGKNVKAEYLMV
EGWDKNWTDTKQEKEFSLDIDISELKKDYSYLEINLRGGSLNENVATTSPKYSEIVPNE
SQSFTTDQQSYPVNIADIYLLDLKLDKK

>WP_152055841.1 hypothetical protein [Aliarcobacter butzleri]

MIKFVLILMFIIFQINLLCAEEKIDYIELDVMDKQHIIIEKSKNNFKIYTEENDDKMHQSFLKI
KTPIKNTGLIFFEDMEKDVGFDFLPILIPTEQKNKFQKVELPPIKQEGGSPFVSSVFYANI
DNDIEEELLIIIRWPQRHYDYSGETFYKVYVYDFIKNKDNSFTVQFKEDISKKLECSDIVLR
DGNKINDCNFEDAKGVKRYLRKLG

>WP_152057377.1 hypothetical protein [Aliarcobacter butzleri]

MKKIVFFLLVIGLVAFAGTGDAYGAKPVFDKVDAAALGDTYIGALLAMGFLWKGIGIYKE
TGDTNKALPQAGIGLAIGSITALASGIAGAILI

>WP_152058769.1 hypothetical protein [Aliarcobacter butzleri]

MKKVLLGTAVLMALLTGCTEEKKPAATTETKTETPAAEVKAPATEVKADEVKKEEVKAEATE
EKAKTEEATPATEEKAATTTTENK

>WP_152059044.1 hypothetical protein [Aliarcobacter butzleri]

MTNAETISKLNALTTLIKAYEELQEENSGLKGVSELEEKVLELELSNEDLEKDINQLK
GHTEEDKSNLSSILGKIENILNRKVETTSTNVSTNSFDFDSKEDEIKEEVVEEKKEEENIL
NLDSNSFANVLQQKEEKKEESNKLDLSRMSLLNGFNH

>WP_152059081.1 hypothetical protein [Aliarcobacter butzleri]

MNCPNCQNNTFYLLANDYIKCKKCAKKLSLKKLEKDKLIEKFCEDKNALETAKELDLNY
KTVKDRFDLLRRKIAIFLEEEYQNSIKDYSEYEEFYIKEREKNKKKSLSEAINIIGFYSN
GKVYTLMPKIGNRAFDIEDGFIQYLNWYKIHSQNSHQTKLNEFWKYIELNLKYYKGIEE
NFFFYLLKEYEFKFNKCNQITILNNIFLS

>WP_152060572.1 hypothetical protein [Aliarcobacter butzleri]

MLSVSDIENWLREHGINNYHISEDYVSVQGNVNLSEKLNKEKLPVKFDRIDGYFDMS
NNGLETLEGAPKTVLKDFNCSKNKLTSLFDCPTEVGEFDCSYNQLKNLSYGPKEVKGS
FNCSYNELTSIKASPRTVKGHFKNCDNKLVSLEGGPKNIDTYFDCSHNLLERLNGGPIA
VKQDYICNGNRLADLEGVADEIGGDLVTDIKLNIPSRDYDEEGQFYRYKGQEAITHIYKPIV
ALTNVEDIQAWLEKFDIKNATILSDNSVDVHGDVKLSNRLPNLSKLPINFNIVEGDFDISE
NELVSLEGSPVKVGGSFHAHKNELNSLRGGPKEVKGSFVILHNNITSLQNSPTIVKDDYI
CSHNPLRTLEGINTVQGYVFTGVYIPRLKQKYNKYGITYKYPGDAVMKYLDDEEYISLT
DEEKAFESTKKNLEKVIKMLNANTLTKEMITDTLLKNLTKYQLDQLKTKVLWIKNPPNE
DGSDYISEDIMKLAFEKEL

>WP_152633009.1 hypothetical protein [Aliarcobacter butzleri]

MKKAYTLLITIVLISTFSYLGILILETKALKNQNLNSQYLIQAKNHLNFFEDFVKDYDLKDI
THLQIEDELFDIYATKLIDSNVIDIFVKAKYYDISIHKQIIE

>WP_155400713.1 hypothetical protein [Aliarcobacter butzleri]

MNLKLDENNAKAFICNGREHVIINAEIIGNYIDVKFEDDTPLTIYNNE

>WP_157351287.1 hypothetical protein [Aliarcobacter butzleri]

MKKIAILLLSFNIFLFTGCSQNEPNIVFEPKLVCEVMSKSEQTQEVDIRVHKDDLVLVFA
RKQEELEEKINFYESQVDRYSALCKEQENKNFPRENETGDKI

>WP_157351546.1 hypothetical protein [Aliarcobacter butzleri]

MKEKRRILWPKSKCCLKFLDLEFLAKYGSIAIIIGSIAVQSLNIVENKNFELSFFSIIINLFF
LVVVLTKLEIIKIDSLEKYLDNLLKIMIFLLNFVAYLFANDLIQNYVYAPLSFLGAYFFFLLL
YKCSI

>WP_164758870.1 hypothetical protein [Aliarcobacter butzleri]

MIKFMLLTILIVFFQGCATWSGIKQDSNRWEATKDTSSDVYHSVKKSIHEATE

>WP_175406305.1 hypothetical protein [Aliarcobacter butzleri]

MIFIGLFFGIITIVISLNVYNHINSKIEDYLKTINCKDFIYSKGSYKAFCEDKLLEVKNNSFIL
DLENNQILEVDYKNIKKLEENENLHILTTNEDFKIQFKEKSDLEKFKEKLNKSKIIIEK

>WP_175531109.1 hypothetical protein [Aliarcobacter butzleri]

MNNIYNLLIISIKNIEKECDKHKNKDEYFLKKRVLKDVMAHLHEIRRKIQDNLDKIK

>WP_175531407.1 hypothetical protein [Aliarcobacter butzleri]

MAEPTTEEDLLQAKKIQDDANKKAKELKEKAKEIKQKNLATLGELTIKFLQNEISLEELRT
FATNHNFLKN

>WP_175531414.1 hypothetical protein [Aliarcobacter butzleri]
MYLDILAKKLEQKKNLDEKKAKLEKMKNEKNEVTRKDEKAKFSEKFGYFYNFIDKDMKE
QKTNVFSFLLFNENYKNGNLYVNNNEYILASFMGITIAVKPTDIEIIEPLSSSNKIYLAICFTPH
ESVNYIEETTWSINNVELCSYISQNKQPTVDEDFYIPQKVYFDYYAKKSFRVQKEVASL
NSDKYYHGIEIEFNDYSDEYTIKTLRDRVITPIKYELSSTNNKYSFLNMTTSQFMYDSVL
DIKIKRDEFKLNKNEEIIFFDILLRIFIAESKMEKTKENELLKFENKDKLKLFLKPFDLNEKHW
NKPYNFFIDDVITNYPRFIANQLQQSKNICNLSKEFFKYNF

>WP_193220824.1 hypothetical protein [Aliarcobacter butzleri]
MSQEDIEALMSGLDIASDGNSEQTEETIEPAKVNTKEIEELLSQTEEIKDKDDTTKVQESI
ETSVANIPNEDNANKNNKINEIENLLNDIEINSPKELVSSSENVKKIQDDDKSDRSEDEIV
KDWTSSKINIEGVFPFAESDTKVVTQLSQVANDSEEKVSQIFDVLSLGLDNNNELRKAF
KEYDSFITAETNLLVSLNNKFPNIKIFDEHLKNIHTVKDSLEKLLKALLNDEDMHIFQGMEL
MQFNDINRQKIERVMSVIRKLSIYLNLFEDDGKTTNLPMAKHIHGEDETEDLVGDDLKDL
IAEFSQKD

>WP_195679434.1 hypothetical protein [Aliarcobacter butzleri]
MINSNYEIAIAKAYNQSSNQEVDFKFLNLTLDVNNENKSSKTADLSYENIKGITLEEIEKL
FQNDNDKNMAKNLRLATLFSKDENLSKALFNVLGQPFTVGFYELTDYSDKNSYFKSK
YGNSSLFNLLHQSI TNKVNTSNTDVISQDMLDNILLEINSFDFMSSFSKTSKDGYNK
YKNKDDRYSFYEDYSLKYEELLTKYKELDNYNTNLIKQF

>WP_198319633.1 hypothetical protein [Aliarcobacter butzleri]
MEIVVILMYVVLFLIALFLSFSSVKYFITMWKFKNRKKDGSSEDDDFKRFD

>WP_202880001.1 hypothetical protein [Aliarcobacter butzleri]
MRISNIYDFVILIKKLENECIKYKEKSEDISKVKILKSELSDLHELRRRIIEEFENSNNKQNK

>WP_204368097.1 hypothetical protein [Aliarcobacter butzleri]
MKKVIYKITYPNGKIYIGKDLTNALTYFGSVKSEYVENDFSEEEKKILQYKKK

>WP_226800214.1 hypothetical protein [Aliarcobacter butzleri]
MLNGFGKKYFSLSSIQAYSVAILHNIAVSCKNHLQIKLQLSSSEDEEETVSKGLEQSLL
SCFAIKTKPCHCDCLFKRKTALAVRLFRYIPRCPFYCTFFAFRRTGVHPPLHSL

>WP_226805608.1 hypothetical protein [Aliarcobacter butzleri]
MNSIFLSNEIIIFLVQTLFILLFVAFYFSFFIIKNWDFSKTSNKQYKLEKTSYLVILIITFTLI
VKIFLFPYFAYTLDNLSNVVPGAMCAAGIVGANKYGGQINLFLKIVILFFIGIWLIIINSFDI
KEK
TYPYTKKKYFLYIFIFILSIFELILDFLFSNIPTKEPVLCCSVIFGVNSIGSKIPFDLSINTLLI
LFYMIYLLIIFLNLQKKAFLNLLTNFLFLYIAYYATTYFFSTYIYELPTHQCPFCMLQKEYFF
VGYFIWGSFLFLGTFFGVASFVLKLLKDFDFIYRYSIIFNTLVFVFSNSFYVIRYFIVNGVFL

>WP_226807056.1 hypothetical protein [Aliarcobacter butzleri]
MLFTNTKKEEYTKYVKDSIYDATWRWKWRKDDIVDLQCPCPKCDSILYDDSSCNITYT
DLAKTDFICEKCDSQIITSIHGGNKKYAANTIKREIQRRIRTQEYKI

>WP_237909997.1 hypothetical protein [Aliarcobacter butzleri]
MGKIVLDEKEVNELMDFDFSKSVYLQKLEKISKVIEKLDEIQTAKKEISDDLQIFKPILLK
LQDKDEREVSLNYAAYLSFLGKKIDELSKSSSLKKLEFIVDNSNKIVKFATLKLGLIVAIGVI
VILILNIYKT

>WP_237909998.1 hypothetical protein [Aliarcobacter butzleri]
MKKENKSNIHLTGQTKGGVGKSTVSGIVATLLYLQNNQKINLFEIDDNNNSKVNSNYIN
HQLKLDSEVVDDIQFSSLSNVLNIVDAGGNDTKLVLQKLKEIDL SGLNYYIPLND

DMEQVDNVKDTIALIRDFDKSANINLILNRCFSLEKDEIQKQFINIFGSDELDPNQLDNLK
VDNIFFVPNSNIFSILKSHYKVSLLDSYLSSIDLQVQIDTYRQEWVKEGQDVFKANNKRY
RFAKMVVELIEQLKPIQKAL

>WP_237910002.1 hypothetical protein [Aliarcobacter butzleri]

MSDDIQKINTISGGQNAQNVYGNQVKTNIYIENQNNQISQNLKIELQYKEGMLNNEKEV
LTKLFSLSNYNFDFIITGLNHIFENKMIIDISLELKMKYIEKSKLTKDWNINIREFIQSIFEIK
NFFYIYENYINTKFINLLTNFILKEKIAINSMPNLDDFQLTSKFYKENNDFDFIEIFGYEFS
KSHNLSKLIETFKIKFDDLSLEHYIEEIRNHNNILLDIFLSNFENSKECTLKNLFIWLHESNI
KSNLTQAQAKTIDLLNLGLKGYFKDEDVKLWQILEKRYKSPNAMILKSSFFNNHKCSDW
TIYELDCWLEKNKPDSDLRQIYANSIDEIFDLVFGDGYFMNEDATLWNDLQNLRY

>WP_237921743.1 hypothetical protein [Aliarcobacter butzleri]

MKKHKLYIFLTIIFTFILFALGIGIRYIIDPVGLNNKFDLGLKKDIALAYRTQKYVELTNFKPN
TLMIGGSRVQYLNTEDVKKYTNDKVYNLGLQFSTLEEYQYFLKYSLENFPIKNVVIIGLNL
YPFSQRLEDNKSDFDKDLIAGFSVFNQIKHYLEVPLFKYLQHSYENQDKEADYKNGSI
TLHHQNRVIQNNDKELLWKITLEGYKNKYFDYLEWGEDSLYYYKEMVELCKEYNINLKI
FTTAIHSSMFKLLEETEKMDFYLWKEELSKIAPYWDFMTQNSISDNEDNYIDPSHLKQE
LGYLYFARIFDDKSIEVPKDFGIFVEKK

>WP_237927866.1 hypothetical protein [Aliarcobacter butzleri]

MTKYIFLLFPIFLFANSYIAKIEPKDEFISIYANASGEITYLDKNKEMNIINGVIVKIDNVLDKE
NLSLYQAQLKLLNEKLSILQDYNNKFKTIKKGKSDFEKDEKYMEEIILKNSIKDLEISIANTK
NTLSKKEITLDNLYLKEFVVKYDYVNVGTKIATAYDISKAKLVIYLNSEDYKDIKSKEIYLD
GKKSDVKIKKLDITPKDTFISAYKLELEIDSKEFGKSITVEFK

>WP_237928713.1 hypothetical protein [Aliarcobacter butzleri]

MINSSFFIVKNQFTDIGDTTYVNQVREDDYTIKLASYLTKNCNKDKLCEVQNLDFVTTIP
YKINESIAKSPKQVVEQNFQDCDDKSNLLISLLKVLGYEVYFVLVPEHIFVIINLDSINLSK
KALYINDKKFYILETTATFSKIGFPLKYKLSDIEAVIDPFFKNKKILINNLEYK

>WP_237932924.1 hypothetical protein [Aliarcobacter butzleri]

MINLTFKEKTPPIDRFPNDDIFRVVWAYGSVQKGLTGTGVPEIHILLVDLFFNTLNKNEFEL
SNKTRVVKISIAQLDIVRYMTIWKGQKRINGCWENFSDYKSNVRFDLDTTNSSESLNYSK
QNQNKTYSYLFPFNKYKIENIDKQYFVKFTNSTFTKISHDNIDVIIPSMELFTSTYAPHEQ
QIRYKLIQKSLSDTLDDYVKSSIEDSGKYIIELVEDKVDSNIVFLAYASLNQITRQRLSKTR
ASLENGMVDKYPVILPYHPTSLSIQGDGFWINENTFFMLRINKYSLPDDYEIVLIKEELDI
EESKKENDKNKSYGQIPRNLDYQLPATNEHNPHRRNGYLSLISEVDLLDDVKYKISKK
VNIKTIKAEKKNREIQNTDDIENVSSGEADSTKDSEKTGKLCIKEENKKLHQSKALDSFL
NDILQMRDTKTDISEGNKIYISTIHFLNEEANFETITYFIQFKDILIARGEKNSFARMINRIK
EKDKSGKTKSKNLFFGYRRCFLLKICLSNGEWFYLLIEIERKDDTEGFSGVLLKPDNEFD
KAILEENIMTVITAKGILKNATFKIKNVIFKHAVDKKSGSLIDCYSKNFRKILK

>WP_237935283.1 hypothetical protein [Aliarcobacter butzleri]

MKKIELNAENLGGRFALFCPFTNEKLDNDDNSFEIYEGAGNYLFSMCEDCMFFDAGNN
AEIEKYWKNEAINAIEKFVENHKEDNILIEVLYKDEKYFFGFLDENNANLSDIEIEKRFIKK
L

>WP_237935410.1 hypothetical protein [Aliarcobacter butzleri]

MKILLIVTTLFANILFANYNYMIQDNGKIDMHGGKGENLIDEKNSLSNKDFKNIGINKPITP
KAPQNLIKEDKKEDKKENSK

>WP_237953648.1 hypothetical protein [Aliarcobacter butzleri]

MRFNQSKFAKEVGCSSQQNISKLIKKGILEVGQDKKLDLEYSLQRLRDFNLLDEKNKLLK
SRTSKEDSIQEVESLSPFSDTTGYKTLADLTPEEKEQLEKEELESFKELEEKKEAATK
NINVGDNIDLKDFNYASAKAHREYYMGQIAELDYQIKLGDYVSKAEVEKTFEASRKVR
DMLLSYPNKMASRIIGKKDIKEIETILLEEIRYILGNLSS

>WP_237953654.1 hypothetical protein [Aliarcobacter butzleri]

MKRDELKKILSKYYSKFTIESILSGRRKPSIKIRIALNNEFDIPILSWENIKSYLGENISTSII
EDEVQKTNQKYEYV

>WP_237953668.1 hypothetical protein [Aliarcobacter butzleri]

MRLGKVFVNSFKQRLHNLAIANGVGTVEEFKFLQSHCNIIKKI

>WP_237953669.1 hypothetical protein [Aliarcobacter butzleri]

MSAVDFSSLDLIPKMLEKMEEMQTELTRELQQLPKYDLTKRADVKIYLNISDCTLDRIY
RMGVLKKGYYHRELKNKTSRIIFVSSAIEEFKAIKEKR

>WP_237961270.1 hypothetical protein [Aliarcobacter butzleri]

MLENNFIGFSRDKEYLPKDFDEFNSKNRLRQLFLNLSNNILESYCYFSKYEQKMLSNLS
LEQAFSYKIKSMLPISFIKNKNINTRFKFCINSTKIINNYLYSNKNEIFISNNKLLPVAKLI
SVCFIENSLQLLIDKHLLFHEFVLKIKKLGDKIVIDLGDSICIKSKDFVGVKIYTSWKDIE
VKKPNIQNELEDAIKSIKGEFYQIYLAYPKNNQFTKQIPVYVKELKNKEYQIKAIPYSFR
SIIKN

>WP_237965636.1 hypothetical protein [Aliarcobacter butzleri]

MSSILILKFFDISIKLSLMKGLSKNKEMEDVVPYNIKMFPIIRYFNVITYPLFLLATTL

>WP_237965640.1 hypothetical protein [Aliarcobacter butzleri]

MKLKLEICEYFSRDFTASETSKILNLSRPTVNYYYKIFRESIINDLFILKGNTFQVEYIKFR
NEYFFYIINKNSIHLIEHSLKLLTNLKIFIKNEIKKSLINNSKSNAIRILYNKHTQNFTVVGFY
TSTLGLQEFINNRLKKFRGIKKENIYSHIKESIFRFNFSNNEINEKILKSLSIKQGL

>WP_258271611.1 hypothetical protein [Aliarcobacter butzleri]

MKQKLFNLILFLAIYFLISDISIVNQIELFILLKVKDNESYK

>WP_260873189.1 hypothetical protein [Aliarcobacter butzleri]

MDINAINNNVISGLNSNSLQLNKTQTNKIDNFQNESLNSISNYNIQRSEFSQNIQSLN
DGAISNISMNSIEKQQNYLNTIQEKLQNSLENKNDIRKSINEDLVAFNQLAYDTKYKN
ENLLVTQKEDNNSITIDTNSQTFSMKNTAEFANTIFDVVNNKDLNIDTNLENKNTVS
SSMEKLENTFNQFDNFSNQLKNSAKEDISKQFELYNQKSTENINFGKEANDFSKTNINA
NVGYLAAAQANIVQEESVRLLS

>WP_260875794.1 hypothetical protein [Aliarcobacter butzleri]

MMEIISNLSNKSIVIGALIVLFVAFMGAYIKYLQYQVETKSTALTQKIEDNKKLREDFLKA
KEEYAKELELEKNKAAYQATTLKEIEQVIKTTSKVKQEEIKRGVIKDEKDSNFITKF

>WP_260875834.1 hypothetical protein [Aliarcobacter butzleri]

MKITLEYFSHNGTGLGIKENIDFIPRMYEFIQNLKLDHSCSGSFIVFDVSYHKIDGVFEC
DVYCQEVNPNIEEERARIKGTI

>WP_260875927.1 hypothetical protein [Aliarcobacter butzleri]

MEIDTLEDLAKELKSGKTTNAMKLFEDYAKANNIDEELEQILSKKHDCFKCESCESFY
CYDEYSFFDEECYCCDTEAEDEEY

>WP_260877056.1 hypothetical protein [Aliarcobacter butzleri]

MIFFRVSNINIKITDGTLVNYLKFKAPVSLNETVYMTTREDFNDLKDIFQKVDKDKYL
KPLNEENIRTNPNFPIELGILNEFEYERDNENFFELKATDIYKQLKNIDKEEVSIAIIGVG
KSIQIISCAALRILYKLLKEIYKNIKFDIFINASNNSYYSRDKDIYKTQDYINNIFPLSINSK

KLCEYDYFIDNSLNITNLLSELNNVDAWLYKFGINYKKIDELEKYNSLSDISNYKIQNDLKT
KIEQARKKGGKLLLFHPYSANINKSIPQVIAIDLLKELLEEEYVIVTTLQIDSKFKHNNFIDL
TNEKSINDFIYIISNMDKIITADTSTYHISDAFMIPVTIFTDKNYAQKIKYKYIKPIFIKDK
SKNFSNFIYENENLTLYKLEAWKCLKIDKIMKILDNF

>WP_260877616.1 hypothetical protein [Aliarcobacter butzleri]

MPNKESENKNPNVEEKTTDTVDEAIEENSENKDGLKSNNFLRKILYVIAFLISILVIISIF
YIFDFFVSNKEEKNTQVVIETPTQTTTTPEEPQAVTKQEEPAAKHEEYNFDFNSLDPDKL
NEQLSLLTNKNIEQSRLEKLKAENEKLLLEEKKINEPVLKDNATAQNETTKTENSKTQNE
TLKNNNPVLNQSPNNEKVTTKTSSEQTIKKEDTSTQQTETSTPTFIKLNIAKIKGELK
KNFLDKVISINPNVHLCRDEENIIELYFGPFSDETRKELYNKLVSKGFKEAYELEMTE
AFDKSCNY

>WP_260878740.1 hypothetical protein [Aliarcobacter butzleri]

MLKTVHIKTASLEDNGARASSLSNNKANIKTIVDGEALAKEIEKQGNLLIKDGYQILSILPI
TSQKIESHLSATFTSGVITAANKIN

>WP_260895190.1 hypothetical protein [Aliarcobacter butzleri]

MSEYIVRTKEIEPIIKPEEESYFEKVNEIENVFENVIRKFGSKSLMMILKNLN

>WP_260897277.1 hypothetical protein [Aliarcobacter butzleri]

MRKINFLVFLFLFGFVELFAGNRYDMKSGIVEYEIVGDNGKANGSINGTSKLVFKDFGAI
ELVDEKTTQIAGEQETERTVSKIVKDTLYTADFDDIVYSQKLVLEDESSIQNIKNRESFT
QMGAKYLGTTETILGYKCDVWQLGEDKIWVYNSVPLKQISKSLGVVQMIAKTATFNIDI
KDDKFKLPNFPVKKIEAIIIGGGEDEAEYANPVKR

>WP_260898251.1 hypothetical protein [Aliarcobacter butzleri]

MQKNLSSKLFEELEKYPSELMANVDTKVIKYCVDNQEVISTIVDEIKPNCYVVSANSMLI
EYSKDELKLDKSKILRTFSYILIKLFENILKIAKIDKLQTLNNYMLSTNFFSNIFENIDLKLR
DIALKNYSNHTLVIRSINKTQNPFLFQELKKGWIALISRQVYIFDDFKRCEKHQNYRWD
KKLLSDKRYIFKELDLDDFSLFEKSENLYNQLYLEKYSIHNVQFKAIYLQELVKKELLHLR
LLYDNQKNKYVAVVGIIGEDEIITAPIVGYDLSYDVKEALYRRVIAYILEYAKTNNYVLNLS
GASSFKLNRGAKANLEYMFVYTKHLPLFRKFIWKILSFISNNFYAVLLQRLKL

>WP_260898294.1 hypothetical protein [Aliarcobacter butzleri]

MTVSSYSSVYSSLSMPTSNISKDIISQNDKDSDSLFSDELDMEEEQFSAIDTDSGGLLS
QNEIATAIDNQLSSYSSSGEMPSKEDFESLLSSLGLDMPKPPSSPQADDFSSMIMSNY
DSDGDSLLSSSEVLLSKEEFSALDTNSDGSISTDELSSAYDEVASNIQSSSSSRPAGG
GGGAVASSSDEDEEYDDLDTNKDGVVQAQEKDAALGTSSETTTSTSSMQDTLKMFL
DTIKTNSSTSNSEDLKLSFKNLMQMMNNQTNNTNLNSYVNNLTTKSSSVFNYA

>WP_260898401.1 hypothetical protein [Aliarcobacter butzleri]

MNSKIKSEYFPIFEILISSNNSKLSLILKIFHKIVEKKYIDKIDIFNYFLKSEIFRKYVKNKYLK
LEQIDIINI

>WP_260898665.1 hypothetical protein [Aliarcobacter butzleri]

MDLVIIITFVVTIVFFIIKYDIFKSLATRGVIEKDFSQCYILSYPKRAELHNKGEIYQIKDLDE
FFELNPKLKGKIPVEKREGFDASDPDALKRELEERKRLKEKYSKSKKKK

>WP_260898942.1 hypothetical protein [Aliarcobacter butzleri]

MNIKKLKELEESFFEYYPNGFKDDKLLPIIKRFKSSKFHEETKELFKKENFSQPEIICDNF
SKIISKSPILSFEKPKVRDAIKSMSIYEKDMFCIALDELGYGNFKDGFEDIVDILTQKDLAK
WSIITLIPYYFSPTKEFFIKPTTTKNVLKYLEIENLVYKPKPTFEFYNNAYKKVLNEMKKQVS
KKLTSDNSGFTGFLRMGIEP

>WP_260899451.1 hypothetical protein [Aliarcobacter butzleri]

MVIRLFALVVIIFVAIYQLDKFMNSDKYKYLDEYAKVSAKLQSGDIIFRKKDDDVLDNSFSI
DNLGYSQVGIVVTGGENAVVFYKSDENHSFLQAQKVEDFVKSSKIAVYKYFTDVK
NLILSILEFYKNNHDKLYNTEFINEVFFKLHGENLYTDLQNIIDNKEIITVDSIVKNNKLLKR
YEIDF

>WP_260899463.1 hypothetical protein [Aliarcobacter butzleri]

MKLEITDKIKQLEIEDIKENLFHYSYDNKSLKALVKNNISKDDISYITAYSSFIGEYENIYEL
LLKYVLTQDEITRFVLKGPYQAKENHFIKSGLLIDSSSQIVYKSAYKDISEFDALFFTKDSL
YFVEMSTSKKTASLNKRLVKKYALLKMIFPTLNIALIVVTQGSVGLKNFPPYATIWVTKD
LEDKELIEKIIFAKKVKNDVQTLVPKNDKYIEAYKIKYKKFPYFPTLEWILNTRQNPRFV
VDLRRFFSSAKMSLYFDIYTKLYIGYTTSEEFKVLVEEFDLEARNRIIVTLEKVNQTQIDIV
YYVKETNDKLRVRLQENEVSIKDKELDGFTNAEVRFFMKILEEKHHLTVDNIKHILKHIS
LIK

>WP_260899476.1 hypothetical protein [Aliarcobacter butzleri]

MKTFILNNINKLILLFFTLIVLFLASSFTIDESAKKMVDESFKQAVIVFGSAKALNGVISLAQ
GTEINLPFVVVAIGQILDPIINDLVEQFSLIMLASLVSLGIQKILLNFVTNEIFNYILFAFIIFNI
WLFKRFTNDDKLRITLFFKITFIFIFLRFISIPIISYVNDFTYNYFVKPQYNIEVLNDNILKVTD
DVSKINQNTIEQKEDTSFFGKITEKFDLSFYEKVDEYKNAVDNSSEYMLDIIVFIFQTILL
PIVFLYILYVFIKRIVL

>WP_260899623.1 hypothetical protein [Aliarcobacter butzleri]

MQENELKAFIKENSPLICEYINSEILKDIGVMSSDFFVRLIDEFFKKEKRVYDKNITADTLG
YYLICEVLGEAKQAFPFRKDTLCLDEIFKEAKVYFNHVKFSIKDDIFTISLVQTKAGVSTL
DEEIIKFSKDFPMKISGLQEFIKKQTL

>WP_260899632.1 hypothetical protein [Aliarcobacter butzleri]

MKISYHRRRKIKTRRIAIRDILRGIENPIDLAKKLVTVQTIKKDLEAIKTMDEEDFKFQT
RQTSQEILEKKDLILKMLDDENYYNENGENLISKITNELKTSRATVMSVLNGE

>WP_260899690.1 hypothetical protein [Aliarcobacter butzleri]

MDKLPQRDDLIYKEIEEFEDYELTNCVTYEMAIRNNKNFEKIDNVIRFYEENKDFIFYWIS
EKKEYDEKFLFTGSEKYQIIIEMLLNIEILPFFEYGDIIISFIDYRIKNEIYEIILNNQYKSDEII
IKFDNANIIYNDLLSSIILSRIIEKEGYKITTELYVEDEHAFIPINKNDENS DYKQIETIEDFND
FYQLEDRENIEVISKIEPTFKRPKLKINKFKINSIIGEIDFSLPKEELISYISKIKDDFDKDNSI
IKTPLELLGETLEKSDNKRTPKPKAFVYADWFYIYDYWKYEKTQGKTDKIDFVALEVE
NNVRYKEDMLRKIRDKMKYFIDDLGYKELITGVKNS

>WP_260899716.1 hypothetical protein [Aliarcobacter butzleri]

MRTKTKNFFEDLFVLLIVGFIFFVYIFFFSDDKSKTLLTNNIVQEIEETTKPIINEIKGQI
ENRVEKIVSVTKQQEQKVEEPSQNVEENPIHKHEVINNEIKEEEKKSEETSLNHTNHQE
NMAQTIAPIEKIEETKTEVIAQTSNPIEISKNNEIVISEEAGKIETKTPDSQIQDIQTNENEN
RDTNDKTNVDQFFKNFERKVYDNINKNVDKSALRSGQFVNIRVTFLKDGGEYQLTYVS
GNMGYFNLIKSSIEESFPVVIEDSIKGFHFPYYRMKIEF

>WP_260899742.1 hypothetical protein [Aliarcobacter butzleri]

MSNNNFNQIDLKEAKNIIIDSLKYIFVVASICAIVPLILRFDIKFFGNFNQENSLIEYFQLIFL
FSTIVIFVRLSKKRPDLKYASMLIAAFYLVLFIRENDIDFDLVYHGFWAPWAGFVALIAIYA
FKDWKKGVLELATYKIPDMKLMIFSVMFLVFSRLFGMGSFWKHVMKDNVYVEVKAM
IEEGTELLAYGLILYSAYLIYKYLVKEKI

>WP_260899744.1 hypothetical protein [Aliarcobacter butzleri]

MKLTILGAGWLGFEAKSLKNEYRIVVSSRDEEKLKIYEDEGFSSYILNEQNFDYIEELLN
TDFLFINFPSPKFENYLSFLEKIYSSKNISNIKKIIFISSTSIYPNINGIFTEISEINNPSSQIVF
EAENLIKERSDIIFRVSGLVGDNRYFGKRSANKEVEFPLTPINFVHREDVIRVTKFVLENN
ISGIFNLCNEHPTKKDIYSFNAKKYGFKMPIFNSNQTFLNRIIDGSKIEKLGFIYKYKSPY
F

>WP_260899922.1 hypothetical protein [Aliarcobacter butzleri]
MKKLTYYANKNILFKEIKQIFPKEIDSRKKIDIYSATTIDSKFYAIFIVDSKSRFIRKNAQDL
MELCEKLASYLGHNFKKKELLISSPLCSKAKEYLKQNDWSVRVDFM

>WP_260900444.1 hypothetical protein [Aliarcobacter butzleri]
MIKQLILSAVFANFMFASSLKIDDKIGNFSLTDQFDKIHTISSNVLTIIVTFQKETLMMVNEY
LSSKSENFLEDHHAFLINNISCTPSIITKMFTLPKLRDYKYTILLIYDESNTKFEKQNNKITT
YSENGFIKNINFVSSVDELERVLK

>WP_260901056.1 hypothetical protein [Aliarcobacter butzleri]
MFEIVPFIVTNLVIALVIGIFIGYLIGKKRNEIKTIKTDNEESMENKVRYPINPIFNKTSSLD
YKPMVLSSSSKIDNFKKIKGINSQIEKNLYSLGIFHYEQIANWTKNKNVEWIEGFLELPHV
RNNQWVEQARILKNGNETTYSQQVENGEIEVD

>WP_260901228.1 hypothetical protein [Aliarcobacter butzleri]
MQKINISQNTIDNFYKQISEKFKKNLSKNEKNIKWSISLIELNSLISKKLKGFRENLDLEKLI
KMEYSDLCKLVEYIKSNQSKTKLTIKEKDIFLTLYSRLNNALEFIKDLVDKVCPCYCNRYILN
FQKERKKNATAQLDHFFDKKYPYLAISIYNLVPSCGTCNQRKSTIEETIFYPYNESFNN
SVKFSKLGKISRDELIKENLDFDFDEKRIELDYKILSDKDKVEKHIGVFNIKNLYNEHKDVS
ELLQKRVIYSDDYLESLLDEYEGTLFKNREDLLRLITGGYIDDTDINKRPLSKLIKDISEEL
DLI

>WP_260901348.1 hypothetical protein [Aliarcobacter butzleri]
MLVIGDKLIPFENIFFISSIQDIKNTKANSTLIFNYDEVLLKYVSQNSISSAVIVTSIKEAIYAN
CLSAKYIISNQDLAKEIQKIADNYMFDSKNLAIKSNDEFKQIAKNEIDGAIYEYLLELSDS

>WP_260901477.1 hypothetical protein [Aliarcobacter butzleri]
MYLFGFGSLINLASAQKSFKRVLTKQDLIPVKIKGFKRVWNALENIKFENNMEVNGVFL
NIQEKKDAIYGVMIKITQEELEILKLREKNYSCIKIKKDDVLSQNSQEDLIAFMTTKEEKI
GKIGDVNTFIPKKYIQVNEALKNYDEEFKDNFKETLNNFPFPLKGDYSFTDPIQNKAA
REAKNHNESN

>WP_260901653.1 hypothetical protein [Aliarcobacter butzleri]
MFKLSVNKNLFSKILSKKLYVIEKESSNYWKKELLEPIIIENKLTYYKIKQINKLLITNGLGED
KPQIVIECLKIDFLQQKSIFEFYLGKILEQKNIAEIEVEDEKDILIKQLLNEKKELLNILNDIKK
SKILDN

>WP_260901761.1 hypothetical protein [Aliarcobacter butzleri]
MKNTLKVIFLGVGFLVYLTPEKKVNKNENLTINSIPQYFDIVGNKSYSKIDTLFKLGE
EKYIVVLNHDNLIVFKDLYKKVDKNNIVLVANISEAPWLKVIKAVNDELEKMYKDSKIPLIN
DSNGSFINSFGLNDNKQNRVYFVYKLLANGTIEKISQGDVKENAMQNGISDAEIEKYLDEI
IKVFK

>WP_260901855.1 hypothetical protein [Aliarcobacter butzleri]
MPITTKHKYISKYPIKQSDESLILGTIHPHDIGIFKLEFFYGNKNSLWNILGQAKSLKLDNL
ENILIFLRNHKIAISDMILQCDRENPKITSDKDLYNIVLNENLKDDEILNSQIKTIYFTSGFSK

NNCAKLFFDLFLKIPKNWKDNYEINIDFFGKNIKCIVLLSPSGASNIGIVKSEIYLKNKEK
YKSSKTPIKDFKIDFYKQKFTS

>WP_260901988.1 hypothetical protein [Aliarcobacter butzleri]

MASNLAKYARTNKSLIVFSNAFNHVEAFKKFYNIIRVVKPEFGYIKDKDKINLIEESLYCDL
VNGKKNELIRDSLLHSCTNHARYILTSSRFVIFPTKFSFKRVANRLFNGFIIQGAGEVLFK
NENGRINITCYGEAKDLNIKARKIDEEIIEKEDLEANF

>WP_260901994.1 hypothetical protein [Aliarcobacter butzleri]

MVLKFKFTYKSGDKTLVKFLDFASKQFDCSYKIYQELDFVFLFIQADEKTLEEFSSKLSF
YVPMSIFYYGVEVDVIENLPKEDSTSTYDDKMISFCPTCLKEVEDENSLDFYNAFKSCE
VCKSFENATFIFENEEIKSHKKLFEKLSQLINEDKKIKIKTLSGTFVFSKIKDIENHKELLVT
NLENINTLIVENATSIVALASIEKPQIEFKINEIYKLLKHSIKKEKIDLRFANDLTLHLLSIELKK
LKIDFLNIEDENAKFDYFLDVKSSNIFLDIPKIVCFDNKKLILNSISYPKKLDTVFSKFKQK
DKAQFMTVLAENELLDKSIINFYISSLNDDKISYYSKNGLVDILEDLYLPTTIKEVFESIKKD
TKGEKLLKNYQEKFKDDYEIALNTKIDFSKKSFFTYWQIAKIVLNFKEDIVLNASNALLEK
GPRIDYKIFDNKKVFNRFKFDYLPLIKTAMSFKLAGVDEETISLGFIESFAHFIANEIDILHNT
YELEGVSLCGDMFANIRFNQLVEKSITKNFKIYYNKEFVIQK

>WP_260902015.1 hypothetical protein [Aliarcobacter butzleri]

MQLIYKIEFNNTNLYFKYIIEITLINEAQINASCQYKDFILIFNDEEKNIENFFLLLEKKLPM
SIFISNSYVVDSDYDETLLEEIENFNKQNLTLTNDIVKIIRENQIDFFNDIEKIKNGGVSFRF
ETHNGLKRLFLPNKIKREEFENKGYEVKLLITDVTKLDELFDLNMRFQLLCSIERPLIKL
KFKPLKNANKEFSSTKFIYAKIPDDKETVLFKALKENGFNLYLVNDDVYQDGLKVITYN
KEQNIISGNKGLFPKYDFVSRKFKFNSSKEYFNEFGGVYKATLAQSAKRLEPSVGVYFS
STTKSSSISLNIPTKGQKEVIVIPNIRNSITNCFDEISAIDEHCSRLITNFIRKYPEVVSIVP
TNAKGFESIVNICAKVGLNNAKEFEDLALDTNLKSGIQIDMKLIKVNKLNVLDYRKTQV
SMMSYKMANVDNQTLAYSFYESLSEFICNYSDEIAKEIKAKDIVLCGNMFANSILLSKTL
KTLSKNYNIILPIEYPLDY

>WP_260902335.1 hypothetical protein [Aliarcobacter butzleri]

MKKNLFLIILINIFLSLNLAAKNLYLSYKQIPDSVYKNQRFEVTVKALITTDNFTNLTTTFS
NYSNIELLNENNPWKKISNDTYENSYFFKVKNGNFKLPNIEVNLWNQNLVDSSQLSPS
LIRYSEIGKSDERFSNIIADNIILKAYKTKQYNNNSALTIIDIDAINSNLEDFKLKNVEEQGL
SNLKEWEDIQNLVYYFVTPYQKNLFTYNTKTNSFKDVKVPLVLQNELVSTQTDLNP
DSTFEKYKKAIAIVVFVIFLLIFWKRYKIVLFLTIISLITAVLYNLPNSTGIVKPDSEVYILPTK
NSTIFFKVDKEEKVEVLQTKNGFIKVLGVDNGFIGWIKKEESFETN

>WP_260902343.1 hypothetical protein [Aliarcobacter butzleri]

METNNQKEDSNFSILKLIIVVALIMLIWIIGWCGVWSMGHVSADDFYTKIHKQPAADIFG
SVNALFAGFAFGGVIIITLQLNEIKATRKELEKTAKSNEKTASANLEISETNKLIKRADE
KFILDLFQIYCSDYFQTVKNNSQKILFSCVGDKEYCDFVISRLFAAVPLNFPKNSYIKLKE
QISYESEKELLEKEQQYRYKLDELINFFTILTGSDLNKQIISRCDFNYSFWRPLFWMIAKK
QDNRYNENEIVKKYSTKPYFLNVVKELDKIYGFIEFENDLEVWYFFNHPKIEPFMDERF
KDEINKKIS

>WP_260902347.1 hypothetical protein [Aliarcobacter butzleri]

MNNYNPKQAYFDRRNKIQKNNDRKRDNHQYSSSIGGCSCNYIVNSTTETKTRKEK

>WP_260902349.1 hypothetical protein [Aliarcobacter butzleri]

MKKFQELEESLQNQIIDICKDDPYNLNPEFLYVNIYNSNGHTQTLKVFVPEILINIKEQ
GKK

>WP_260902355.1 hypothetical protein [Aliarcobacter butzleri]

MVFYNMNSFKFWLLYPYWYNYPYEKEYTFEQAEKEYLKYLKSHKNYVPSDKPISFLEN
FKAKKQEGDKLYLRSPIRHWYK RAGVEQFILVRDNKIIDSFVIMRN

>WP_260902364.1 hypothetical protein [Aliarcobacter butzleri]

MKRILLLEDDLGETIKELLENDYEV D YVTKGNDVIEITFDKEYDLIYFMCFN

>WP_260902397.1 hypothetical protein [Aliarcobacter butzleri]

MICKIIEDDYTFEQIESIKDIEELEKKNL KISIEDKTYPELYPEIGLNTSYKVYKNDKLI AFS
GFQFYYSISDLTSFDIVKICKFKIKNFPKQYESNLDLLKFGDIGSIWYLTEIKWRSSLTIG
NKCHYLKEEKFKEIFLSQDFNKKS YKDLIKLLKYSQKIRTPIAECMYQYIQHHNFPISSYE
RCEKLLSKYADYFEELFILFVTKDACISLSKKEQNYKIIDTLTTLGLNGYWEQKKEDNYET
YYLYEKELKISKENFLILCSLTEKCTLTIEIKYKIITINSFKHYSLTIKNL

>WP_260902399.1 hypothetical protein [Aliarcobacter butzleri]

MNNVCYSILILFLLIIFFTVKKYYKEKNQKIKIIGIGGGGSNIVEYLLTTYSDNYDALIINSDK
KALKSKKVDKILLQKDNNYCGSNIVCGYTLITSDVISIKYFIERNKEIYIFVTLGGGCG
TGSLKAIAQEFKNTNYQLNFILTPFKWEGTKKNERANEVVKVLKNDFKNVYIYSNDDL
TYGNLGINECFKIQNENFNKLILESEERNYDL

>WP_260902403.1 hypothetical protein [Aliarcobacter butzleri]

MATTISFQTFPKLFLPEFQKRNSWIVTVYSNENEEKAEFY NAYFIYKHYYCSNCGTVEIT
KKRAKRRDNFYSGHTCKVCKNSDFL NLLSNNEFFKAKNISFELFENQDFYHIQPYIHIPS
INYENKVVDKRIELRGYKCDKKIYNPNFFKNDFKKEENIKYRFTDISINEINNFFLENLNS
MYINENISQKIKFINN

>WP_260902405.1 hypothetical protein [Aliarcobacter butzleri]

MLINILEDACTGLKKEEKSHKVIDTLKILGLDGYW FENIEEKFEVYCLFENELNLSNEDFE
TLCLLTKDCALEIGIRNGIINVG

>WP_260902497.1 hypothetical protein [Aliarcobacter butzleri]

MTINNYMTQPEMIESYLQLENGKMNFDNHTLNTLLPYCVKKVTTNEVLFFNKNGEVII
DFLNDLFYIEGFNKINDIDFYRKPENFDYLF SKYKMEESIVYFYEKRITKRSVTKYLQTVR
AFLALLSK

>WP_260902503.1 hypothetical protein [Aliarcobacter butzleri]

MKIQFSKVTNTAGLLNKSFSLNSDGQVIKESNAFLSSGIAEVIEVNNLSEFN IQLDSLQS
NEAVTSGIADEILVNIVKKGEEYPPFYISRTPIYFKHPKLCGILLGDYDPDEAMPEHMILKT
LEEFYDCLCKILPPQFVKVECLIGSGSSNGIKNSNGELVYHSGSEHAYWPINLSDENIN
KLIEHIKRASVSHNLYLKFKDGSAGMRFAIDLSVLKSASSRLIFEAKPTCKDGLYQDRT
QSLIWNKDSKETLDLSKISYDHLDPWKPVYERLKIENRELIEQTKEAYKASKIEELVQKG
FDITVATDIVVEYITASTLSVKTLVEF

>WP_260902621.1 hypothetical protein [Aliarcobacter butzleri]

MKEGSANLCFIVEQDLEDIVLYLQKEGIKIEEGIVERTGANGKIKSIYLRDPDLNLIELSNYI

>WP_260902679.1 hypothetical protein [Aliarcobacter butzleri]

MYKR IINFLIFLVFVYIIFEELIWDKFAKPIISYISNFSLFKNLTPKILALNSYIIL IIF IIPFFLVE
LLGVYAGFVFISGHIILGTFLYLLKIP IAAALIFWFFNITKERLLEFIWFKYIYEKLVLFINKIKNS
KAYLLIKEKASIIKKEIKENFFISKSRLKEKIVRIYKLLKSKFVK

>WP_260902790.1 hypothetical protein [Aliarcobacter butzleri]

MLKFLNDKFINSQTKTKIELYLLPLLLLLLISFYTFEEKQEEMISTKNSFDEISNKKFEGSY
LEVLSLENLANKNHITILTNEKD KESIFLKGKSKIIIVLENFLKQIENLN NFSKVQSLVLYKK

DENGYFFDLKISFEKfyfkqlknenelelKVEDDALNKISKEKEIVENKKFEINAIDKYA
LINGNWIEQDEEINGYKLVELQMYFVILENETEKIKLEVdHGEYfKNFN

>WP_260902834.1 hypothetical protein [Aliarcobacter butzleri]

MKKIIVLSFLLFGFSNVLADQWDGFFKETGFPRKVIDDGSIVKGKIYQAKVTYQIKNNDG
IKGNFENSdSAKVTVTNTKGAVLSTNKFMTATELRTWARANFTEIFSyIIGDAKLdKkTL
MELTNLASVLLDKNLD

>WP_260902949.1 hypothetical protein [Aliarcobacter butzleri]

MVGAIfeGLKMIFKTITKLSRPYVSLEENDLkFKIDSDNTfKYTLSSIDTKTRHDPYIIDAY
TlsANEIyleYIHTDIDVSwNGQALSffISLLKDNIAKnfDLVEKEEFshYEFlyTKVDN
SYFLNVIYIYEVSKEVFIVDKKAELYEKLLKNfKKDYVYrFEKDSNNIPKIENLSLVKNNa
MNSYFAISSN

>WP_260902993.1 hypothetical protein [Aliarcobacter butzleri]

MLQTKIVNRLQFITQNALAYFSYPSITTKRFIHSLGTMHLSSFMFKNALLNADKKTkNNF
LSISKKAILKIIKEENLNINIEELEYFDNKALYQFTIPTKSKSQRATYTLlLlQTIRIVALLHDV
GHLPFshQVEYALKKVYNKIktKEENQEVlLEKEFTfKENYEEITkNCKDVLHEAIGENL
LKLlFDYELDELLFKTQEKDYlKLIKKLsLLILEEITYEDFDfKVLHEFINSTVDADRLDYIN
RDMLASGYITGPNDHIRITKQAVLVQKEDKFYLSFFDMSLIDIEHMLEMRFNLYKKVIFNH
GIAKTDSLLENVvQYLATKYFEDEKDEEKLSNSISMLWNfKNENKQKELDTISMLDENW
LISLfkNRYFDIKNKEILTKEDMKYLYCFEEVlFGKQRFRSPWKNLNEfYKVLDFSTVER
YKFRESFGYITQNRlNKLQNALDDFIKKYEDeDLFFAYQIVSFSLGISKDFYLYDGDELINI
DEISTLRKRLKHSMRNTVPFYIYSNKKVLSAKMKMDLKLMLFNIFED

>WP_260903000.1 hypothetical protein [Aliarcobacter butzleri]

MILRALFFIFILNINLFSCGYWIDPYEKEFIFLDNRNSPLANYSNLDEAAVYNTIIYEYERK
NKEANLKEWKEELKNRYSIENIEDFIYKRKNLNLlRDSEISEYIKFVEKQESCvTYDYyK
PVPTGCEGYIDEALNIDKTTsQYLKLRYFYLAfRLAHfKQqEPLKIYEKYKYLlQNDTK
TIVKDWIQGIYAGALIKNGQTVNGVYEFskLLDESKITSHLSYyNFFHIKTNEQWNELLA
KAQNNEEKTKFYALRSLKPESNILEELENIKKVDVNSKWLDfVlFRELLNYQLFFNQNE
ETVVELPKKYIEFLKTIKRDDMYLVNLSLAYFSIFQKNYAEASKYSKELLEkYPDSHEAQT
LAYILYLEKLEKIDIKTENEIYTKMTELTKDHTSqsIHdyTFVILEKLYKKQNDKfNAFLSK
YINYLDMsAFDLELMERFEVFIKSTPDSKLKEYMQTNfSKQVNNHSYATKTRLLINNLKF
QEALETNTSFLNEKIEFNPFNTFIKGNRTGKQDVLTIKEFLTKMIVIKAELEKNPKSVMD
NYLFANALYNLSYFGNSDRITTVYRSNYSIGSPllQKEKLEKAIKHYNIALENSKDKEFQ
AKLYMISKAYLALADLSNEKDRWKYyGESKYNYGTIYETFLQKNGAKYFDTLKQDFGD
TKYYQELIQQCgDFKIYQKqKQ

>WP_260903001.1 hypothetical protein [Aliarcobacter butzleri]

MKKIVILISLILVFALIVFSYNTQKKDIQISFYSWENSfGEQNIKLYIKVLDVNFSTKLEL
LKTNIKETPKNFIPVIYITNETMKNVYySLLSKAILETLKNYKFDEIQIDCDWSLSTRSNYF
NLLEDLKEKLNKTISATIRLHQIKYyTKTGIPPVDYGVLMYyNMSNIGDFNTKNSILDNEIA
KKYHYNFDVYPLKLKLALPLYSQAIQFREEKAISLFEGVEEKDFNDFEKLENNRYKVLN
SHYfKGRYIYKDDIFRFENSNEQDIKIALKDFLDLSKNRYDEVIFyTLKYKNKYDLNnlIK
GNL

>WP_260903199.1 hypothetical protein [Aliarcobacter butzleri]

MIILSHRGYWKETQEKNLPIAFERSfSLGFGTETDIRDYKGELVISHDIADENCISVKEMF
EVYNKYDNTLSLALNIKADGLQLKLKLLLEEYKIENYfVFDMSIPDGLGYLKQNIKAFTR
ESEYEKVPsfYDEACGTWLDEFQEHWITKEVIEKHKNKkICIVSPDLHKREYKNEWQ
HYKEIEKELGIDNLMICTDYPEIAREFFR

>WP_260903205.1 hypothetical protein [Aliarcobacter butzleri]
MNNNEKILTITYFYGTKGCCPAEWADDKIDTMCKLEKNTILITSIFSCKNTSNKVIHYRVP
SLSIQDFRHELGEIKNENMQIPYIKLLFFIPFIVTVGLILDLLQKVFTSGNGGGKWSWFFP
ASIIALYLAI RYNCKKIFTTGGPASAHLAGVFVKKLTGKELICELQDPLTGKDIGRTANS AK
MLNVVEKIIMNNSDKVVFVTKNAAEYAKSKYYGFKAQIVAIYPGSKYFTSSDKNKSEENL
QKLRLIHLGTLYSTRNMNTLIQAIDELIEEGKIKENQIEVLNLGEIYGEIKEHHLSRNYIKQE
SIKPREEAINIASSFDISLLVQHTDSRSEATIPYKTYDYINIGNPILALTNSDEL SGLRENG
HISVDVNDVNIKETLVNLSNYQNIKKEINPLAIDI IKQTKKILGI

>WP_260903213.1 hypothetical protein [Aliarcobacter butzleri]
MNKPTLIIPAAGKSTRFPNMKPKWMLTHPSGKLM IEMVLLGILKDNVFSRIITITKEHA EK
YEAELILQQMLTYNNIKAEILVINHFTKSASETINITLLEKNINGSFVIKSDNYIECKLPKG
NFIIGSSLNKKIEISNIPGKSFIVLDQNSKIVNDIIEKRIVSDIVSLGVYGIECSEKFKKSSD
KLEKNSHGQEHT EYISHVISYLIGVND EIFYG EVDKYEDWGTLD DDWKKIQYRNRTFFI
DIDGVIFKNSGKYGT VNWSNNDVVLEQNIKVIKNLADNGAQIFFVTARSKNDIKIVEKILK
KENVNYESIITNCHHSSRILINDFANTNPYPSCSAINIPRNGNLEEYIKGN

>WP_260903229.1 hypothetical protein [Aliarcobacter butzleri]
MSNLLVPNSHEHLDNFKSFLETKTPFSFIRFSDGEIEILRNRYLEIGGGKTVFRGREFKN
SFPDFDAKKFDPRIHQNIRKDLLSSALFRDKKFYKGIPTLHNDAIKDREFLLRLNGGFEL
NMTFSDLFLNSNYLR YRKEIVPLFEKFEDIFVIAN YRAKPIDILQKAHHIHIPDNFFTKYDS
VINEVYEQIENIPDASLV LSSASSLSN LGHRLFLKNSSITFLDIGTSINDLLSLSHNTRAYH
NEEK SFFQKIFYRNKKGYEIIW

>WP_260903233.1 hypothetical protein [Aliarcobacter butzleri]
MNKLVLVISGQIVRENSANLMNFWRGFINIQRAIHNINELKIVAHSWNPEFDELVRNVYN
VDILESEVQKS FVKEYMPLLDPIDKFENGFKRAGTTWHKVNPNMMLGQITSKTKS IKLL
RKLDL NENNVVISTRWDIGCSGGKEVNQLVFDYSLD TDYLYFAYFPYVDEGYADMWY
WGKYKYIKRFEAYKEYFINVISGQNSFFDDFTKHGWKMSLPINLKRIKVELYK KLVLIKIL
KLFPFELLKRIFPFLSNKLTGLKIRLVNFI EFPFITGENSLLLDTNLKTTYSIPESLNIHGILK
SFIFDYNLRKQTRFLDIKDFENSPKGQMINPIYFCYIYSHSSFDDCWEMAINQAKENLP
SNCKKIYLVSEDSDDTKEKFNEYNFEDVELVTYNSDSQYTDRLIEIFAKITDKFNLCYFVH
EDMPLISSVDEIYLN TLLHFMNNSNEYIKLVDTSYVDQKESHDSFPGLVKNMGGYSIS
VQASLMKLDHMISFLTNFHTDIYGYELLCTRSNFTFSAVQGT K KIGKYLLFNESFPHISTA
ISKGKWCTSEWKNEIEELS KKY NIDL SLRGEC

>WP_260903239.1 hypothetical protein [Aliarcobacter butzleri]
MFASSEYDKGDIISQKSFEINYP I KISEAIDKIEPLYFELVGEIFTKIKSCEQLNSKKQDESK
ASYSLWLDNEDYFIDWSWSADKIKRFVDAVGYPYDNAKAYLNSEVVKFIDVEIVEDVMV
EHRERHIGKVIFIKNGIPVVVCS DGYIGLIDIRDENNNEMFINFRSRFK

>WP_260903241.1 hypothetical protein [Aliarcobacter butzleri]
MNTIAFYIMNSKGYVVLKNFINKFGSDSVSYVVSSEDKNIKK DFFDEIKELATKEKIRFFN
RFENIASTEKEFSGYKFAIGWRWLIKDERNLIVFHDSILPKYRGFSPLVNCLVNSENRGG
NSFVC

>WP_260903291.1 hypothetical protein [Aliarcobacter butzleri]
MDLNLDISNFQKFLKDEEEIIIIDEFLRKYIINFRKIEDEESQKIENFFTLI IKSICSGDIKVPLQ
FIKI

>WP_260903331.1 hypothetical protein [Aliarcobacter butzleri]
MFTKESLYINVIKYNQLKLEYKCLRNDSEVIKSDNSTFLVDNDILPQNIVQKINTLQKEDD
FSYISTLLLSDTTKLIPKSLSSKIKDCEIVEFNKDYDIVVLKTTLFETQNYFGKTGIDYIYSA
FHIMNQHIERNKSKNELFFIYNNKAFVLIVDKLGNIVYNETIDLLTFDSVKRTHFYEDDLE
GQKLFDELYFLELTQTIQKILDDLYSKRKDEVFVQKVSILHVLKILTKEQLSQLSQELLLKV
DDYSVNVDEEIFKLAKQKDSKNSFIKHRKKKKRDKPRYIFLIILLTLLSLGFYKIYSTIDFNP
ILEKFNKIGHQKVLES�PNHVILNDKIKKRVKAIFDSVPNNVAVKEVNIDENNLELKVFSI
QEENLNLLNLALNSLYVNNESKIITPNAKTNFDVAVVSKNEIEINTEYDNSIKDYLIDEQFN
IESVTEQLKILMPETAIVKYIETIDAKKVEVFSYKVAILITEPNEFFELINKLNEELYSINLKY
PISFKRTDNGIEVEFNLEFNQLK

>WP_260903347.1 hypothetical protein [Aliarcobacter butzleri]
MDKEELFQARTNPDLKYLNEIRVNSIKAKDIALMYETLDSMLVLDLDEEQINELYQEILK
LAFENVEKIINKNKKLLEDEHLFYARALYEHAIKWSNENFDGAKELLFVMVNLIEDELL
QKALNVLIIFLSSKMELDEFYDSKVDLEKASDEKYGYFIVNFNFDSQKYLKENKKVLEQE
YENLKHLLIVEHK

>WP_260903407.1 hypothetical protein [Aliarcobacter butzleri]
MERRNRSLKALNELIYIDSLDSFEKGNALVNWYNDYLSSENSIEEFDLELRDLKTLEELFF
RNINFLKEIKEETRQELIRIRKVNFLKN

>WP_260903426.1 hypothetical protein [Aliarcobacter butzleri]
MIVAVKRNKSQKILKIIIVLLVSCGAYYYNDYVETARINAEKQKLEEEQKRVLKAKEEEQ
EKIKQEAQREILAEVEKAVNLIGQEYVRDVKLIKKNVVFVCEPDTNIDALVVRYGAMALIK
KTFDEIVIVVDIDFILKNKL

>WP_260903428.1 hypothetical protein [Aliarcobacter butzleri]
MNIYIYGNQRFKKEIYKILDSSQIKKIDNNVIIKEISNLNDLKETIKAQPKDIYLIDDEKIIKDD
SLKSKFFAPKDGVDQFLVESGVNDLTINSLNEIPEYIIRKYELEKNLEDIKKENKVELDD
ELSKLLANETQIEKKTTESTPEIKDDEIVSGVNLNELENLIETTEETENIDLHKLDNNDKITN
EFEDFNDFGLNNISFDYDDNLDNSLSDEDVLSQILNSASIDEDNYEFLGETFEDVN
FLEELFPDKAEFLATFEKPEKQVEDDKTEMTDEFVEFDDDEEVHLPDEEIQEVADLEED
NFENEKKEVIIEPMNLEEDEESEKFEDLEGENMNDNEFSELDSLNEKDLMEALNYKAD
EIVQVPKNQENTQIISNTNKNKTVILNSSNVDEISQLISKLLSNKTLEITIKLKD

>WP_260903464.1 hypothetical protein [Aliarcobacter butzleri]
MTINNNLNAMVASELQFQDMATNLATVANTVAEPEFQEVTSDLIDSIAGQIPQIISYSANV
QNIELQGEMLNTLLNIKA

>WP_260903481.1 hypothetical protein [Aliarcobacter butzleri]
MNLLLVCETPIIEHIFTLVCKMKIDLTIQKNNKVNKNYDLIVIDQNFVDSKFNKIKNFCKRI
GAISSEELPMERLRDFIIPRPFLPTKLEALLIEQITYIKEDLTQKEPYKEGVFEYSPEDDIDI
LPVIDYLEEGLTESISKAPEKVVQNEYEEDDESIVSLSKLNAGGVLDSSSELNKINDILHED
EIYNGITLEKRDWKDISSIIDDALEEVEKEYEFDLKNEMKTYNLVLSKYGIDELRPLLEKF
DQTIIDKIASGQTIDLRVSLRDINR

>WP_260903614.1 hypothetical protein [Aliarcobacter butzleri]
MIVVHAKGNSQIGIGNLSRSFELIKYLSKSKEDVIGIFECDNELFKRYQYKNIFHSNNLNE
SINIIRKNQCSIYISDLVNPDKGWSNILKGMGIKYLHFNGLEFGFEPDILFVTDNFDYEIT
NNKFKIYRGFEYYIVGSDILKYRRNILIPKTSIKNVLICFGGADPAFFSEYFAKRINDSKYN
YNIVLGPAMENSRKENIKNIKNNINIDSPMDMIELLLKSDILVTLGGMTTYEAMCLGVP
ASAVRWSYLEYNVKSFGKEMITDLGSIEEAYENLLNLNMDKVNLICQNAYQIINGNSLK
NIKNVIDSLEE

>WP_260903696.1 hypothetical protein [Aliarcobacter butzleri]
MQNIIPEDILKIQQKLATFEKDSRNYKKYTKILAKHIKSHNMQKRVNSHIKTIESMEKIEKD
NI

>WP_260903722.1 hypothetical protein [Aliarcobacter butzleri]
MNKFENIKTSDFIISFGTFFENNLELKDGVLSIEKNQTKFVYMFPIDNANLKPFTYQFIK
YEVGSEEGICALLLDTFAKNYDEKTKEFINNLDLGYISAESSAGEEEEFEEAFEDYENSNS
KILIGEDIKNHERVDNIIKLLATIKKYSDFDLILDEDLENKINSCEDFDLEEIEELKSFNGT
LVYSLVGVDPVLQASQTFANIAKVKDGENIQIISKNEKINKILKIDEKLTGTVAILNVKNSP
NEYKYKQVKIEKE

>WP_260903966.1 hypothetical protein [Aliarcobacter butzleri]
MNKIYDLLIKSIKYIETESNKYKKKEEDISSKRLLKDILFDLHEIRRAIENSKKHK

>WP_260903969.1 hypothetical protein [Aliarcobacter butzleri]
MPAKEIEKKATKSVKQSETKTEKTAKNAPIKSKESANDDWENF

>WP_260903979.1 hypothetical protein [Aliarcobacter butzleri]
MNLEEFAPKEALLNKNEIFSFNFEDKKYWLKRARETKPNRIQKFFYRIFPELLIPALAKD
SKEALLFETTKIEKFKELGINVPNIVYKSEDFVLEDCGRTINSFLKRDIEDKFYFVEKL
LVQLSEIHNLKQFHGGSQIRNFTYKDGKIFVIDFEESFEFNTTFETLQFRDFLLFLLSFTK
LKKLNFEVNYNYIIHKYIELTNNKNVIYKLNIGKRLKFFIYLSQNSFLKKFLGSDVINFFKL
LKILNSLEK

>WP_260904011.1 hypothetical protein [Aliarcobacter butzleri]
MNKNFFVWDNYSDQPQVIKDKNYKKAMRKKHLKDFIKLFISSFFILPIAMLFMKFFKGVK
KFSNDDFYGLGVNLDKGNQVQLVEELQVKNLIIRLPLCDIKNIDSYVDFQAQSFNKTSKK
NILLNIMQDRENIENHKLLKENLELIFIKFGSFVSEFQIATTINRAKWGFFSVKEYVDFYKV
AQLKDEKFSNIKLLGPSVIDFEYNYNVRAMFN FEDIKYDIVSSLLYVDRRGSANKQYL
FFDFKNKIDLLFSLVKLSSKCKSNEIYITEVNWPIKNTAPYAPTSEKECVSNEEYTKYMLE
YFEIAKESKKIKRVYWHQLIAPGYGLVDNRGGEIIPYQFYAFKEMIKKND

>WP_260904139.1 hypothetical protein [Aliarcobacter butzleri]
MFKQVKS AVFWYYLYKFRKRVTLIFLLLIIFANVIYADIVEYLLKLEKLEYLEIALISKWLII
IFNIGISYILITLFLKKEESGNGKKEKIVEKETIKKEKFTQREKEFLNKKNIRSKADILLE

>WP_260904213.1 hypothetical protein [Aliarcobacter butzleri]
MKKIIISTTFLITLIVVSIYGILFTKKGNFISSYLENRVNEEQKDLNFKINNFTLTTKDVFDE
ATLNENSYINISGALSFLFKNVDLKYDIKIEDLSIFKNLISEDLKGTFFFTNGIFKGSSESIIQ
GFSNIASSQTKYYMNLVDFKLKDIYLDLKDADIDELLAIFNKPLYANGNLNLNANIKNIDKN
SLDGLLIANISKGLINNDIFNKEFNQKINTKISFNGDINASLLGNIIIEVKSDMTSSVADIFFD
KTLIDIEKNTIQSDYKIDVKNLAKLEGLIGKLLQGEFLTTGNILKDNKNISVDGNSDIFDGF
FTYKFELKDYEQNLNLNIEKAKLEKIFFMLNEPIYAVGNLELHSDIKNSNIENLDGSSSIKI
SDAKIINEVVNTVFKKLNKDLITFKSEIKTSYVFNQAISQIDVNSNIVQLNMNKAIYDFSKN
IFNSDYNLNVFELEALESFTKVKMRGAIDVVGTMENSENYFKINGNSNLASGQMNFNLI
NHDLVLNLNANLKDITHMMFQPEIFDSKTNLDLKYNLLDEKGTNLNANLLGGRFSENNF
TNIVNQLAKYDLTKDVYETA VLSKIDSKKFITDLTMKNKNNQIEIKDSLVDLFDKNIIDAKID
TKIKNNSFFVLVKGDMNKPTISLDVKNFLKNKIDKKIEDNKDKIEEKLNVKVLKDKDSEKTK
ELIKNIKSLF

>WP_260904318.1 hypothetical protein [Aliarcobacter butzleri]
MKKLVSLHKEYWITADAIKHVVITKIEEDTSNLPNKIAEVAEIHSSFIKLSVLYGLIYVIEGY
KELKYTNEQIDTLLVQDSFVDALRLFRNSVFHYQKEPISEKALKFLELKESEIWIHVA
FKLFFEKELAIKEVLEEINTNFV

>WP_260904417.1 hypothetical protein [Aliarcobacter butzleri]
MCENFLNLVYHDVELELKVSIQVWLSADEIAYIFNLNRLAIKHIGNIYKDEELE

>WP_310982223.1 hypothetical protein [Aliarcobacter butzleri]
MAVNHLVNKNWWNKRDNLKNKPSLSYRTLEVINQIMSDEEIALGTAIEKLMTPNLYKE
TLEKLKSDYPDIEEE

>WP_390880872.1 hypothetical protein [Aliarcobacter butzleri]
MGETYTYILDEKYRWQNWAVLKVNAKKDIINSKSGDLDLDFANKELFPYLKCFKSITEN
Q

>WP_390880874.1 hypothetical protein [Aliarcobacter butzleri]
MKETSSFVAITKGTLLKIVLVSFSSFSILGVLITKDEKSHFLSFIKSSASR

>WP_390880881.1 hypothetical protein [Aliarcobacter butzleri]
MMKKIFVFMFLSVSLFAHNLIMNVIDNKDNTITVIGEFSTGEDAAGALVRVESLISGDVLY
KERLPESSEVTITIPKEPYQVVLDDGGPGHTIVKEGIAPLEGFKEELKSKNDSTKKLSVAQ
NANNEWDLITIVFFVLCLILFTMAIYFSNKNTNKILQQLKEN

>WP_419244159.1 hypothetical protein [Aliarcobacter butzleri]
MKIPSDLFENKQLKLSPLLIKSIDKLNVLGKFEESKVNQLQGSIGGNEEDEAINHFVGRF
PNGAVRSQYVVINPDGDLNHASQLATVFSKTLKILYPCGSGAGLVGLLTTFFTLRQH
KYYPSPPLNIEIIGADYSSDALSIFFEMMNSISKEFLKVGINISYSTQQWDATSNTEML
MHQFFATQADEHFVFFSNFSGATGTNNNFDDSFRTVLDYVATIGKNSTILWIEPGNFKK
AERLFVKIGMLIDSIKKLWAQFTDSNSDTCEISTREFKFIHPTSLNELRGNISGLRLIIDGQ
DR

>WP_419287173.1 hypothetical protein [Aliarcobacter butzleri]
MSLIIFEDVEIEIVEDNKFIFTQTTSEVAKAYFGEPQNSKQAELFSKQIRQTRLNKKQEFIE
NKHFFYTYDNKNRKTIVWTKNGIVRLGFFIKSERAKKFRDWAEDYIVNQKSLVETNIQIE
LSELRQEIKDLKQLILKEEDENPFKGFYTPNWAFRKRNEYAYSRRKDWMLLLNECERT
LVTERQNRKYKQLLISGASK

>WP_419299238.1 hypothetical protein [Aliarcobacter butzleri]
MAEYLTEQEAEKIKAIIPGSIKGGCIEVIKREPISRLEHNAVFAVIFKHSKENSLLMVEAA
KKLSIEEPKLLFSGSEVDEKFDMQNSAVFITAIVK

>WP_419316602.1 hypothetical protein [Aliarcobacter butzleri]
MNEIKTNKNHMIAYPIISWVNKDSIKISQGRHRIRAIIDSGAETIQLAIKEKSLIIKQFLEVEII
DKFIFLIK

>WP_419316604.1 hypothetical protein [Aliarcobacter butzleri]
MSKKEIDDALTRVNEQIQQINNLYQKLEKSYSINKAFIDSNSEESLKTLLIDSELNDFRAKT
DEINVMLLKLKEGFDLTLQNNNGKNRIQYVQDMLSDKILEDIKDKSEAFYESYNQIFNT
ENGLDTEDFIKKYERINNLYKKLYESTNNKKSMSSEEELEEKIDNFFEQYSILIKNDDGTSM
YDEFINKNDFNSKKIKLDTFYTRIFGNEAEDTKSLNNELEERLNRLKDIEKEAKKILSLS
SDAGLAGGFNQKVDEVKKNKYVSLGVFVVVLIIMGIFNFNTIDFKNLKDIDLISITRFMINI
PFLWIATVANINLNKYTKLEQEYSHKESLAKSFERYKTEIEKLDRIDSEKSNLMMNLME
LNLEAFKVNPNANSIDKIKKDSTLLDIFQRKNE

>WP_419970274.1 hypothetical protein [Aliarcobacter butzleri]
MSSADNIINDFNIGFLKTADSLRSRINFQENSESSSYEETLNQVSSSPIDPSNNYLQVNN
FALDRQNMVIPEKVDIDTASVQETNVNTQEEEQLSYKNDFLKNMGVDLQNKAEMLKAL
LSSAE

>WP_419970277.1 hypothetical protein [Aliarcobacter butzleri]

MLEENINKIACIHNICGTLKKKEFFNDIPYDFDIFFIEDCKINECKKIEILFRKVKNQGSLIF
QNEKAKASIKRITSYSINMK

>WP_419970278.1 hypothetical protein [Aliarcobacter butzleri]
MNHFVAKAIPNGYSWTLASRCGQILSDIEDKFGKRDRNFTLLGIEFSADGPQIWYPNNC
KNIIIQLGLECLTNNSQACYQLAHECVHLLSPNEMRKANFLEEGLATYYSKYYMKNFMS
ETWTTNDSKYLKASSLVEKLLSSKPQIIKELREIECNITNINKELLMLKTSILNEEEINILV
SPFY

>WP_419970279.1 hypothetical protein [Aliarcobacter butzleri]
MLNIVTDTNVWYDAIGNDYVLNKKIKSKGGMLCVTPINILEIVSKIDINNFEIRKKAQSIIDN
ADRYLMSNEIYLARYWGFKVNDEVYWKNGVLTLSRAPSYNDLVNGYIDHIDKVTRKQN
LKLLKDWREYHYKDYNKGVINGIQSIHSGYLERQSNGNLKKHKKIKTLFNINDKDIKESF
FACYERAKMVLQEHKINPPESPKNIMLTNAIPKIKNYVFAYMEYLRFLATTPAKPDKNDL
GDLDFLYLQNRNWLLATSDKRWIAIAKKVCPNNLLDLINER

>WP_419970280.1 hypothetical protein [Aliarcobacter butzleri]
MWDFWLICFVAVGLFVIIKYGEGRHQIISIMILIFLGIFVTIKIKGFDEISQTKYREVIDLKE
TCIKYQSCADVLSDILEDNKIKKYEFDEFSTVLEKELEKDKKIKELEEKWRKEDLNKEILE
QIKKELKDKK

>WP_419970281.1 hypothetical protein [Aliarcobacter butzleri]
MFKTAIKEFLVFSEAAYKAISNCIIPLILTLTKNLLVGLCWVLFITIIYKFIHKNKTENAKAF
FNLLKVLSLILIGTIVLFLLTITLI

>WP_419970282.1 hypothetical protein [Aliarcobacter butzleri]
MKKTALIINSKGSVGTPTSFNLAYDLGMNIITNDKSVLIACYKDKTILTNQFELIENSVYD
CGGFSAPGILNIVQQVNIVIVPVFNDPSSLIQTRDTLKQILPIAKKVIVTTKTENKDADTIK
NNLDKKYPGLEIFYNLPLTKAFNHTLETGKSIKHLVETDKVYENWFGNFVQNNYIPFLNA
VKKELEL

>WP_419970283.1 hypothetical protein [Aliarcobacter butzleri]
MKKTVNLILLGIVIFGLSGCFLTPYDNEFKCQPSIIGRCTSSIVDTYNESIQEIDSNKDNK

>WP_419970284.1 hypothetical protein [Aliarcobacter butzleri]
MKNRFLSLAVIVVLTNLISGCSSKQEIKVEKGVCPMLNIKNTTKKQFDEAKGLIEGLQGT
LPDIVTIYIDTLKHYNKVDNVDKYISKDGIREFSVTPIYGTALVALNYFATPTVNTTKESVKM
YQEAYKDVLTIDASPNWCELESYKHITDKYTNTKAN

>WP_419970285.1 hypothetical protein [Aliarcobacter butzleri]
MLKKIFNLPKNYMKVQENSRNLNKEITDLKHYNKNLEEVIANIGYDLSGISNFILNKTVDE
FQDDIKDIQDLGTNLNGIFKFYDDTNFGLDRKAFNAEFIERALFQLLMNKPNSDYSLIK
AIRKTNKTSIEKI

>WP_419970286.1 hypothetical protein [Aliarcobacter butzleri]
MKKTVSLVLLGIVVFCFSGCVKENQVLNTPSTNSIKRNVVKVEEVPLPYVKESKFIKIL
ILPFENAENDIDYGGYIETKLESSKFIFSDSLKKKIIIEEDTIGGI

>WP_419970287.1 hypothetical protein [Aliarcobacter butzleri]
MIELIKNILITVIVSLIVIVSYDKYSSKDNKNDFFIIFSGKNIIIEYKKLQIKKALLNEDTQNK
KELEELIKTMDLLLEDISKTYNKPIYQKEMIFKGGKVRDITPYIEKALEKKGLL

>WP_419970290.1 hypothetical protein [Aliarcobacter butzleri]
MKKNKIFYLLIFTNLFAANEGIEVGKNLKGHFSNVQTNVAAPLTSNSDFKTVNGSKSFKAN
LTCNETIKPFLEISYSGTSDITINVSIDTDLNGSKDKIFSFDGVSFVGTNGIICSTNSWKN

CKYFLWNISNNLTLSETVLTNLGGPYCINSSCGSLSVNQKINVLDITIGGAISSMYQSSN
SNYLITKTQNDGNKIVFYGQNYQDCTNYKEQAPSKSHDLDTTNVIASQSKDENSVYVV
LNEEVKNQNTNKFDTDVKQTTVIKNSVSVKGDTTDYFTYSGKTQNEGDSWSTRNDN
AKINIDFLNPNIKYCEIKYLEENSILFSDGQTHHSSSGDTKTWKTIVECTGNDYSICPVD
TSKGEIHKPCGQIDNFAEATSILMAIDEAVDDFSCSLK

>WP_419970296.1 hypothetical protein [Aliarcobacter butzleri]

MVQHTIRVNKELDEKIRKYAALKQQSISNVLRELIIQSLDISTQENEILKEIKSLRADVRDS
HNFNKKGFDRLASLSVKNKIFSIWHGILIQAFRLSKDKGEDDNRCMQSREEFAKTATS
FGIDEYKNSKSDN

>WP_419970297.1 hypothetical protein [Aliarcobacter butzleri]

MSTTDENLPSQAQRNFALLIAERLEIEIDENILLNKDDLSEWIKEHNNLPSPKQIELAEQI
AEKKGEELPDNLLEDSESLSTYIDENIHLINSNKPSTKQISFARNIAKKLIELEDELLEDK
KLLTDWIDEHKNPSSNGTGLKKKKVVQ

>WP_419970298.1 hypothetical protein [Aliarcobacter butzleri]

MKLKIIKPKTRPIQIEPWFVKYLNEGQLKVVAAILSHADIKDRQSNFSPNRVIAFYCGFG
DIKESSKAYEEYQKLNDEEKIKFKNKKIKTAITVANIKKQLETMGLLKREFVGPKGKQIVY
MNLBLEWKKEQYLKEHDEFFNDVKYENNEDEKENIAKELEELQRLTLEGNISQENLAN
RLKNLSYKIDANNTEKSQVPLEDIDKVATYIMNTTKIQNKIDEGTIENKEAYKKSIIKSISNN
TFNGIEKYEALVKKEEKDMLLETLTVSLEENEKETFYQKNILYFKDLIFTNNIFLATYQTKD
KKISKQYIISDEKIKYYLHSSYFYTKQNKELLDNYNQAIKDYQEMLQKPQEESTSNTS

>WP_419970300.1 hypothetical protein [Aliarcobacter butzleri]

MFKTIDVNLDFKDLEMIKNSLSNQIEDLEKQNFVGGELKNEIDEYKQLLKKVNKKIDFILGN
NQ

>WP_419970304.1 hypothetical protein [Aliarcobacter butzleri]

MKKIVISFIVSFFISNLF AATQGIDDNATNKEVSNLISQVAPKTKNFKWSCETISSDKIPFT
DGEKGHIVKCTIDTDIGITIKATCKYFVVSKEYIGETECISGW

>WP_419970305.1 hypothetical protein [Aliarcobacter butzleri]

MENFVYKVTGKLFGLIAGAILWIVIQMGLSGVASIYNTLSGQKFQETVFKDYSKYLTNE
MNKQELEDEILKITDHYNRKANNKFKEIGYSIILEDYVLSMNEIETNDIFIKNKNKINKLI
QILKKEEPYLNLPDKEKIVLKNLNSSIKNNSVTIKDNLQDLEQVLEQRYAEYKRIDIESE
KNLLISYISITITIFIGILSIISPSISINRIIQFFKKER

>WP_419970308.1 hypothetical protein [Aliarcobacter butzleri]

MEEKEFIKISNRCLSLCYDLAGKSKDKNKVVELLVKDVFKKIPTDNFESTCNSLRLNISNL
TKAEQDVFEAELEIFLRQHFGVPC

>WP_419970309.1 hypothetical protein [Aliarcobacter butzleri]

MNINDFISSNKPRSKKSIFDEHLEDINKLLELNYSQKQVIEYLKAKCKNKTGLSEQNLSF
YLKKSKNKIIIRTKNINKDKSGNEIKKNLEKKPIDIFANLKS

>WP_419970311.1 hypothetical protein [Aliarcobacter butzleri]

MEKYVSDIFPTSSADINYIERKSLDTRILSALHTKGKQVIFGHSGVGKTTLLRKSQKI
YENEIISHCMMSGITFESLVYDAFDRLNKYYLDNTSLTHKNTTKQSLTINYLSIKATINASQE
SGDSENFKRMVNTQITPQRLADFLGEADCCWILEDFHKMDEKEKSKLSQIMKVFMDKA
VDYPRLKIIALGAVNTGREVVVEYDSEMRNRVSEIEVSLMCKNELREIISNGEIFLNIFFPD
EIKDEIVDFSNGLASICHSICSYICEEKGIETVDGKCLQLDENDLSGGISRYMDEETDSL
KHKFDATAFNRMPLPQKKNTELIFRALLIYDSDGATEEQLYREILDESPKFNKKTLSGHITRL

TKDNNGGLIMYDTSSKKYSFTMPPLYKTYASAYFATNAEQYQISSKSLKNKISKLAYDAIV
KEQTEKYIKDS

>WP_419970312.1 hypothetical protein [Aliarcobacter butzleri]

MDIVSQAMNKVESYKEKIKSEIEETSVEKRIEYYICELYKLEVERKKINDLKLEKDDLKVK
YINNNKQPNRLNFNLLNYKALLFYFIDKFISDTDNPLSLENYKNLCEENKEFNSLFNDKG
KIFINTKYTNFPHLIGYKEDENNPYKDTNKKFIEKIFYETNLIKDFTSHGCKKDKIETFSWI
WTTLNQPIYVLTSKAIKQGSKLEGDVIFVSKRSIFKGNNKEIVYHYVSLKINSEKNVYVI
NSHHPLNNHEFKLQFDIDKKIYEYKF

>WP_419970314.1 hypothetical protein [Aliarcobacter butzleri]

MKKSLVVLGFFTVFAFANESQIQVAQIPTGCVETKLTEVTSILSCPSGEYKATFYTYSNT
GTRNLTYEAKFDKIGEVKPVIIQQISK

>WP_419970315.1 hypothetical protein [Aliarcobacter butzleri]

MKMKFFNFIIIVLWIFIIIGIVLNFFCEKYSFILVGLAALLASASVMKNIANTNKIEEQVKRE
LFDRRKKIIFEMDELYFLFANHLNFNKEINDTSNLEAIDSFDRTSFIEYMKEKSSLDNFKE
NHLKYIRGIIDLLSDAEFIFEKDLNLLSPIMNTLLIYSETSKSEEILAGKSLSSKELYNQLI
KFCNQRHESIRLV

>WP_419970316.1 hypothetical protein [Aliarcobacter butzleri]

MLREVTTELCKGDFSGLVKEYQVWQWDLYGGNWMLATFKTKHEAEKFKTDKENEAKG
TPCKYTAFSIEEVKY

>WP_419970317.1 hypothetical protein [Aliarcobacter butzleri]

MRFGTKLKLKDWYHDFITFEKGDILQVAEYKHKYGMLRHHPGIDLIDFKYNNNSNRDK
KIEEYFEIVEEFDDRLAELEKVIDYLDKGYKIGADGLGFKVNITTYKWKLMHVIFLNP
KRELVFQIITETPKEMFDKA FEHFGVNKEENTIDDDLHCPKCKSTNVSCACFGENDGCN
CRDCNHSFMIHD

>WP_419970319.1 hypothetical protein [Aliarcobacter butzleri]

MIKYHGTPPTPQKIFIQALKDRNVLVSFANPQDLEIAIKYCNKIMLDNGAFSFWTKNKEIN
WNKYYSWVSKNYEKIDYYIIPDVIDGTEKENDLINEFFMKVRFVGYGFHHLYSKAIPVW
HIDESLERLSKLMQCFKYIAFGSSGKYSRLGTENWHNRMNDAMKIVCDENGKPKVKIH
MLRCLNPKIFTQYPFYSGDSTNLARNHHRGHVNILNGIEKYSSPKTYKFKIFYKTKNLF
KDSA

>WP_419970321.1 hypothetical protein [Aliarcobacter butzleri]

MLISLEMASSYLDTTKDDLYANPKYRKFIIKQSKNSKFDIDAYYKSIENKQKELDFRIDMV
NFAEFVLKKIGENKFLTAIPTLKRQGIKGFENSKFSLNEALLINQTFKNYLKAYELDNEE
NNKTFIPLEKRKPLTTDFIINRYWTNKRTTLEIAQELNVPESWVQKEIKRLKLGKKENGIM
HKGRKGFVMSKEQREKRQNPQPHAKPIVQICPKTFQIVREYSSKGAVERYGFSRENV
RAINNGGLHKNFLWALKGFEQPTIKVVLKRGNLETCLRASKYKRPSKEELNKFYIVKNLT
LDECANIFKCHRTTIAHLAIKYQLKKRTKKIDIKELERLYVDEKLLAKEIALKYGYTTKSIAT
YLSRNGIKKRSNKEGKLCN

>WP_419970323.1 hypothetical protein [Aliarcobacter butzleri]

MAENITVQPEDVEVFIDAFKSIGGGHLALQVAQNLQKAVKSTYLNKSSISINIDIHKA
NDEMILTGTTKANLPANKITGAFFVNQQTFLPSRNRPDQLVMTFDKNKKEIL

>WP_419970324.1 hypothetical protein [Aliarcobacter butzleri]

MILRTCGLNILKDRIEYAVVEWENNHPIIISNGTIYNKKIGFNLFKITKNIVKSFKVDFTAVD
VGLYNSKENIDYIRNFKNIAVIKGMHQVDTFNEILRKSVLKRIDKETIPYYLVSFKVARHNL
VEYNRIDIPVNDIMSICYMAKEIKGII

>WP_419970327.1 hypothetical protein [Aliarcobacter butzleri]

MRTHGVIYIPSDYYRELKFKKNNRTKARAFMEYYDDNDMGEHNSVRFYAKSWGVAIGT
AHGWIDDFKIEIDKYYATRQLKNDEHYSYAKNQNEHFQEQNMNKIEPTNNDNIEIVKSN
TEQNEQNQMKNKGLTASLSSNINADSNESADENLDSKKKSYSANFEILWNRDYDKKTSNK
GRSQTIIYNNKKWKTDDIKIMLEAIDKYKSSIDLTYLKDFDGFNLGLIETYIPRRRAWVIDSKE
QKHLGWFYDSENKFISSDFVPLKLESSYIADYIANKRFGYIGA

>WP_419970328.1 hypothetical protein [Aliarcobacter butzleri]

MINKDDIRNMIDKFSNLEQKQLPFAQILATNDLAFATQNREKVETLANLAFKRNPNTIRV
TKATKSISFAEIFLNQKSWTYALQHYLGGDRHSKGLLENYLKSKHLLSNEFLIPMNGI
KRTASKIIMQELKNKNLNFYVIPSISYSNSGIYQRNNQKHNRTIMLFKIVRKAKYKKVLD
LETTLKKEFQKNGIKYFKNRLEYAIKTAK

>WP_419970334.1 hypothetical protein [Aliarcobacter butzleri]

MKADLSVFYNADEFKAKCIYKNEVAILYRKNLDMFEVNFESIKARKVDFEGLEEGDV
LEIEGVSYTVINFSPKDFQISISIKEK

>WP_419970335.1 hypothetical protein [Aliarcobacter butzleri]

MKVKALQPLNYKGTVEKGVIELDDAVAKKLIKAVVEEVEKQKIETKSGEQK

>WP_419970336.1 hypothetical protein [Aliarcobacter butzleri]

MKTLGDRYIGGGKVFVFTPLKKGDTLGTETFEIAGEVQSGELSFNVEKKEAFSKDRVIKQLV
EQVVTKIDSTFKFNTQKLTENLVLAKMGEKEDIAYAIGDTLPDGTVAATKAGTYVSIKMA
ENPIQKGQIKFIGDEDGASKPVLILYSVALAPASGFNYFTEEFATLEFEAAVLKTDEGYGR
EYWMEVGE

>WP_419970337.1 hypothetical protein [Aliarcobacter butzleri]

MAKDKNLPLRTKHELVLIDDEYKFTYIAVKNQIQQTLEKFKEEQKQAYENVDNKRAE
LKDLYETKSLNEEILKDSSFLERVIIIEQKTLISKISTLEKEIRELGNLQNLQLENDLEEYFK
RKFELCVVGDGKVSFQKAIDDAGISYVVIDAYINESLRNSVEKK

>WP_419970338.1 hypothetical protein [Aliarcobacter butzleri]

MSNDEVRLRIKIDAKSQELILMNQQVKDLGKSFSDTDSFANTFLKRINIAGYIYAGFQVIN
NTLGDITRRGIEVNKELQKLTNSLTMASAVMISNNDIYGNASVQDKYRIAQIEASKATEL
LQKANINTPHSMKETVQIYDAMYFGMRKVGATTSDMVEITEKLSIAAGNKIGFDAFLSA
MDGISTGTVEANSEMGRFLSSIGLSNEAIKNSSDVVQLFKDKLSGFQVIQDFDTKMSNL
SNSTDMFSKNLMKIPFDYLESKIPSTAALFDSWAKSINEINVYLSNASSLSTYDELINKQY
QLLGQISEVKNDKFMWDSEQKTKLKELNSELEIVFQKLTNIKKDEDLLKNVVTNVDTSEI
DKLVNETLDPYSGKIDEINSKWLSNFNILVKNKGDTTKYVEAWAKALDDVNEKEDDKNK
KALEALKKSATEQNKAYLDISKIGMSEYEKALFAITEQTKSWLEAGVKTNDALAAQSKLI
DELNNKKVIDTAKEDLSYYERLVQLKSDSYEKEIELANIAYTQKALDIQGLNRPIEDKEKL
LDLETQLYNKTLERVGIDNQINGLDEASNSYQDMLEAQIDLLDATNDWNSNLTGTAAAL
ADVASATGKLSKLNLTNLKNEDEKLRTEYEKKNLKFYDNEEKLKEIDLKYTKDKATLDEKN
ISATLLGYSNIAGALSSMYDEGSREAAAFQIAQSSLALVEGTRAILTAGTGDPYTAIPRMI
AMGAMVSSLLSNIGIAFGMNSDTETHSGIGLVAENTGTGTVLGSNEASESISNSLNILED
FAQPQFQVLSEMKNVKTADNISGVARILVNNSDFALGGGFIGSSFTKQNVYLSDSLK
ATMPIASFVDDIISKIPIIGNIAGLSSISGLVNKVLGVSFVKTSVKTTLQDAGYVFADTLTD
AIEEGISSKAYQYVKIKKKKSVFGSSSSTKYKTYGEGLEETSQNFSLILGNIYDSVIT
AGIALDNTKQETEKALENYIVKLGKISLKGKSQGGIQELLNIFSAQSDNIAKTAFFLLNEF
QQVGEGMFETLTVATGMEEAGFYIKRLGQDFEDLKYTEIINKQGDVGFALYQSITKF
EEATYPVNNNLLLIVENLDATEEELYSIYVNLDELDRDLIYLGHEAQLSSDMIMGAGSIS
ELTDAFSSYFDNFLSSDEQLTYNTQQLIEQFNSLNIALPTSKDGFRALLDSIDLTTASGQ
ELYGRIIVLNDAFASVANETAKSIEELNNLSFDSFISVVDKANDTFKSLKDTALSFINSS

SSDLKTNLISYNKKRAEFESYFLSDGTLKDGTDYDKVKSITDLSNVSKTLASNDDYLK
NSLIDVFSNDINNFDFAQDVMKVKIVDGLGDLLSLNFEQVIALKDLFKNNSISKALETLG
LEKNQLDKILEYINNSSIISNNESLEKDRLSTQTLSYNDYVGGQEQVDIVKLLGVSYN
TA KPLIQNLQNLGQLDSSKLF SYVSDLVGFKTGSENYDLTTFSSQIQSLNPYLSVDV
STILEDI KKQALLNKQLKLN SYAVGSTSIEYDQIAQIHKGEVIVPKNFSDGIREGNLML
GDNSSIVK EIKNLIEISIQGFQVRKMRKEVELKGV I

>WP_419970339.1 hypothetical protein [Aliarcobacter butzleri]

MLLVPKDEIVLLSSNVPTIEDGTEVFNSSKTYNLEEFVQKDECIFESVKSENKDVPVANQ
TSPSWLYKGVNKLRFDDYMSLTLSNAESIVCEFRVSDIDTVAFFNLQAITVKVELYDR
NEILLYSLEKKAYKRSVANWYEWTVQKPIYERTLFFKDLPFTLDCRLKITIENPNDFAC
Q GYFMYGRSLDLGLTLIDPKPTSSIRNLLSKEKQSDGTVNFSNSRLYKRVVLNVV
VSSR VTEIQNILEDYTVTPCLYVGVERDDFNALTVFGYYKDFDKPIGLDYTQYQIEIEGII

>WP_419970340.1 hypothetical protein [Aliarcobacter butzleri]

MNSDIAKLT PFDASKRALEGT VNFRENANYSWGWL AQHASEV NKLIDDLNIYKNGLRDI
LSEYVLENLEENVNNAISKKINISDIQDVL DSTADKPLSANQGRVLKGFVDHINEILTS
DDTSLDELQEIVNFIKQNKSTLDTQYVKLTGNQTINDIKTFSSSPIVPTPTAGNQAVNRD
YIDSFTGATITKTGSATFTGEDQIITMTGIGLLDFQIGDVIEVTGSTNNNKLFTVESKSSNY
LVVNYEHRGTSMPVPIKRLINETASNCTIKLYNRAKNAPIGQQGQGWCS PASGRAKDIEY
TNNTKREISTAISWVSGNSGAFTIFRVDGFAPQYASAGSAAGGYTYAVGETTVSASSKY
SLQLPSGTIQYWLELR

>WP_419970341.1 hypothetical protein [Aliarcobacter butzleri]

MLYQNKENQIYSFTELDEKNGFIPKDLKPLTETQLKAYENKPEFGEWNGSEWIADSEKI
EKARVQNINSYTSQFIYSKYPQPKQSSANLGVYDEAYKNEMVAFIKRIIDLSNEAIENGT
SLEDFKESL

>WP_419970342.1 hypothetical protein [Aliarcobacter butzleri]

MNYGYVEDELAIKMAKRICDCIGHGKYNTAVHMIETAVAETGLGKIEDKTDAAAGMGITQ
FDKIPFNDIRNRSIKLRPIILKELGVDISKVDWDDLRYNIFLSLLFARLLYWLKGEPIPKTIE
ERAAYWKLHYNTKLGKGTVEHYLMMNEKYGVKINI

>WP_419970345.1 hypothetical protein [Aliarcobacter butzleri]

MEKSVNFEQFINRHFKISIAFFAIGLFFGIVYSLNLLGFIIDSETLNPVNMRAIHISLMLYGF
VPLMLSYPFLINKEAGISNEGLRYLNLYTLIWIYIFLVFMVMSLLLGNRGLAFYDFAYE
LNFLAFAGLFYILALYKFIKLYKVLPLWIKVCLKVVTIAPFTLLILMNPTIGQVESTISGPHG
DNTLGMSLALIPYYLIKLLNEGEFKARWNILWIIPTIFYFSSVLYRIFIGHLSYNQEWFLQ
YLTLLYVPLLYRWYKDSNISDVAKKALLVSILAFLFVDVEGNILFIPEIRWVHRNDLIVAH
AHVAMGIGVFFMVISMFINHIELHKNIFLKIYILIGILGIFTALSISGFTQAGFNLLETHLWI
FRSLFGVVAFSFIFAFIKINTSYSKLRLYNLIGILSDGIGGVILILLASFLYPILGFSFSGVY
EY VVFTFVSTTGIIHYLALKNESYELILTNSVIRVFASSMFFALYSSDKLGIEALACLDFLSF
VFIYLIFIQKKEFLCKD

>WP_419970351.1 hypothetical protein [Aliarcobacter butzleri]

MEINYTKYYKNHYPEFD FIDEYYIIKVNPKKFDEYWQKKS YLNEAFP NKS F

>WP_419970357.1 hypothetical protein [Aliarcobacter butzleri]

MSDKVRVFEIAEEVGKTSVEVMQKAKFVSIFSGSFQLTFQEKYFLISY

>WP_419970360.1 hypothetical protein [Aliarcobacter butzleri]

MLFKYNFVNHD AEILQK LIEHIVLDVWCNAKGNFNLNKIKEENN FREIVKTKRVSLKKHI
HDIFKICSNLDDTQLTYIRNAFNVNNIQELCINTINPVFYDDLSSKISSVFSEKIKSFFNN

LYEKVFNQKPFYINKHYDKFFESNKAICPFCGLVSLQKNSLVHREAYDHYPKEKYPFN
AVNLKNLLPMCSKCNEYKDIKDPLFDSGRKKAFFYFGVNPEFNIEINIINSSVDNLLDL
SFTSPVMQEEVNTWNRLFVLDERYKNDFFYAENNFATILNHWYSCSKRDAKYVENE
MYLFEQNPYIDKNFLKKSLEACIRQDIFNDNL

>WP_419970361.1 hypothetical protein [Aliarcobacter butzleri]
MDKHDNGNIEYEEYRKIQIKKWIANGMPACDAEQLMYESENDRYRGDLMDQHYDITI
DERADEYGGFGLTEDDIEKYQE

>WP_419970362.1 hypothetical protein [Aliarcobacter butzleri]
MMKNLLSNYSESHNFILDEIINKLKKEDLDKLEKFKKNIFDFFK

>WP_419970363.1 hypothetical protein [Aliarcobacter butzleri]
MSIKFRIFTKNCSFCNSVLTNWDYRYKEKHYCRSCYESSFISKTCIVCNKHKKIHKDSKE
PICKFCEVTNLSCTRCSKTEFTVGKILKNGVVCNSCIKYYQEPKICSCCNKEKLNVSRI
LDNSHKKLLCTSCYNKFLPICSSCGYRRKTYNYNEDNKSICKICYEQGYKKCISCTSLIP
AGYGNICRECSNLKTLNKKVNALSGAFSEYFINSFVDFSKWLLKRGSPFTSLKIQHYY
KYFFMLDELALNLKRVPNYEEIVSKFTILETRKYLLVTTFLDEQNIVNINLKIKEEFANLDMI
NRYLDRFSKGSKSRNLIKEYYKYLLEKLEQNKTIRSIKSLTPAVKFLEYCENNFKDKTPS
NFILEGYLSLYCGQKATITGFINFLKNVKNINISLTNIKPFKFKKVVTSKVILKQRLLDMLRL
PSIPKSKEQLYYRTLIGYLNIEVPINIFINKNDLKKDKNNNTYILLNKQNIYIEDIN

>WP_419970369.1 hypothetical protein [Aliarcobacter butzleri]
MISKNRYTLYFYTFLLVIVSILLFKVELSLSISYKEALNVFINNSMLTFITKASLYFLGQNDIA
LRLPFILFYFFSVILMYKITENYFKYESDRLISIIIFMVLPGLVLSASLLVNSAIIVTFFTLIYY
YQKYNKHLYILLFICLFDNSFAILFLALFFSFKNKDKTLLYISTILFVLSLYIGFPTDGKP
RGFLIDTVAIYAAIFSPVLFYFYTYRAGIKKDRSLSWYISITALLISIIFSFRQKIYIEDFAPY
VVIAIPLMLKTFLHSYRIRLEQFRKVHKIMAIIGMLALNVIFTFVNKPLYLISEPKRHFVY
QYHFAKELAFTLKEQNIDEILCDDEELQLRLKFYNINKGENYYLSTKEFFNYDEKISIKYY
NKDLFDVYIKDLKLNK

>WP_419970371.1 hypothetical protein [Aliarcobacter butzleri]
MKKLENSKSKINMLTRTELIKSKHKNNKTSYKINMDMVNCITSKDNSVGIYFSLPTSFN
HNENRN

>WP_419970373.1 hypothetical protein [Aliarcobacter butzleri]
MRVLGIRVEPKKSTFIVIERDIDDNYTLNNEEVIKVPIALSFPEQLKYIRNTVIDILREYEITF
AGIKLTESIASADLNRVQFEGVIQEAFFSSSEVKDYFSGRKL SIMKRLGISKTNYDSILNGE
QEYPIINWHRLTNKNLREAALVAIGAIQ

>WP_419970388.1 hypothetical protein [Aliarcobacter butzleri]
MSEFNINEIKEIITNRKCLTNSFNYYNEVLNWKNEEAYVVKINNCVFLLLKKNKFKCFYY
FIDEYSNMMLANDFLMTYSKNYLISMEITTKDTKNLEIINSFAKELNFDYYSEFARLISGQ
NNLKNKDKDKDNFLLAEKKDIKNLLETMNKEFDPIIDDIPSEEELISLIDNKSIIKYIEEELIF
IQIFEYKFGSLYSRMTWIIKKFRKPKYTIDIYNEIDSYLDYLDINKNIRAYYWVDVTNKNF
LIGQKLGSKPDGLRCITFLYNK

>WP_419970411.1 hypothetical protein [Aliarcobacter butzleri]
MTKEEFCKRLKDINLTQKEFSEITNVPYSTLNNWGFHEIQVPKWWGPFIEHYEKAKKYD
SIRKLILESKEIL

>WP_419970424.1 hypothetical protein [Aliarcobacter butzleri]
MGLNLIKYNKLNKHQEIFGLNKLHINYMYTKKWDNEENIPYVLKTHLLDSYYCLPERPD
MAFTFLWKCMNNIYSTYQRKNSTDDTRNSISDSALLEFISKGIFLKLNDKLMYSKEYTL
KDIKSYINDIPQKVLNFVSNYILKSYVIDQKLTDKRYISSYKTRFRFPPIHEALLKTYGN

SFLDICNPKIVNYEVVFDIKEENLQKSKDIKRSLSSESLKLLLGNEIELTNNKNTKYNVKID
NDEEFIKFIIFNILYAIGNNTLHGKIASRLNSKTANGKSFASKYIYLLGYMFLSIMLYVSNE
LELNDLSFNFENIKYLK

>WP_419970426.1 hypothetical protein [Aliarcobacter butzleri]

MSNYQQNKFDLKLKYEISEAINDICNLYLDNPKPKLEKYKKTNQFWYFIKNIKFIEHMD
NHILTLSLIKGIKEQYIFSNDLELIFQKDKELIQAISKYKIFLKSSEENFINIKNFYLSKNIYL
DFFKATDILDNKYNILKNKVNNEIIRLKSFAFYDLIFYMSLYTMKQTNKYTLTEYENTGDI
LTKILHDRLKEPDKKRSDYKFEESGIRIVDLLSKNKYNDGLQKLETIINIYKELYLFENTTIV
TFCFDDNFQFEIINEELNLKVIDINKYKCCIPPPFVKTIK

>WP_419970429.1 hypothetical protein [Aliarcobacter butzleri]

MASKTVKSEIFEINISLNAKQTIYNKVSNKYRFWETYDFLKFYKNEVDFSDIFMRDLF
YFLIKVNQYTSKITSECYSIYSSKNYDTSLSAIVPLNSIVCKILQAVIAKKYSLPIFSLEKLI
FASLIIFLKKSSYHCRFRYPYRLNKCIEDKITNGYINAINSRNNSFEFIFNLIETELKKEAEIL
NNNNNNKRLLRVLNKKLL

>WP_419970430.1 hypothetical protein [Aliarcobacter butzleri]

MDNVKICETLTKLNVKGIKAFKDFANFDIDARNEMFKMQRTHFHKLKELHKDYSNETL
SQCSLVIAIREYIKLIPTTECFIRQGNVERMLMERWSYIRKSKLEKLSFRIIAKNLYEKFG
FKVEQSYICKIWNKIEGDLKNGK

>WP_419970447.1 hypothetical protein [Aliarcobacter butzleri]

MCKFYKNMNHFFHSLGIFLTVISMLVLIGSFIYGGFFYILFFQGNQDYVDFNSVLVYIAFWAIL
LATRKSIDSKSSNSLFELTNNKKDSGIADESK

>WP_419970448.1 hypothetical protein [Aliarcobacter butzleri]

MNQNRDKYSKTNEKIVPWTLFIIFLISIPILYILSIEKVRFDITNDFNSNKTICKVHDIKIEV
SKDDGWIIDDSYKFKVKGPTLIIISRCETKE

>WP_419970449.1 hypothetical protein [Aliarcobacter butzleri]

MQITVIFLTLITL FELKIYKSNIKSLKSYIGYYKFIKSNKNIKFKKDEKISIINSKNKIVKTSSN
SFIVSTVILIFILYNISGTVNILLILLFILSILKYIKIKKYGNVYVNCYKN

>WP_419970450.1 hypothetical protein [Aliarcobacter butzleri]

MRNYILILFLIIPSIILFFSNINDSKEAAIFLFIGGLVVSFLNYKKDKDERVMRVLNKWL

>WP_419970451.1 hypothetical protein [Aliarcobacter butzleri]

MKKITLLSSGVALAALLFTGCAKNSTPISLYQAPKDDIVLNIKQDEVKKGTLILQNGDKIFD
NEGDIVTSFKVNNKLYYIVQSLIKGESHFVKVNSSKGIVEEFKANKITWFNDDNKFVLAV
KLERNKTDIYDNIYEFDGNKFNLINKNLDLTNGYFIDDDKLTYNRIVSRSGMYIYIESLFE
QFGNLTFLSKQYVTNISTDKKIDFKIKTNYEIGNNKPIILGIRNDIIITYSTGSLFTLSLPIII
IEAYDMKMNKAYTIYSDNDSKKIQFLNSGNDVVLKIFDNTKIQSEVFYQNYVEDFKTKYM
NESAKTIHLNSLKEIKNISDSFKVIPLKTYFKNISGNTVNQMLITFQGSYLMNISSTEPLF

>WP_419970452.1 hypothetical protein [Aliarcobacter butzleri]

MDKĒYKDKNSKTKVYYVDNNYEQTREQLNKLVEELNNKIVPPKLTSNVNLNRRNVYY
EPTFINIFASGRDEQNNTNNSLDLDFKFLDENSNYIVVTNKKYSSNVEAYIDYENIMRGIW
SRWLWNSYDKRDEFGVKGTFGSYSINEIELKNSGIIKFTTKKERVNRNYTPLIKKQILDG
GYEFVDKIEDADKIVEIEFGRDYNSEIRELKKLGRFLDVKFSTSKSNFYMEQSAMSVA
GNLSNSSSLGAGVGIGLALIGALIPNDSLFPVIFIKVIDKKDNKEFLIRNLVGTDLMTYDKK
FMSDEIYERVFENSENATQELRRIQYNIYSGLIKDIKNYQQILNDKK

>WP_419970453.1 hypothetical protein [Aliarcobacter butzleri]

MRGSVYYQSSQLVKQIFQEGKEDKINPNHEHYQMVSSTYKTMESYRRVWNNFFNYL
KEHWKIRNFEEKIEAQHIQAYMDYKIEYYPSKQYLEKISAALGKLEIALKNFSKNIHKIEKYY

DFSIRQITILNEARDLKLVANNNYHNRAYKKPMLLISNLKNPINQLAAKIQLEGGARIEGVALI
KPEQLLGKIDKVTQVEKGIIFTKEKGGKQGEVLVSLETYAELKNYLSLNSKFKINRQDYY
NDIKQAAFISKEVSEGGSHGLRWNFAKRRMFHEYGKADYSYYDSLQEVSYEMKHNRASIT
EHYLG

>WP_419970454.1 hypothetical protein [Aliarcobacter butzleri]
MLPINRLDKFLICLYNFANIGKLIHYILAIYITINIYFGINDGQIAIAFVFCFMMLILLAIDLND
KFKREFNRYKKYLKIKRIRSYKGL

>WP_419970457.1 hypothetical protein [Aliarcobacter butzleri]
MAELVKFNITNMIIFININQIDQKSRANRIQEEYTVLQQNIDTGVYDSSRVSEVVNSIIVN
FKYLYDENFKYNQKSCKDTLETGLGLLKVFNGYKEKEFINDKIFASFNDFLYERIDSLSY
PINKNDMYEEICIEILKSNKLHHDVYNPWWGYSRDYNIFDQPMRDKFCSEHFQKVLKTL
SYRSANNPKIKNELYLSLIKKYNEILNIKDNKEQILLGNS

>WP_419970458.1 hypothetical protein [Aliarcobacter butzleri]
MTKKNSVILKRLIRQFSNGNFHSLKSLIDFKTKSDVDVIKANFNLYKNTQLSNIIEKHL
FPENLSDLKNYPRIVKTTMERELLWTAFLINNNVKNINEYLLFKKEYESYVFIGEYHEALK
ILNLVKEYFGYSLWLIQNELILKQKIEGLESQKDYAKKLNKSNKKTFFISFFIHFFSIKCED
NITSNNFKTILATWEHLGKMRQRNLKIA

>WP_419970462.1 hypothetical protein [Aliarcobacter butzleri]
MFIIKEYSMAIKLDEVNKILYAYDIKNNVIDENSKKILTEANNLIYKKIKSHFKINTQDFGLHI
DHYTTEEDEYLETVEIENIKQRSLNKNESKKMITQNEMLNYLENKLTSSKI

>WP_419970463.1 hypothetical protein [Aliarcobacter butzleri]
MQNEKMQILGSFSQGKITKDELKAGNIESDLDMIEDKSNKQTD

>WP_419970464.1 hypothetical protein [Aliarcobacter butzleri]
MFDFKNIIDNELYKKKFMESKRYSTRIEFENIFESAKIENEKEYYDSPAIKKIVLEIKGEL
PTITARVYNINLVLFKVNNGKLSLKEYSLLTGEDYITLKKILKNA

>WP_419970465.1 hypothetical protein [Aliarcobacter butzleri]
MIKSFVQKILMAASKKIRAERIALESQEEFANFVDIKYSTYKTFEQKGGKITFENYVKILIKI
NKEEQFNKFLEGFENFDQKERANKKNENDNIYLPKIIEPSQKYIILDKKLFGEELFYSVE
DGHRYEIPNFINIVLNKWNEKRLMLLLKYFGPERLASHIIQQKDINLLKSFNKHKAHIYKQ
LNN

>WP_419970471.1 hypothetical protein [Aliarcobacter butzleri]
MNNFIKIFFLFIASLLTGCYHNYKIDNTSQKESYKTLNELSVVIEQTDTKIINAQRTNVHY
VNWGNGTGMSPVFTFSEPLISNESCKSLNKIYFNKIKNKLPLIQLFEDKNIIVNNNQAT
KKLTITIKENCTNDIYLQASLFEDKNLIYQNLFILDSYSNSNSFKTFYKDEKMDINKFFK
VLIEDLENTMKFPLKNSY

>WP_420061005.1 hypothetical protein [Aliarcobacter butzleri]
MESFEDFKKKYEFKYEQTSCLIYEMYIRAENIKKEDLNIDTSFNYSFSDAPRIKDIYLNYS
NSNMVTLQNIINYPELYIDAIWITQYHVHQQQLISINDNLSHESIKNILKEQKEIIDFFSNIL
SKINPHISRFLFYNDEFFEMENVHKLISFRDIIDNIENNLDVNEDKKNFFSSEVETEINKLFE
KMPKTSTYIYQYKNAENIYKILEERTDYKDIEKNKSYLKIISKSIHNIIGYLLDLQQELKISLN
DDIESFEIEISGFHRNIQNHNLNFSYPLNYLENEYNKKEKHFIPLIESPYDNSYIRITKKY
VQDLIKNYLLNFRITPNFKRPIFELNKISPLTTLHNINLSLPIEELTSYIQNLKDNYNKTLNIE
EKTKEYEIIHNKQIINVEKHLTDLETAVKILYIDYPLSKKKIEKDEIKIWAKLKISKSTYYLFFK
IGTTYINEKKVLRII

>WP_420061009.1 hypothetical protein [Aliarcobacter butzleri]

MQNYFYKIKVETLLKYFFISSLFFVLLFFVADFFTVYYKYSTAKFIFLDERRIFLEKNILKLS
GVTTLIIIGIFLKLKRDIKFYLSDKYLVAFAIFITYNILNGSELRPMFFFGILITMFIYGIAIKLI
NQNYIEYNFLRIKKFIIYILSIFLLTPLLIHFTHVLLTNEVYYAFEYVPQLYIVDSFRGFTLDRI
QYSFLAGILILFLLFDKDKIKYNIILGLTIFAIFLAMSRAVIVAIFCALIFYYYIENKNKSQSIKF
IIISIIFILIAFYVSNRMELFSDGGGRMMLLNHSLDKIFESGYKSFLFGSGDFYTTYLNGLY
PHNSILQSIMDFGFIITIFWLFLLYRFFKILRNQAKVMFIYIFIGMFHAGFSVVFMPITLF
GYVCVLILNSKENINL

>WP_420061014.1 hypothetical protein [Aliarcobacter butzleri]
MFY_TLLDKSNDEINKYSDAKKKMKITEKKYEEDLNKEFKKEIKELFFNYKIIKKKIFLSFKSF
F

>WP_420061016.1 hypothetical protein [Aliarcobacter butzleri]
MKPSKEEQFLKIIKFMPSVFFVVFVFSIFILFLYFENKKTFTKEKKEIEEKYILKNKELNFRT

>WP_420061017.1 hypothetical protein [Aliarcobacter butzleri]
MIFSFFIFSNEEKIEQIENKEEINIDILKHKYKFQSFQEKLDLIFQDINSNSLDLQSLEFKQN
RLKLILTSSKKEDLYQFLEKNNKNITFSSMNLLENSNLYEAVIDAKIFE

>WP_420061018.1 hypothetical protein [Aliarcobacter butzleri]
MKKILPQEKLTLLEIEVSEKIDNKNLKNFIFTNFKLKNITTNKKR

>WP_420061019.1 hypothetical protein [Aliarcobacter butzleri]
MKTTSYKTTNIIIEKLEKQENIEVISNKGFFKLFNKKYADVVFHSGSLDEKSIKKYKKI
QKSQ

>WP_420061024.1 hypothetical protein [Aliarcobacter butzleri]
MENLFFVISILVLLGSLLFVMVYALFFNNEYEYDFDNGLLYIAFWAVLLTAAVKIVHKSPD
SFFKIK

>WP_420061025.1 hypothetical protein [Aliarcobacter butzleri]
MEVQNEKMQUIGGIFLMFSKGKIAKEELDKVIAIENDLSTLESKK

>WP_420061026.1 hypothetical protein [Aliarcobacter butzleri]
MQNEKMQUIGGIFLMFSQKITKEELDKVTAIENDLSTLESKK

>WP_420061029.1 hypothetical protein [Aliarcobacter butzleri]
MYNNIVLVADIFEHTEENINFNSTTLEKPSQEYIDDVVKALTIYSKQVFCNSPKELNNYL
VKNSVDFVMTIYGGEISRNRLALVPAICESMNVKFLGADVYNRIICQDKNLCKTFAKRFN
ILSPNSILYDENDISLIKSLKLPLVVKPNYEGSSIGISNKNIVNTFVKAITLIKELLEIFKQPII
VEEFIGGQEVNITLVGDNKNINIFEVIEDIHIEDINFFNNNLYTLEYKQLYCEKFVSHKVIDK
FDVETKNYIIDMYRHMKGVDYLRVDGKILNNKFYLIELTPDPYCGRESSFSKAIMSNGYS
YEESIGLLIQNC SKYYYQTQYSNEIIRTL

>WP_420061031.1 hypothetical protein [Aliarcobacter butzleri]
MEQDITCKKEKELFFSYMLIFAVGAIFLLFIWWLYYDNKSDKKRLKTHLKIKN

>WP_420061032.1 hypothetical protein [Aliarcobacter butzleri]
MTQNSERSLSLPFIVLYFHLNERANLIDDFNNKELICNMGSLKIDVSKADNWSVDKNS
FLKVQLIFQLQNVK

>WP_420061033.1 hypothetical protein [Aliarcobacter butzleri]
MVTNKIFDRVEQRYKITRFLNSNHNNIIVYGESGVGKSSIIKSCLFNDNKYNIEDVISYSF
LENSKINATNFIPFLKTYKSFRRKNKKVKLSSISTGISFIGVPTISASFSSVSQDYEIDED
GIDLLMELLYESGIKVLISNIELASNIIDINALEYIKKSKKIKIKTIYEIGTLVKSDFNSTFEE
WLTNSSIKLKIKNFNKQHSCELYSFINHTKKIPINIFSKTKGNSFHIVHYFDNIKHQSINEIV
SAKLSSLSADEMKVVIYLYVLGGESSFNEFKYYLNIDNLEYILQILHESKIILLSGDSFLFY
HAFFMQYFNSQNIASITKAREEIIINKFFQQRNQTLKDFLITINQFYELNNYDKIFKYGWIIF

KKLYKDQNYVIALNVLELLIESDNHFENKNV KLLIILQLQLLVLIGNGQKARMI AEKHENLL
EEDKIYPFLNSQILYQENNFPKSNEIINKNIFNIEQNHYLRAVVLGYNISNLIAMGDENTKN
SFISAIESTNSFKDDL VYFEIIFASKMHESWSFGIEFYNN TLKNNNINLYPYTKAKILHNL
GLAKLLSSHAQDGILELKKANEYFEKSESSDIVYNL NALALYNIVIFDYNKAKSILFDSINL
CVEQYDKFAIFSNLGS IYLLEKNFEMA EHFYIKAYKV TYDKFYPLKDP SVQY MVN FNLSI
LYLSKFMWNKNKAIKYLEKIYIPKSMKYHKERVNKLENIKRYLLL NKKISVFRNEYNGER
DWTG

>WP_420061034.1 hypothetical protein [Aliarcobacter butzleri]
MTDDYALEEYKILHAIK

>WP_420061038.1 hypothetical protein [Aliarcobacter butzleri]
MEKSSFASKKLTFFTLFLLVFSTSLFAGSTAGGFESLWNNAVDILGDKYLG YLVAGYLLY
EAYRQRVANETGKAVERVIYAGAFGGFATLAEQTAGALL

>WP_420061039.1 hypothetical protein [Aliarcobacter butzleri]
MKKLEKSISNKLKLGKYSLFELLIPLCALLSTTLINWEKYVGEAEYVVRGLLFIFALEFWK
TVNRLKRRVRSYKAHWLIKAKITHLNHFSTQKQFIG

>WP_420061041.1 hypothetical protein [Aliarcobacter butzleri]
MKKGLLFLLLATGLFSQDVIVDNEKIISLEISNKSENLFIFKEPITDSVFTKRNDGLIVKRNS
VNVDREFLVKFPVGVGFEMSADGKERVQVGTKYADQIADIFFYGKETGTKYIFRLKPT
NANDLVFNFLLNQKVLNDISKEKIYNIEKKDSYRDIIIENQKAIFTNKNSTVDKFKKQTI
NKIALDDDNQIVTHLSRYEGASFLHDIYEIKSKIDNLNVGSQNLYKYITLPPSKEEKRAISI
LLD TVLNKGETTILSITKDLE

>WP_420061043.1 hypothetical protein [Aliarcobacter butzleri]
MKKWLLIGLCATLFSGCGLLPYKTDYTCPNAIGGSCGNALRSYNGALNDVYNNIDNSE
YIGVAK

>WP_420061046.1 hypothetical protein [Aliarcobacter butzleri]
MINLELGKGLKFFDKTKVFVSVVIIAGAILFLFQEEIFKKS VYYYVDNATIRTMFQSQLQK
QILEEKIKDKDQITNLVINFDNDLDEAILSITKKFNVEIHASRAFYSNAEKVDLTSAILQNL
ERGVVFK

>WP_420061050.1 hypothetical protein [Aliarcobacter butzleri]
MVKIVFFLLLATGLFADNTGNNTRNYVVKNF TNNIANPLTSDTNFTTMDGKKT FKANISC
GNSTKSFL EISYTG TSDINVSVKLDKDLNGSKE S LFNFNGISGVGTNSIVKCNPN SWNN
CKYYGFSYDGN SLTYEQSRFNAGGLYCINSSCGSLATNNKVDILNSLGGAISSILSSYH
NNFMVTKTSNTGTKIEYFGQDFSNCSNQKNFNSNSIPFSETNGDNILRQKVDENVSS
VVYNNVIDTSQNYTKTNPYNNSFSYKNTHTQLNNTLTLNSDLSFSYSTDKGTGTGKLV
GSNLANAKFCQITRPVKGSEVYSDGTNKSTTSSTISYEDEIIECVGDNYSICPVVAGETI
KYDCGKINNFAEVTSALS AVEEATNDFICSTN

>WP_420061052.1 hypothetical protein [Aliarcobacter butzleri]
MSNTINNSKQYEAMQLNKENKKELLRALFESYKNRINTGIGFSSMETVMNDRLMSFKNI
TKKEIENRFYTAFFLIFIGYLIYINIASLSINFFLLLAGINGFLFSMITIFLLKNISPLRTNTEKIA
FKKVMYDVYFETITSAHLIYYIFLFI LSILLIIFIFFTEPQLFYKIDL IILKLSYKLNIVPFLFF TLL
KNLLIAFIAYVLGSFLYLYIFIFRDIKKI KGNDDN

>WP_420061053.1 hypothetical protein [Aliarcobacter butzleri]
MITDRDISLLRFINIFGYSFIPVIGKTFKSEITARARLRKLIESGILNKKKTALMNP RYGGF
LTKDTHLFLKEKYNDKALLTQMKVSRIHMLLEQTAFFYLNKIGEVERTTIANHYKELNHI
PDMIIKDNTGRK FYIECETTLKSRQSYDEL LSKSLKDNPYAIIYITESDLKAKTI AKAMPIS
KKLFFISEVKLIENILSKSKINPISQEDLLK

>WP_420061054.1 hypothetical protein [Aliarcobacter butzleri]
MSRLEKTKALIDFIKSILALLVGLFGMASYLVINIEKINATQAIITTCGIIIDFVLLILTRMAF
KKINDLEEL

>WP_420061055.1 hypothetical protein [Aliarcobacter butzleri]
MILAVNKNLIKIVLIKTFLLSLSANEYIGNCIVPNVLLKTVQITENETSNPYLIRTNEDINSF
YNIVNRFTHKKQKDKNVIDCLNKENCTYITNSLIENKIINIDLGLHQINYKSYKYEINSYFD
KFESYINACTVIENKIGKNKHKWSWEKLAEYHSKTPALNEKYKQKLIDNYLKLQ

>WP_420061056.1 hypothetical protein [Aliarcobacter butzleri]
MEIFICFALTFFIGFIKTSSKNEFKSNVSNKNSQNDYTEYNPINPAFSDDFSSK

>WP_420061057.1 hypothetical protein [Aliarcobacter butzleri]
MAVSTENILKELTKNYEVNLRLELDYNNKKNKPVARLYQPTPKAKYTNEKQLFGFYFD
NEDRRIEFLNNDYKKRIERKQYNEDYKKNKIKNEKEALEIKIGDVFKDSWGVEQTNVD
YYQVVAKPSKCFVIVKISSFTNDNTGCSMSAYVKPVLNSFIDDKETKYKLNKGSIKTS
SFSSANKVENIETEKAYCSWYY

>WP_420061058.1 hypothetical protein [Aliarcobacter butzleri]
MEKFEVYLLDLGGKSLEATFDNEKEAILFRDEKEDEVSKGCFAVLFEIKRVIC

>WP_420061059.1 hypothetical protein [Aliarcobacter butzleri]
MNKNKLIKNIKLSFNIKMLQGFIKIKDEEKNEVLQYELNNILKNKRKLKRVIYFDLK
YKGYSYIPF

>WP_420061060.1 hypothetical protein [Aliarcobacter butzleri]
MEKLRISIVNFVRGGKSSARLLAEHLNTSILNFDQPQRNSEYYNAVKTNNIPINSKIERLE
NKLMIETTSKIIDISSSSNMFCDFGGRFDERIKEFESDLYIVPTMDDFESISETAQATHYL
KHNPNAKIIHILNMAMCISKSEKNDFINGYFENMKQNKISVPYLIMPRSNLLKKMINSK
TNDIIDTKISEKNYSINAFVRDLIFKIKEISC

>WP_420061061.1 hypothetical protein [Aliarcobacter butzleri]
MRVTNSQEELEKKEVEVKVTQIEKNKQVNNKGGRTAIPKSEQRTNRIFLGFTDEEIFN
LKRIMKLEGIEDNKYGLSTLIRKLIAREMLRSGFNF

>WP_420061065.1 hypothetical protein [Aliarcobacter butzleri]
MSENILLEDVFKGTPKTKASYSIDSNVLKEFDKICASKMKKSRVIENLMKIFNEQQQN
LFGVLK

>WP_420061069.1 hypothetical protein [Aliarcobacter butzleri]
MNLNKNEQKAIYEFLNDLYLKIHQNKEKEKSLFENYKIKDELLELVSMGTSINGKEIKSL
FENILTFISKSSLNITSIGFHNITISDFINISKKIGIDEALINKVIKV

>WP_420061070.1 hypothetical protein [Aliarcobacter butzleri]
MSNYLFKKANQSLNKKENEKKGFLFVLKIIFLCFIIGEIFYVDSGRHILDFEFGFMTILLFI
RSVFGFLIIASFNFLKEAITTKWGKKEE

>WP_420061071.1 hypothetical protein [Aliarcobacter butzleri]
MATRQEHAHRMTRIRVKKCERNINKLVNGIFYFEYKKNKGDWNISKLAKDSGTAGIQFIN
F

>WP_420061072.1 hypothetical protein [Aliarcobacter butzleri]
MNIGGRFELVFNDYFNKQEKYKYKVDLKDINPDWNNQTLGNLSNYSSISPIMIEICKIT
KINLNFLIGTEDNMYIDEKEKYMIEKTELKDSLKYKSNTPILSIKINDVLKFQTNINIF
FTDTKKYIVIMKGGLSGIVSISNHYEKNKLFKFDINKEDFFSICKEDIEIIAEEIIA

>WP_420061073.1 hypothetical protein [Aliarcobacter butzleri]

MILKNIFFITITSCFLYSDELHQIHKGETYKVLEKDLIEMIQEHITENKDMIEQKLNDFQSQ
TKNKMMLNKNDFNLPFVTENEEVKDNLAYMITQKDLAPKNVPLGTIVYPLKYTVLPYQIY
LINGGEEKEIEWLKKQDYKNIQARVWIVNGRLKDLTDDLIPVYFYSEKIHNRFKAKGTP
AIIKQTGEEMVFNYFKIER

>WP_420061074.1 hypothetical protein [Aliarcobacter butzleri]

MSIIKPNAGDKKICPICGEKLVTRITSNKKGKQYVKCSKNGFLEETTKATSCEFSIDLKPAIIA
KNKNNELTDIEVIALNNGEKVKKGAGHFYIDGIPDIPKGSEKYYVHFTFDEAVVEDF

>WP_420061076.1 hypothetical protein [Aliarcobacter butzleri]

MIEILFFFKILDENGNFISTISSSQKINYKSRVSLNDLYLAVKEELLSSIPKDYKIKIMNDEEI
KEYN

>WP_420061077.1 hypothetical protein [Aliarcobacter butzleri]

MKKLKNNTTKNYFKFLDIKRKIYFFILYGILEPISLIFFVTFFLNKFNLQITFLQLADYSDDVLK
AYFIVALFFGGFKFFFTNSNFWEK

>WP_420061078.1 hypothetical protein [Aliarcobacter butzleri]

MQIKRKYKDNQSRLLIIVCGYDEKLDYVFMCMYHKEEIIYDNLELENALEIQDFTIFYDIA
LSMFGIDLKKEMKIIKDYIGEIKK

>WP_420061079.1 hypothetical protein [Aliarcobacter butzleri]

MKKGLLFLLLAGSLFADDIELKIQEIIPQTKIAGVKQATNDIYAVCPDSKNINLFYVKPDEK
LLFFGEIWENIGTNLSENLASWCNSLVKNNTVTFDDKVTTLNKSGLEIKNGKGSQNGVE
FIIFKSATCPHCMDLDSFLSKTNTTTYNYMAPSIESENYYNKYTKNAKDLLKKQLEIVVNL
NLDISAVPLTLVTKDNKLVIEGADLKKFRKYLY

>WP_420061080.1 hypothetical protein [Aliarcobacter butzleri]

MSYEQALYKNRWCDIIITIDNIIIDYNNQELTSLKDINEFR

Supplementary File 2: List of shortlisted essential non-homologous proteins :-

>WP_004510196.1 hypothetical protein [Aliarcobacter butzleri]

MIKKLILIIALCVTSNASINDAVQNLLGASDYNTHRNLINHIFKNSSSFYKNGQIDYVKITQ
ELSNNNLLKLDLGGTKDIEVSFSFNTNAKSMKNINDILKAIGQQNFITQSEVVIEDQLK
WTIRLKTAAAINPLRLSQELQSTNSSIVDIKREGNLKWSYFIDSTNSTVYKTEDLINNKSL
SLKKPNKPYIIIEISNTSAISSNINNSWYPSIVFYDKDFKIIIEIVEKDSLHKNLVIDVPNNTR
YIKIDDLYSANLTKQGISITKE

>WP_004510348.1 hypothetical protein [Aliarcobacter butzleri]

MKIEFKKVPQTAKELLTQFNSVEIEGIFCRISSSLVKVEAVLKGNTAIDCCRCGVSEIVEV
NEELRLLSDGIYKGNEEFLVIEIENSLIDFDEIIESELNSIKSDYYICKNCLQNSDNFEKE
F

>WP_004510585.1 hypothetical protein [Aliarcobacter butzleri]

MINEDRLLNEANSLFLQKRFEEALFLYSQLSSNFPDNKEYPIYALFCDIASEDVSKALSLY
DYFTVIKDDSLDEAIRYVEDIVNAYDGDIDKMMEILKDLSTSTVESLDAIRYEDFKKLEIEVR
GSFRIAFEDIMFSTKVAIENKDDFYDFVTKLIDNDFNSTAYSILDGFNEYFTYDKEIEKLY
KKLEEKKLETNHKR

>WP_004510999.1 hypothetical protein [Aliarcobacter butzleri]

MKYILVSLLSVFLFTACSGKKYFEPEDTSSNIELNEKSIPATIKSFNKIGATLEDNKVITKN
GISQNELPEGFEFLNLTEDGRIIATNYIDKILIGNQERKVSEVVVAASLRNEKLALIYSNNS
MELIDINTNKTFLKEYLPISLANDTRITNPFFMGNLILFPSLNGRVIIVSSVNNEAVRNISVD
PDSQFNIIYIGVIESNQTLIVASPNRVVVISPRDVISKEYDLRDIIVNNNDIYIATIDGQIIKL
NATLDQVAKKKYKYAKIHALAFSDSLYAVESQGFLINIDENFDKDVYDFSFNEERMIAI
GNKIYFGSDYITLP

>WP_012012715.1 hypothetical protein [Aliarcobacter butzleri]

MKSLKNIFAFLLPLLSMLITFTIYLLISNIVENYKSKISRDYSIIIVATNPIKNISELAGIKVEKI
QTLPNDKIIENIKSNLSNNSVELLKQKLPNFYQIYLEIFPTSTELEVIKNTLLANKDIKKVEV
FYKNHNQIYLLLLILNSVSFILFFIITLFAIIIAKQIKLWFHEYRVKISILRLHGASILYSASSIL
NYALLSSFLSFLIAGIFLVFISNNLDVLFPLELQEIVDVKINLVVELIKLFLLSFFISIFTIFGVL
LKYKISND

>WP_012012985.1 hypothetical protein [Aliarcobacter butzleri]

MIKLNSQSSIAIVFAILFFALCLYFPKIYLRNNIYYTSKDINKLYAHYISLQEENTFLSQCLE
DMKFKNQILDSELLFNPLQQIDQSKDLQED

>WP_012147952.1 hypothetical protein [Aliarcobacter butzleri]

MKKVKFFKVGIVFSLLLFFCTNLNAENYILNDDKLIDRAKEKINQIGDEVKSKLGVNIYIY
AKSTLGLDDNIKTKEKIEIVKSNENQILQNLKAPYILMTIYVEENMVNLIPTDFKNIIDKNE
ILDGYVPLLASKDKNSLYAKVSAATLNGYAAIADTLADSKNIKLENSIGNSGKVSGETIWR
VFMYTLVVVALLVYTYAVLRKRK

>WP_020848489.1 hypothetical protein [Aliarcobacter butzleri]

MIEILVITISNPLLIYIENKKLIKEYKLDGKTSVDLPTLFQKLLNHYNIKKIIVNTPGSFMAI
KVAYIFLKTVCLTKNIELNSVSGFEFNNNSPIKALGQKYFINETNNLKVDFLEKDCIICDFK
LPLCIEKYNFNKETLPIYNLPAV

>WP_041644687.1 hypothetical protein [Aliarcobacter butzleri]

MDNÑSSLRLIDANLNLREGIRVVEDIFRYVYNNKEVATKLKNLRHLARTQNYEELLETR
DVKNDVLRRESIKSEQNRDNLNSILIANFKRAQESARVLEEFTKLTSIKDSENFKYIRYELY
NLEIVLTKITSNSK

>WP_046998309.1 hypothetical protein [Aliarcobacter butzleri]
MIKDIIENPNYKELIEKQIQDIIVFLLDNNQEFSITANITPITFNPVLP EEIKSQLHKFSLFVLS
NYTYTTTIEINEEFLSFEAGFGNENFGSVVKIPLHAIFQIIVEDSILYLNSIATVEKFNRNLEK
NSFNIFKNNPNNKRFN

>WP_050071245.1 hypothetical protein [Aliarcobacter butzleri]
MKIIIFFLVPIFLFSSTLVKKYETGETFQFAEKDMLEEIKNHIENNRTQIENKLE EYKKVAKE
KVNNYKPADLKKLTPAIKNNTFYDPMTYTNPNNVYDNNGNIIYPKGFQFNPLDYQTL PY
KMIVIDGNSKAQLDWLVENNYIDNMKYMILLSDGNYQEVGEK LKQPVFYAMPKITEKFN
LEHTPSVITQIGNKMEVKEICLSCKEEVKK

>WP_151944557.1 hypothetical protein [Aliarcobacter butzleri]
MKQLLTLFLVAFVFLGCNQKQVVQLKMPNQNKSVPTKVKEDKTTVVEEFISNDSIIKEEV
IDNSNNGSMNTVQPQADEETVAQQSININIDETRANVKLAFVYPSTLVSKYAKSSSLTIS
GYLSYKQANYNLIVVDSKNESYENINNAF SKLKEEGVTKVIALFTP NALNNLNKIVTDDF
KVYLPLIEKKDSLENNDNLIFGSISYDDQLK KLSYYSNGKNSTFYQETYLGTKLKN SYDF
VIGNSNLRKEISNDEKNFKNIVNDSRLRNSSLFLNTDLVKSSLILSQMTVYEINPNTILAT
QILFDPMLMVL TQERDRQNLIANSIGDVDSK LKDEIATVGGNITFEWVDYSTLVGTNYLF
SNGNSSLISTKIENNQAVYTPRLFKSTDIGFLEIK

>WP_193220824.1 hypothetical protein [Aliarcobacter butzleri]
MSQEDIEALMSGLDIASDGNSEQTEETIEPAKVNTKEIEELLSQTEEIKDKDDTTKVQESI
ETSVANIPNEDNANKNNKINEIENLLNDIEINSPKELVSSSENVKKIQDDDKSDRSEDEIV
KDWTSSKINEGVFPFAESDTKVVTQLSQVANDSEEKVSQIFDVLSLGLDNNNELRKAF
KEYDSFITAETNLLVSLNFKFPNIKIFDEHLKNIHTVKDSLEK LKALLNDEDMHIFQGMEL
MQFNDINRQKIERVMSVIRKLSIYLNLFEDDGKTTNLPMAKHIHGDETEDLVGDDLDKL
IAEFSQKD

>WP_260901056.1 hypothetical protein [Aliarcobacter butzleri]
MFEIVPFIVTNLVIALVIGIFIGYLGK RNEIKTIKTDNEESMENKKVRYRINPIFNKTSSLD
YKPMVLSSSSKIDNFKKIKGINSQIEKNLYSLGIFHYEQIANWTKNKNVEWIEGFLEL PFHV
RNNQWVEQARILKNGNETTYSQQVENGEIEVD

>WP_260901348.1 hypothetical protein [Aliarcobacter butzleri]
MLVIGDKLIPFENIFFISSIQDIKNTKANSTLIFNYDEVLLKYVSQNSISSAVIVTSIKEAIYAN
CLSAKYIISNQDLAKEIQKIADNYMFDSKNLAIKSNDEFKQIAKNEIDGAIYEYLLELSDS

>WP_260902335.1 hypothetical protein [Aliarcobacter butzleri]
MKKNLFLIILINIFLSLNLYAAKNLYLSYKQIPDSVYKNQRFEVTVKALITTDNFTNLTTTFS
NYSNIELLNENNPWKKISNDTYENSYFFKVKNGNFKLPNIEVNLWNQNLLVDSSQLSPS
LIRYSEIGKSDERFSNIIADNIILKAYTKQYNNNSALTIIDIDAINSNLEDFKLKNVEEQGL
SNLKEWEDIQNLVYYFVTPYIYQKNLTFYTYNTKTNSFKDVKVPLVLQNELVSTQTDLNPN
DSTFEKYKKIAAIVVFVIFLLIFWKRYKIVFLTIISLITAVLYNLPNSTGIVKPDSFVYILPTK
NSTIFFKVDKEEKVEVLQTKNGFIKVLGVDNGFIGWIK EESFETN

>WP_260903722.1 hypothetical protein [Aliarcobacter butzleri]
MKNFENIKTSDFIISFGTFFENNLELKDGV LKSIEKNQTKFVYMFPIDNANLKP FYTQFIK
YEVGSEEGICALLLDTFAKNYDEKTKEFINNLDLGYISAESSAGEEEEFEEAFEDYENSNS
KILIIGEDIKNHERVDNIIKLLATIKKYSDFDFLILDELENKINSCEDFDLEEIEELKSFNGT
LVYSLVGVDLPVLQASQTFANIAKVKDGENIQIISKNEKINKILKIDEKLTGTVAILNVKNSP
NEYKYKQVKIEKE

>WP_419970369.1 hypothetical protein [Aliarcobacter butzleri]

MISKNRYTLYFYTFLLVIVSILLFKVELSLSISYKEALNVFINNSMLTFITKASLYFLGQNDIA
LRLPFILFYFFSVILMYKITENYFKYESDR LISIIIFMVLPGLVLSASLLVNSAIIVTFFTLLEY
YQKYNKHLIYILLFICLFDNSFAILFLALFFFSFKNKDKTLLYISTILFVLSLYIYGFPDGGK
RGFLIDTVAIYAAIFSPVLFYFYIYRAGIKKDRSLSWYISITALLISIIFSFRQKIYIEDFAPY
VVIAIPLMLKTFLHSYRIRLEQFRKVKHIMAIIGMLALNVIFTFVNKPLYLIISEPKRHFVY
QYHFAKELAFTLKEQNIDEILCDDEELQLRLKFYNINKGENYYLSTKEFFNYDEKISIKYY
NKDLFDVYIKDLKLNK

>WP_419970373.1 hypothetical protein [Aliarcobacter butzleri]

MRVLGIRVEPKKSTFIVIERDIDDNYTLNIEEVIKVPIALSFPEQLKYIRNTVIDILREYEITF
AGIKLTESIASADLNRVQFEGVIQEAFFSSEVKDYFSGRKL SIMKRLGISKTNYSILNGE
QEYPIINWHRLTNKNLREAALVAIGAIQ

>WP_420061029.1 hypothetical protein [Aliarcobacter butzleri]

MYNNIVLVADIFEHTEENINFNSTTLEKPSQEYIDDVVKALTIYSKQVFCNSPKELNNYL
VKNSVDFVMTIYGGEISRNRLALVPAICESMNVKFLGADVYNRIICQDKNLCKTFAKRFN
ILSPNSILYDENDISLIKSLKLPLVVKPNYEGSSIGISNKNIVNTFVKAITLIKELLEIFKQP
VEEFIGGQEVNITLVGDNKNINIFEVIEDIHIEDINFFNNNLYTLEYKQLYCEKFSHKVITDK
FDVETKNYIIDMYRHMKGKVDYLRVDGKILNNKFYLIELTPDPYCGRESSFSKAIMSNGYS
YEESIGLLIQNCSKYYQTQYSNEIIRTL

Supplementary File 3 : Annotation dataset results for the 20 hypothetical proteins submitted to the workflow with Pfam, InterPro, CATH, SUPERFAMILY, MOTIF, SMART, PANTHER, and CDD-Blast.

S I N o	Protein Accession	Pfam	InterPro	CATH	SUPERFAMILY	MOTIF	SMART	CDD	PANTHER	Predicted Domain/Function
1	WP_004510196.1	No Result	No Result	No Result	No Result	No Result	No Result	No Result	No Result	No Result
2	WP_004510348.1	No Result	No Result	No Result	No Result	Large ribosomal RNA subunit accumulation protein YceD	No Result	No Result	No Result	No Result
3	WP_004510585.1	TPR-like	Tetratricopeptide-like helical domain	No Result	Tetratricopeptide repeat (TPR)	Tetratricopeptide repeat	No Result	No Result	No Result	Tetratricopeptide repeat
4	WP_004510999.1	WD40 repeat-like	WD40 - repeat - containing domain	No Result	<u>WD40 repeat-like</u>	Domain of unknown function (DUF5068)	No Result	No Result	No Result	WD40 repeat-like
5	WP_012012715.1	CELL DIVISION PROTEIN FTSX	Cell division protein FtsX	No Result	Formin homology 2 domain (FH2 domain)	FtsX-like permease C-terminal	trans membrane region	No Result	CELL DIVISION PROTEIN FTSX	Cell division protein FtsX-like permease
6	WP_012012985.1	No Result	No Result	No Result	No Result	No Result	trans membrane region	No Result	No Result	No Result
7	WP_012147952.1	No Result	No Result	No Result	No Result	No Result	trans membrane region	No Result	No Result	No Result
8	WP_020848489.1	Representative	Actin-like ATPase	No Result	Actin-like ATPase	tRNA N6-adenosine threonylca	No Result	No Result	No Result	Actin-like ATPases

		domains	se domain		se domain	rbamoyltra nsferase				e domain
9	WP_041644687.1	ThiD2 family	ThiD2 family	No Result	No Result	ThiD2 family	No Result	ThiD protein and is called the ThiD2 family	No Result	ThiD2 family
10	WP_046998309.1	No Result	No Result	No Result	No Result	No Result	No Result	No Result	No Result	No Result
11	WP_050071245.1	No Result	No Result	No Result	No Result	No Result	coiled coil	conjugal transfer pilus assembly protein TraW	No Result	No Result
12	WP_151944557.1	Prokaryotic membrane lipoprotein lipid attachment site profile		No Result	No Result	No Result	No Result	No Result	No Result	No Result
13	WP_193220824.1	Chemotaxis phosphatase CheZ	Chemotaxis phosphatase CheZ	No Result	Chemotaxis phosphatase CheZ	Myotubularin-like phosphatase domain	No Result	No Result	No Result	Chemotaxis phosphatase CheZ
14	WP_260901056.1	No Result	No Result	NADH:ubiquinone oxidoreductase 41 kD complex I subunit (1.10.150.20/FF/304)	Rad51 N-terminal domain-like	Predicted permease	trans membrane region	Predicted 5' DNA nuclease, flap endonuclease-1-like, helix-3-turn-helix (H3TH) domain	No Result	membrane-associated subunit of NADH:ubiquinone oxidoreductase complex

15	WP_2 60901 348.1	No Result	No Result	No Result	No Result	No Result	No Result	No Result	No Result	No Result
16	WP_2 60902 335.1	No Result	No Result	No Result	No Result	Bacterial SH3 domain	trans membrane region	Uncharacterized conserved protein YgiM, contains N-terminal SH3 domain	No Result	Uncharacterized conserved protein YgiM, contains N-terminal SH3 domain
17	WP_2 60903 722.1	No Result	No Result	No Result	NAD(P)-binding Rossmann-fold domains	No Result	No Result	Rossmann-fold NAD(P)(+)-binding proteins	No Result	No Result
18	WP_4 19970 369.1	No Result	No Result	No Result	No Result	Dolichylphosphate-mannose-protein mannosyltransferase	trans membrane region	PMT family glycosyltransferase ArnT/Agl22, involved in glycosylation of proteins and lipid IVA [Cell wall/membrane/envelope biogenesis]	MANNOSYLTRANSFERASE YKCB-RELATED	Dolichylphosphate-mannose-protein mannosyltransferase
19	WP_4 19970 373.1	No Result	No Result	No Result	Ribonuclease H-like	Crossover junction endonuclease RuvC	No Result	No Result	No Result	No Result
20	WP_4 20061 029.1	D-ALANINE--D-ALANINE LIGASE	D-ALANINE--D-ALANINE LIGASE	D-alanine--D-alanine ligase	D-Alanine ligase	D-ala D-ala ligase	No Result	D-alanine-D-alanine ligase or related ATP-	D-ALANINE--D-ALANINE LIGASE B	D-alanine--D-alanine ligase

								grasp enzyme		
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Supplementary File 4 : Results of the Blastp search for similar sequences against non-redundant (nr) database

SI No	HP Acession No	Organism	Query Coverage	E_value	Identity	Product
1	WP_004510585.1	Aliarcobacter butzleri	100%	4E-136	100.00%	hypothetical protein
		Aliarcobacter butzleri	100%	7E-136	99.49%	hypothetical protein
		Aliarcobacter butzleri	100%	1E-135	99.49%	hypothetical protein
2	WP_004510999.1	Aliarcobacter butzleri	100%	0	100%	hypothetical protein
		Aliarcobacter butzleri	100%	0	99.69%	hypothetical protein
3	WP_012012715.1	Aliarcobacter butzleri JV22	100%	0	100%	cell division protein FtsX
		Aliarcobacter butzleri	100%	0	100%	hypothetical protein
		Aliarcobacter butzleri L349	100%	1E-180	99.63%	cell division protein FtsX
		Aliarcobacter butzleri	100%	1E-180	99.63%	cell division protein FtsX
		Aliarcobacter butzleri L351	100%	1E-179	99.26%	cell division protein FtsX
		Aliarcobacter butzleri JV22	100%	0	100%	cell division protein FtsX
4	WP_020848489.1	Aliarcobacter butzleri	100%	1E-99	100%	hypothetical protein
		Arcobacter lacus	100%	4E-95	94.67%	hypothetical protein
5	WP_041644687.1	Aliarcobacter butzleri	100%	1E-87	100%	hypothetical protein
		Arcobacter lacus	100%	1E-87	99.26%	thiamine-phosphate pyrophosphorylase
		Aliarcobacter butzleri	100%	2E-87	99.26%	thiamine-phosphate pyrophosphorylase
6	WP_193220824.1	Aliarcobacter butzleri	100%	0	100%	hypothetical protein
		Aliarcobacter butzleri L355	100%	0	99.03%	hypothetical protein AF80_09910
		Aliarcobacter butzleri L349	100%	0	98.71%	hypothetical protein AF74_07830
7	WP_260901056.1	Aliarcobacter butzleri	100%	7E-108	100%	hypothetical protein

8	WP_260902335.1	Aliarcobacter butzleri	100%	0	100%	hypothetical protein
		Aliarcobacter butzleri	100%	0	98.88%	SH3 domain-containing protein
		Arcobacter lacus	100%	0	94.66%	hypothetical protein
9	WP_419970369.1	Arcobacter lacus	100%	0	100%	hypothetical protein
		Arcobacter lacus	100%	0	99.75%	ArnT family glycosyltransferase
		Arcobacter lacus	100%	0	99.50%	glycosyltransferase family 39 protein
10	WP_420061029.1	Arcobacter lacus	100%	0	100%	hypothetical protein
		Aliarcobacter cryaerophilus	100%	0	98.82%	hypothetical protein

Supplementary File 5 : Protein-protein interactions analyses of the 10 HPs

No.	HP ID	STRING protein	Annotation	Interacted protein	Score
1	WP_004510585.1	Abu_0521	annotation not available	Abu_0520 (Conserved hypothetical NifU-like protein)	0.802
2	WP_004510999.1	Abu_2118	annotation not available	Abu_2119 (Conserved hypothetical protein)	0.802
3	WP_012012715.1	ftsX	Cell division protein FtsX	ftsE (Cell division ATP-binding protein FtsE)	0.811
4	WP_020848489.1	Abu_2040	annotation not available	gcp (O-sialoglycoprotein endopeptidase)	0.945
5	WP_041644687.1	Abu_2274	annotation not available	thiG (Thiazole biosynthesis protein ThiG)	0.758
6	WP_193220824.1	Abu_1966	annotation not available	cheY2 (Chemotaxis protein CheY)	0.76
7	WP_260901056.1	Abu_0026	annotation not available	nuoCD (NADH-quinone oxidoreductase)	0.999
8	WP_260902335.1	Abu_2124	annotation not available	plsC (1-acyl-sn-glycerol-3-phosphate acyltransferase PlsC)	0.802
9	WP_419970369.1	Abu_2003	annotation not available	trpG (Anthranilate synthase, component II)	0.802
10	WP_420061029.1	No Result	No Result	No Result	NA

Supplementary File 6 : GO terms by Argot2.5 for all the 10 HPs.

SI No	Protein product	GO ID	Molecular Process	GO ID	Biological Function	GO ID	Cellular Component
1	WP_004510585.1	Absent	Absent	Absent	Absent	Absent	Absent
2	WP_004510999.1	Absent	Absent	Absent	Absent	Absent	Absent
3	WP_012012715.1	Absent	Absent	Absent	Absent	GO:0016020	membrane
4	WP_020848489.1	GO:0008233	peptidase activity	GO:0006508	proteolysis	Absent	Absent
5	WP_041644687.1	GO:0004789	thiamine-phosphate diphosphorylase activity	GO:0009229	thiamine diphosphate biosynthetic process	Absent	Absent
6	WP_193220824.1	GO:0016791	phosphatase activity	Absent	Absent	Absent	Absent
7	WP_260901056.1	GO:0016491	oxidoreductase activity	GO:0055114	oxidation-reduction process	GO:0016020	membrane
8	WP_260902335.1	Absent	Absent	Absent	Absent	Absent	Absent
9	WP_419970369.1	GO:0016740	transferase activity	Absent	Absent	GO:0016020	membrane
10	WP_420061029.1	GO:0008716	D-alanine-D-alanine ligase activity	GO:0009252	peptidoglycan biosynthetic process	GO:0005737	cytoplasm

Supplementary File 7 : List of predicted physicochemical parameters for the selected 10 HPs

SI No.	HPs ID	Protein length (AA)	MW	pI	Negatively charged residues (Asp + Glu)	Positively charged residues (Arg + Lys)	Extinction coefficients	Instability index	Aliphatic index	GRAVY
1	WP_004510585.1	198	23432.29	4.43	43	25	20860	41.49	86.21	-0.465
2	WP_004510999.1	327	36804.99	4.84	42	32	20860	36.2	108.81	-0.046
3	WP_012012715.1	270	31093.31	9.33	19	26	21890	28.6	150.89	0.719
4	WP_020848489.1	150	17260.45	8.79	14	18	12170	31.21	116.93	0.121
5	WP_041644687.1	135	16062.22	9.3	20	24	10430	27.2	99.63	-0.714
6	WP_193220824.1	310	35225	4.38	69	34	8480	60.71	87.71	-0.729

7	WP_260901056.1	157	18332.05	7.86	19	20	25440	29.83	96.75	-0.38
8	WP_260902335.1	356	41370.61	8.59	36	39	55810	23.6	106.43	-0.129
9	WP_419970369.1	402	47883.06	9.28	30	43	59265	31.37	126.84	0.563
10	WP_420061029.1	338	39064.89	5.24	43	35	31665	44.63	103.73	-0.132

Supplementary File 8 : List of predicted sub-cellular localization and transmembrane helices for the selected 10 HPs

SI No	HPs ID	Sub-cellular localization		Transmembrane helice		
		PSORT B	CELLO	SOSUI	HMMTOP	TMHMM
1	WP_004510585.1	Cytoplasmic	Cytoplasmic	SOLUBLE	0	0
2	WP_004510999.1	Unknown	OuterMembrane/Cytoplasmic	MEMBRANE	1	0
3	WP_012012715.1	Cytoplasmic Membrane	InnerMembrane	MEMBRANE	4	4
4	WP_020848489.1	Cytoplasmic	Cytoplasmic	MEMBRANE	2	0
5	WP_041644687.1	Cytoplasmic	Cytoplasmic	SOLUBLE	0	0
6	WP_193220824.1	Cytoplasmic	Cytoplasmic/Extracellular	SOLUBLE	0	0
7	WP_260901056.1	Unknown	Cytoplasmic/Periplasmic	MEMBRANE	2	1
8	WP_260902335.1	Cytoplasmic Membrane	OuterMembrane	MEMBRANE	3	3
9	WP_419970369.1	Cytoplasmic Membrane	InnerMembrane	MEMBRANE	10	9
10	WP_420061029.1	Cytoplasmic	Cytoplasmic	SOLUBLE	0	0

Supplementary File 9 : Tertiary structural information of HPs from *A. butzleri* strain BNI-3166.

Alphafold server v3.0.1		
No.	HP Id	pTM Score
1	WP_004510585.1	0.46
2	WP_004510999.1	0.9
3	WP_012012715.1	0.8
4	WP_020848489.1	0.92
5	WP_041644687.1	0.85
6	WP_193220824.1	0.44
7	WP_260901056.1	0.58
8	WP_260902335.1	0.61
9	WP_419970369.1	0.91
10	WP_420061029.1	0.91

Supplementary Figure 1 : Promoter analysis of the 10 proteins using BPROM

Text colors:

Green (Bold) – **START Codon**; Red (Bold) – **STOP Codon**

Highlighted colors:

Green = **-35 box**; Yellow = **-10 box**; Blue= - **Shine–Dalgarno (SD) sequence**

>WP_004510585.1

GATGGTGGCGCAATTAAGCTTTTAGCTATAAAAAATGCTAGAATTTTTGTGCAAT
TACAAGGTGCATGTGTTGGCTGTAGCGCAAGTAGTAGCAC**TTTAAA**ATATATTGT
AGAAAAAG**AGTTAAAAT**CTGCAATTCACCCTGATTTAGAGATTATTAATGTACCA
CAAGGTATGGAAAACAACCTTA**GAGGAA**TTATAATA**ATG**AATAATGAAGATAGAT
TATTAATGAAGCAAATTCCTTTATTTCTACAAAAAAGATTTGAGGAAGCTTTATT
TTTATATTCACAGTTATCATCAAATTTCCAGATAATAAAGAATATCCTATTTATG
CACTTTTTTGTGATATTGCTAGTGAAGATGTATCAAAGCTTTATCTTTATATGAT
TATTTTACGGTAATTAAGATGATAGTTTAGATGAAGCAATAAGATATGTAGAAG
ACATAGTAAATGCTTATGATGGTGATATTGATAAAATGATGGAAATTTTAAAAGA
TTAAGCACTTCAACAGTTGAATCTTTAGATGCAATAAGATATGAAGATTTTAAA
AAATTAATAGAAGTTAGAGGTTCTTTTAGAATTGCTTTTGAAGATATTATGTTTC
AACAAAAGTTGCAATTGAAAATAAAGATGATTTTTATGATTTTGTAACAAAGTTG
ATAGATAACGATTTTAATAGTACAGCATACTCTTATCTTGATGGTTTTAATGAAT
ATTTTACTTATGATAAAGAGATAGAAAACTATATAAAAAATTAGAAGAGAAAA
AACTTGAAACTAATCATAAACGAT**TAA**

>WP_004510999.1

No gene sequence found

>WP_012012715.1

GGCACTTGCTCATAATCCAAAAATTATAATTGCAGATGAACCAACTGGAAATTTA
GATGATTTTTCTGCTGAAGTTGTTTGGAAATTTATTAAGGTGCAAATGAACAAC
TTGGAATTACTGTGGTTG**TTGTAA**CACATAGAGTT**CCTAAAAAT**CTAGGGATTAA
ATTTAGACAATTATCTATTGAA**GATGGG**ATTATTT**ATG**AAGTCTCTTAAAAATAT
CTTTGCATTTTTACTTCCCCTACTTTCTATGTTAATAACATTTACTATATTTTATT
AATAAGTAACATAGTAGAAAATTATAAAAGTAAAATTTCAAGAGATTATTCTATT
ATCATTGTTGCTACAAATCCAATAAAAAATATTAGTGAACCTTGCTGGAATAAAAG
TAGAAAAAATTC AACATTACCAAATGATAAAATATTGAAAATATAAAATCAA
ATTTATCAAATAATTCTGTAGAATTATTGAAGCAAAAACCTCCAAATTTTTATCA
AATATATTTAGAAATTTTTCTACAAGTACAGAATTAGAAGTGATTAAAAATACT
TTATTAGCAAATAAAGATATAAAAAAAGTGGAAGTTTTTTATAAAAAATCACAAC
CAAATTTATCTATTGCTTCTTATTTTAAATAGTGTCTCTTTTATACTATTTTTATA
ATAACTTTGTTTGCTATCATCATCATAGCAAAACAAATAAACTTTGGTTCCATG
AATATCGTGTTAAAATATCTATTTTAAAGGCTACATGGTGCTTCAATTTTATATAGT
GCATCATCTATACTAAATTACGCACTTCTAAGTTCTTTTTGTCTTTTTTAATTGCA
GGAATTTTTCTAGTATTTATTTCAAACAATTTAGATGTTTTATTTCCATTAGA
ACTACAAGAGATTGTTGATGTAAAATAAATTTAGTAGTAGAACTAATAAAGCTATTT

TTATTATCATT TTTTATCTCAATTTTACAATTTTGGTGTATTACTAAAATATAAG
ATAAGTAATGAT**TAA**

>WP_020848489.1

No gene sequence found

>WP_041644687.1

No gene sequence found

>WP_193220824.1

No gene sequence found

>WP_260901056.1

No gene sequence found

>WP_260902335.1

No gene sequence found

>WP_419970369.1

No gene sequence found

>WP_420061029.1

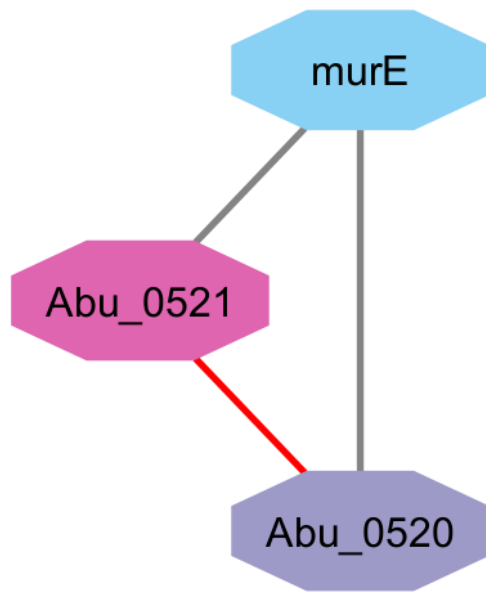
No gene sequence found

Supplementary Figure 2 : Protein – protein interaction networks obtained from String database. Networks are visualized using Cytoscape (v 3.10.3)

*Networks are presented in a circular layout with **protein of study**

*Edge connecting the protein of study and its important functional partners with highest scores is highlighted in **red**

*Confidence score of the interaction is given in brackets

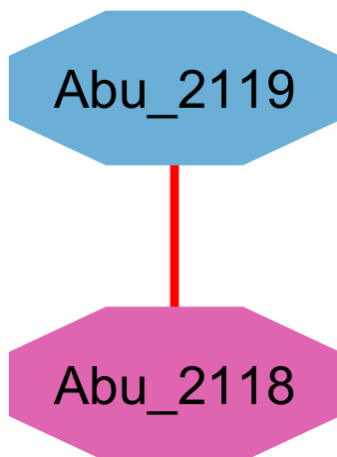


Study Protein :- WP_004510585.1

String Protein :- Abu_0521

Interacted Protein :- Abu_0520

Conserved hypothetical NifU-like protein
(0.802)

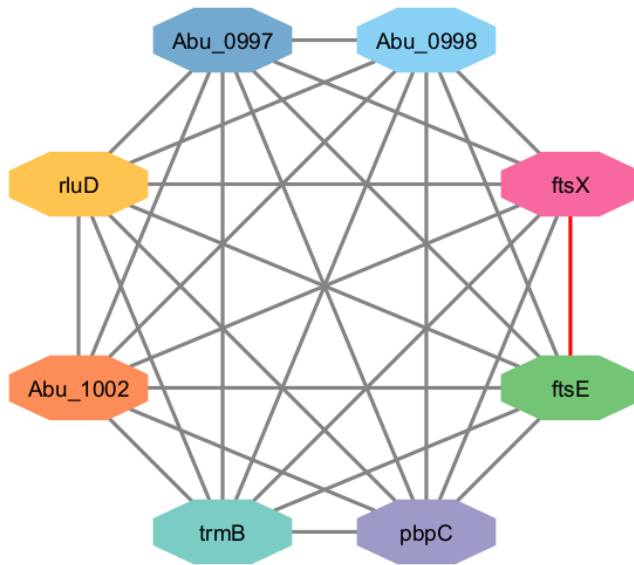


Study Protein :- WP_004510999.1

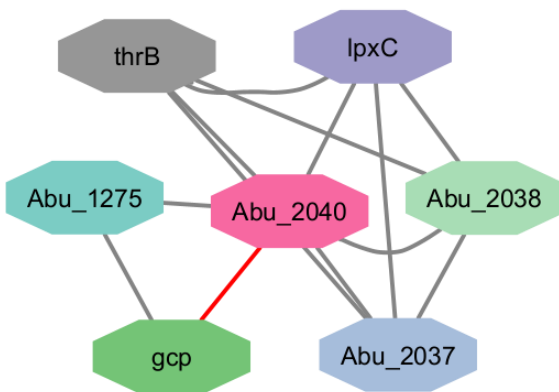
String Protein :- Abu_2118

Interacted Protein :- Abu_2119

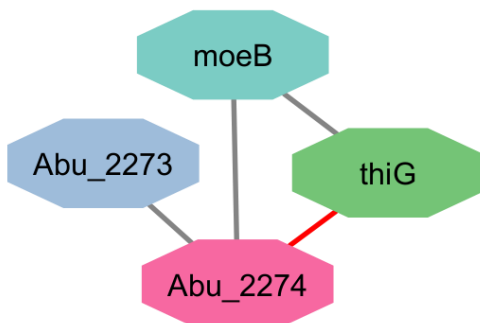
Conserved hypothetical protein
(0.802)



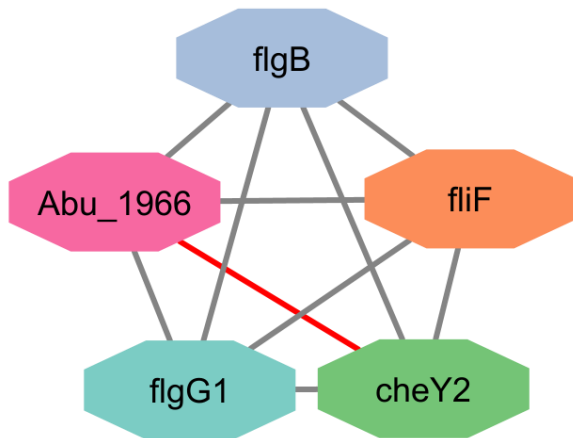
Study Protein :- WP_012012715.1
 String Protein :- **FtsX**
 Interacted Protein :- ftsE
 Cell division ATP-binding protein FtsE
 (0.811)



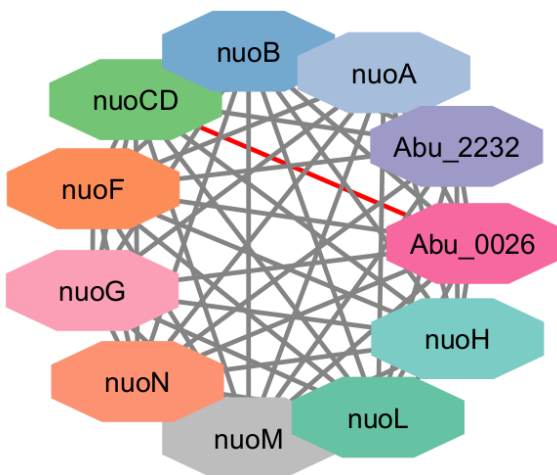
Study Protein :- WP_020848489.1
 String Protein :- **Abu_2040**
 Interacted Protein :- gcp
 O-sialoglycoprotein endopeptidase
 (0.945)



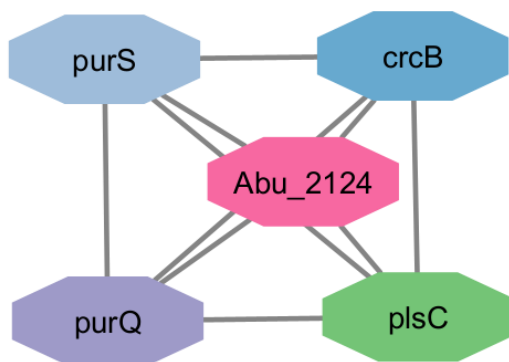
Study Protein :- WP_041644687.1
 String Protein :- **Abu_2274**
 Interacted Protein :- thiG
 Thiazole biosynthesis protein ThiG
 (0.758)



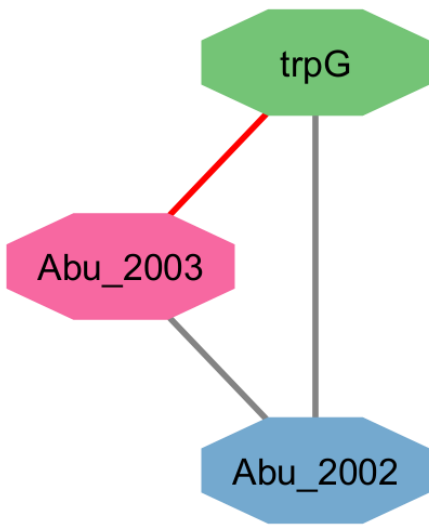
Study Protein :- WP_193220824.1
 String Protein :- [Abu_1966](#)
 Interacted Protein :- cheY2
 Chemotaxis protein CheY (0.760)



Study Protein :- WP_260901056.1
 String Protein :- [Abu_0026](#)
 Interacted Protein :- nuoCD
 NADH-quinone oxidoreductase
 (0.999)



Study Protein :- WP_260902335.1
 String Protein :- [Abu_2124](#)
 Interacted Protein :- plsC
 1-acyl-sn-glycerol-3-phosphate acyltransferase PlsC
 (0.802)



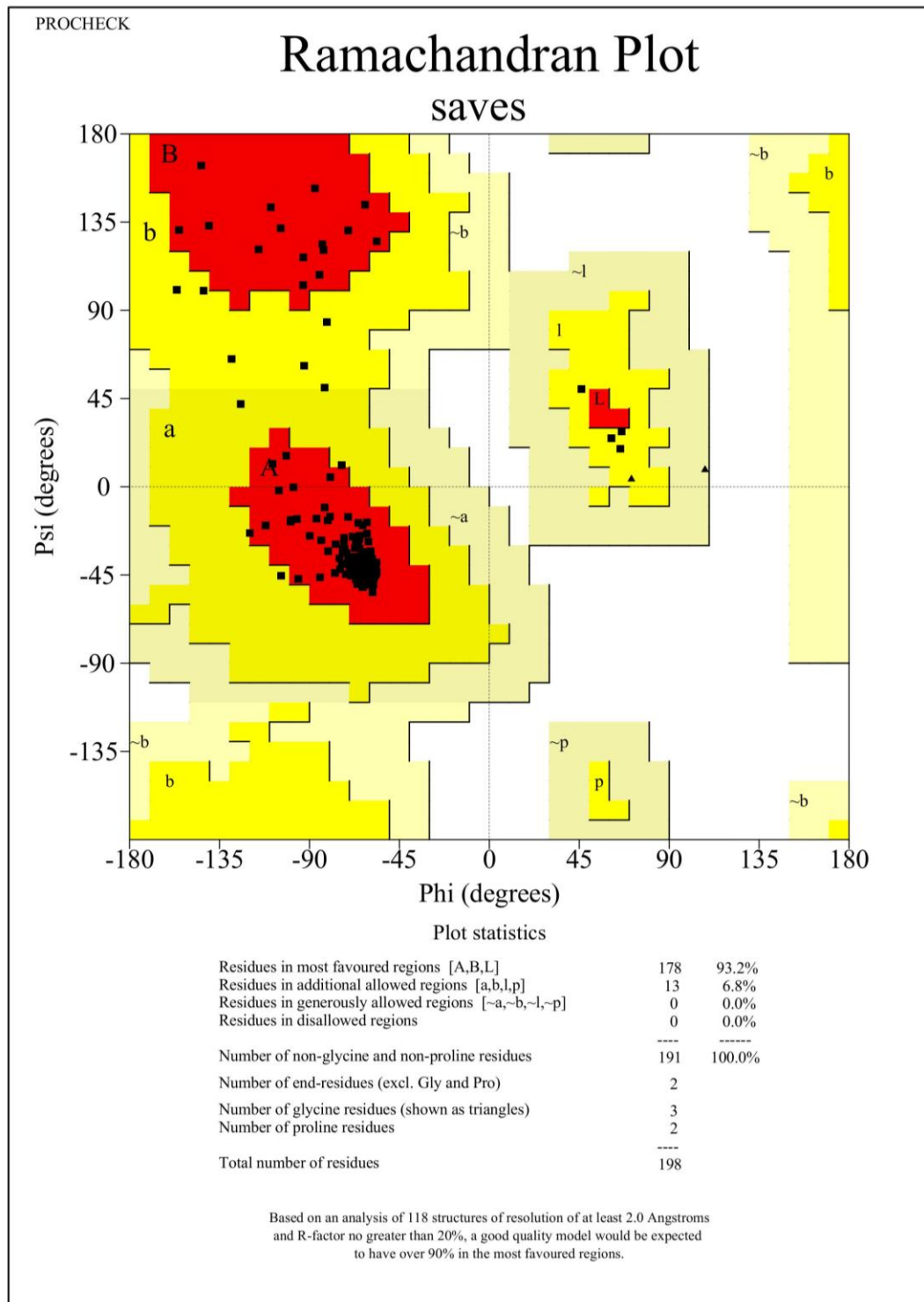
Study Protein :- WP_419970369.1

String Protein :- Abu_2003

Interacted Protein :- trpG

Anthranilate synthase, component II
(0.802)

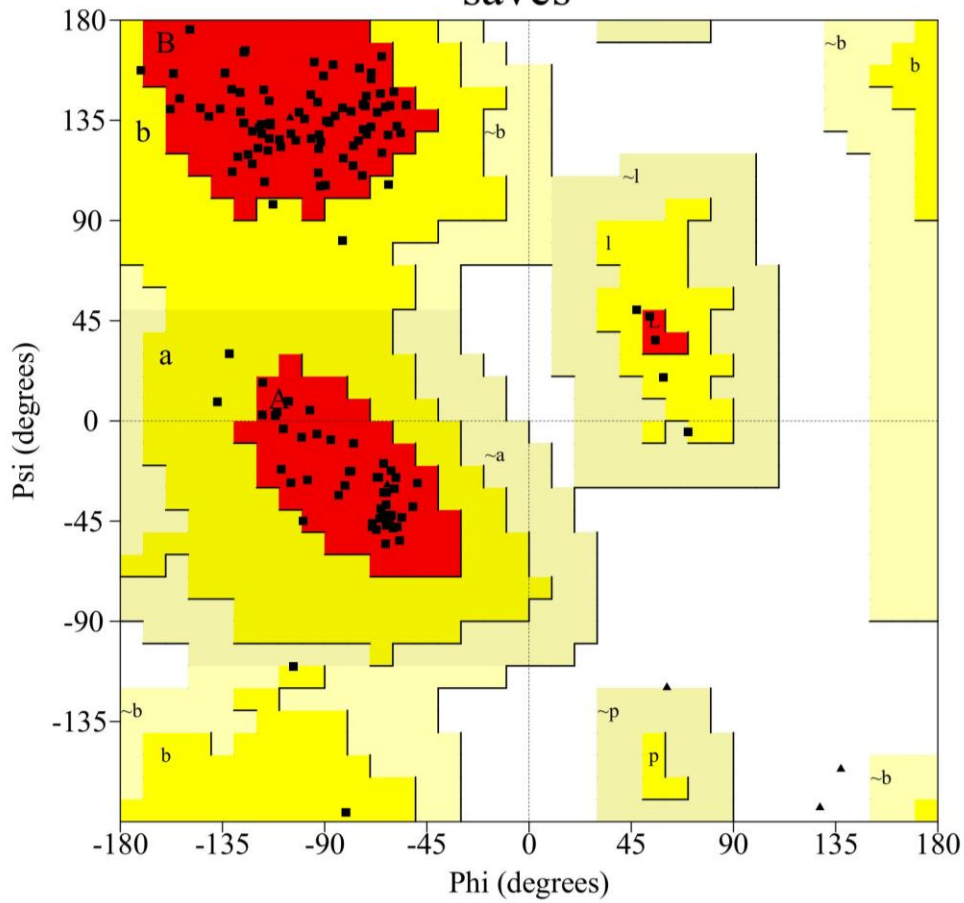
Supplementary Figure 3: Ramachandran plots for the 3D models of the selected 10 hypothetical proteins



WP_004510585.1

Ramachandran Plot

saves



Plot statistics

Residues in most favoured regions [A,B,L]	126	92.6%
Residues in additional allowed regions [a,b,l,p]	10	7.4%
Residues in generously allowed regions [~a,~b,~l,~p]	0	0.0%
Residues in disallowed regions	0	0.0%

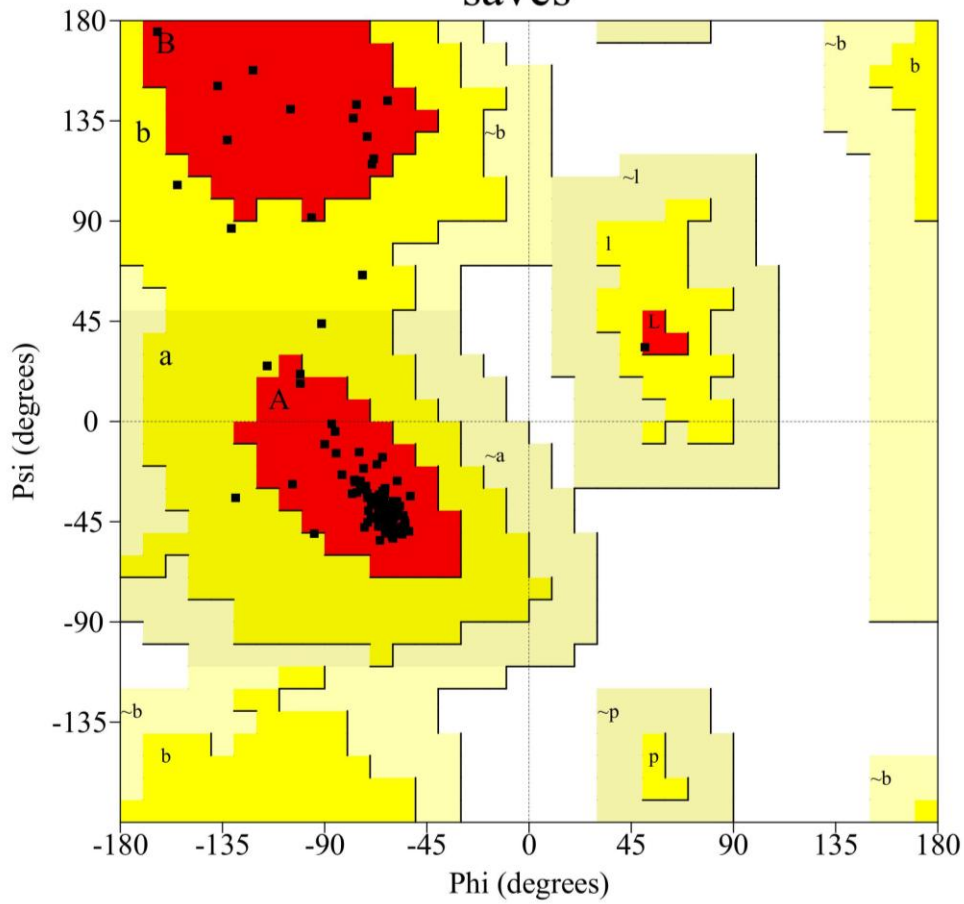
Number of non-glycine and non-proline residues	136	100.0%
Number of end-residues (excl. Gly and Pro)	2	
Number of glycine residues (shown as triangles)	5	
Number of proline residues	7	

Total number of residues	150	

Based on an analysis of 118 structures of resolution of at least 2.0 Angstroms and R-factor no greater than 20%, a good quality model would be expected to have over 90% in the most favoured regions.

Ramachandran Plot

saves



Plot statistics

Residues in most favoured regions [A,B,L]	125	94.7%
Residues in additional allowed regions [a,b,l,p]	7	5.3%
Residues in generously allowed regions [~a,~b,~l,~p]	0	0.0%
Residues in disallowed regions	0	0.0%

Number of non-glycine and non-proline residues	132	100.0%
Number of end-residues (excl. Gly and Pro)	2	
Number of glycine residues (shown as triangles)	1	
Number of proline residues	0	

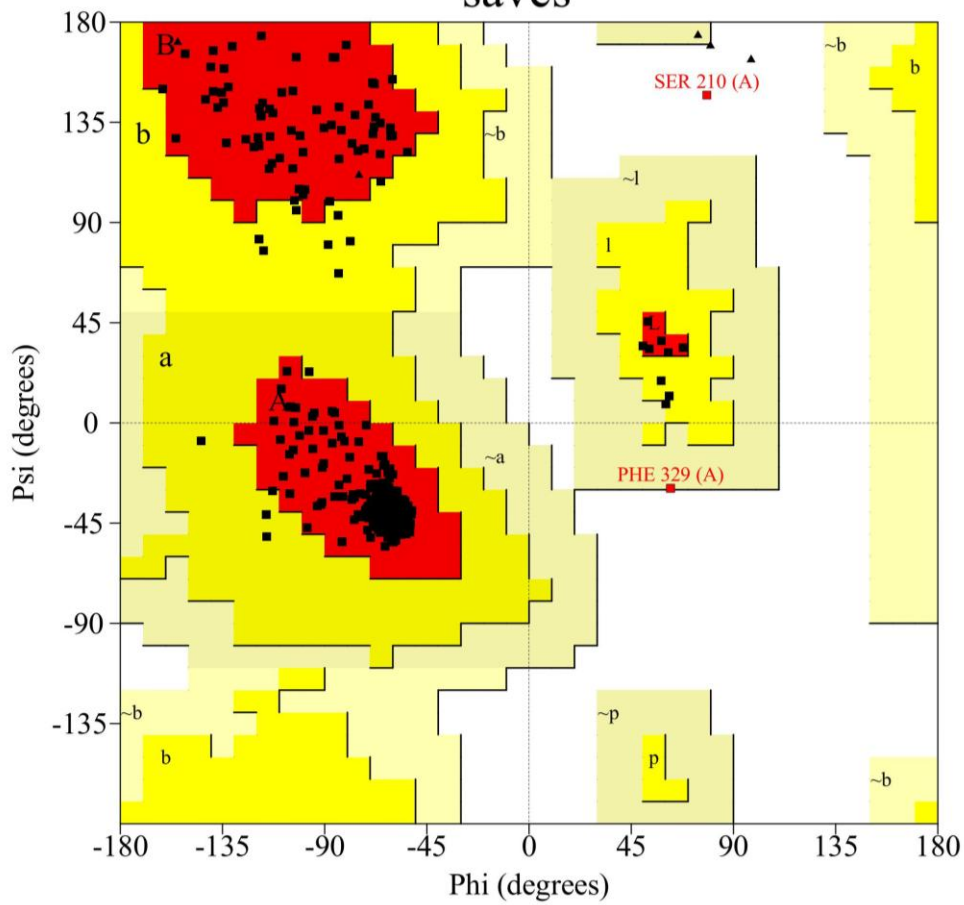
Total number of residues	135	

Based on an analysis of 118 structures of resolution of at least 2.0 Angstroms and R-factor no greater than 20%, a good quality model would be expected to have over 90% in the most favoured regions.

PROCHECK

Ramachandran Plot

saves



Plot statistics

Residues in most favoured regions [A,B,L]	363	94.8%
Residues in additional allowed regions [a,b,l,p]	18	4.7%
Residues in generously allowed regions [~a,~b,~l,~p]	1	0.3%
Residues in disallowed regions	1	0.3%

Number of non-glycine and non-proline residues	383	100.0%
Number of end-residues (excl. Gly and Pro)	2	
Number of glycine residues (shown as triangles)	8	
Number of proline residues	9	

Total number of residues	402	

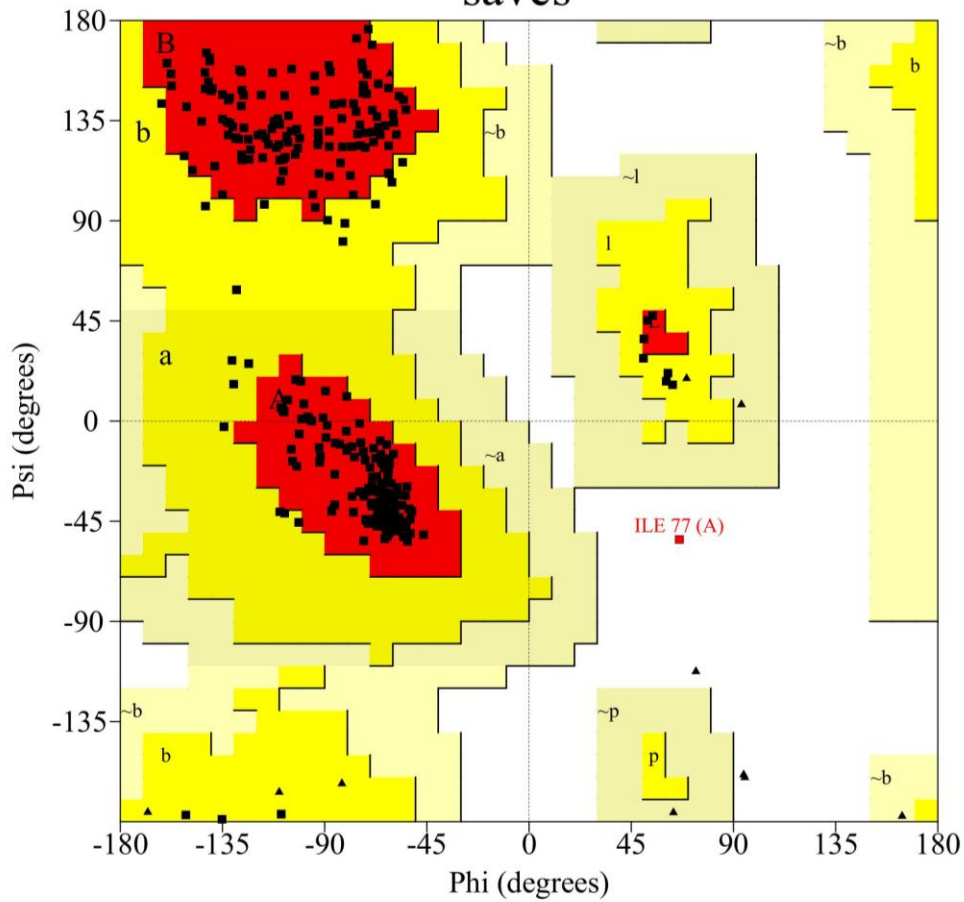
Based on an analysis of 118 structures of resolution of at least 2.0 Angstroms and R-factor no greater than 20%, a good quality model would be expected to have over 90% in the most favoured regions.

WP_419970369.1

PROCHECK

Ramachandran Plot

saves



Plot statistics

Residues in most favoured regions [A,B,L]	288	91.7%
Residues in additional allowed regions [a,b,l,p]	25	8.0%
Residues in generously allowed regions [~a,~b,~l,~p]	0	0.0%
Residues in disallowed regions	1	0.3%

Number of non-glycine and non-proline residues	314	100.0%
Number of end-residues (excl. Gly and Pro)	2	
Number of glycine residues (shown as triangles)	13	
Number of proline residues	9	

Total number of residues	338	

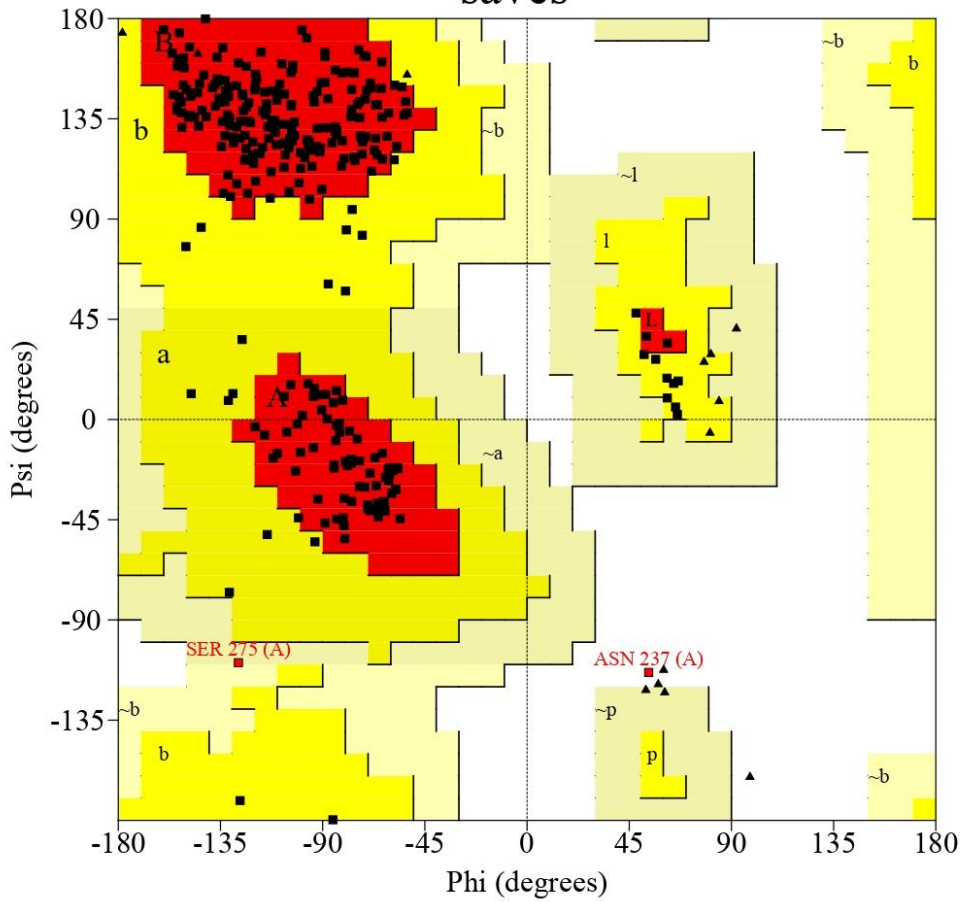
Based on an analysis of 118 structures of resolution of at least 2.0 Angstroms and R-factor no greater than 20%, a good quality model would be expected to have over 90% in the most favoured regions.

WP_420061029.1

PROCHECK

Ramachandran Plot

saves



Plot statistics

Residues in most favoured regions [A,B,L]	272	89.8%
Residues in additional allowed regions [a,b,l,p]	29	9.6%
Residues in generously allowed regions [~a,~b,~l,~p]	1	0.3%
Residues in disallowed regions	1	0.3%

Number of non-glycine and non-proline residues	303	100.0%
Number of end-residues (excl. Gly and Pro)	1	
Number of glycine residues (shown as triangles)	13	
Number of proline residues	10	

Total number of residues	327	

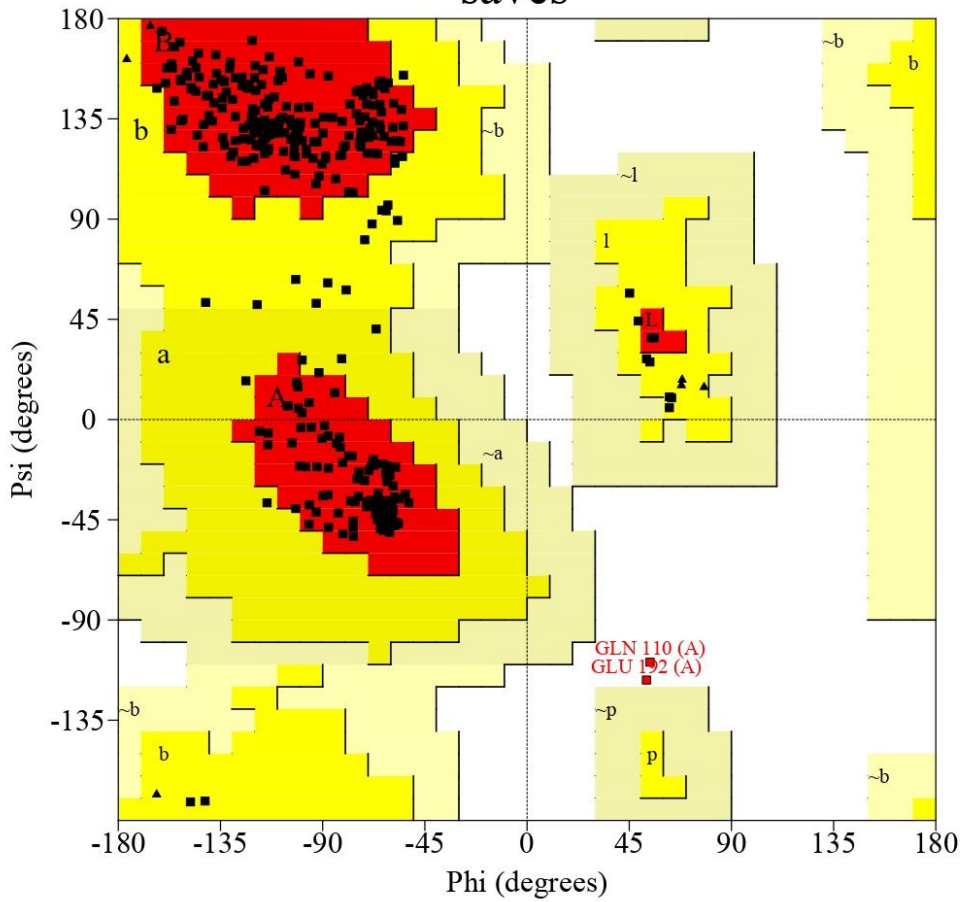
Based on an analysis of 118 structures of resolution of at least 2.0 Angstroms and R-factor no greater than 20%, a good quality model would be expected to have over 90% in the most favoured regions.

WP_004510999.1

PROCHECK

Ramachandran Plot

saves



Plot statistics

Residues in most favoured regions [A,B,L]	304	90.5%
Residues in additional allowed regions [a,b,l,p]	30	8.9%
Residues in generously allowed regions [~a,~b,~l,~p]	0	0.0%
Residues in disallowed regions	2	0.6%

Number of non-glycine and non-proline residues	336	100.0%
Number of end-residues (excl. Gly and Pro)	2	
Number of glycine residues (shown as triangles)	8	
Number of proline residues	10	

Total number of residues	356	

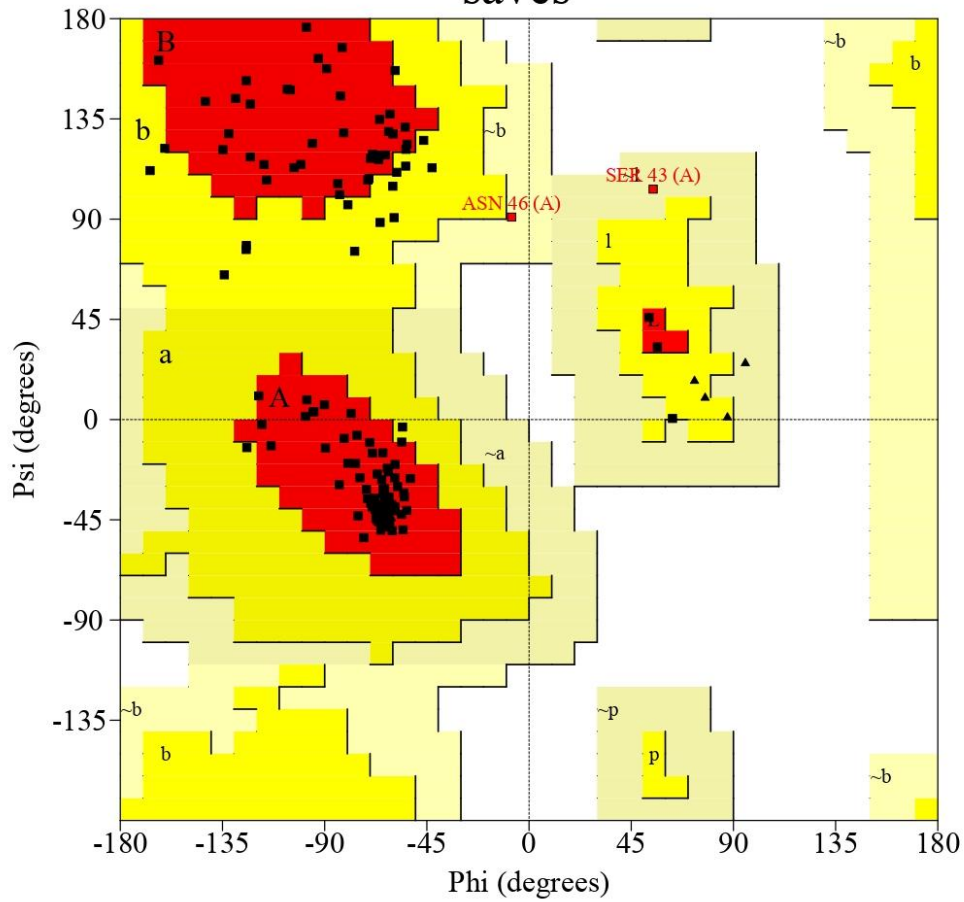
Based on an analysis of 118 structures of resolution of at least 2.0 Angstroms and R-factor no greater than 20%, a good quality model would be expected to have over 90% in the most favoured regions.

WP_260902335.1

PROCHECK

Ramachandran Plot

saves



Plot statistics

Residues in most favoured regions [A,B,L]	124	86.7%
Residues in additional allowed regions [a,b,l,p]	17	11.9%
Residues in generously allowed regions [~a,~b,~l,~p]	2	1.4%
Residues in disallowed regions	0	0.0%

Number of non-glycine and non-proline residues	143	100.0%
Number of end-residues (excl. Gly and Pro)	2	
Number of glycine residues (shown as triangles)	8	
Number of proline residues	4	

Total number of residues	157	

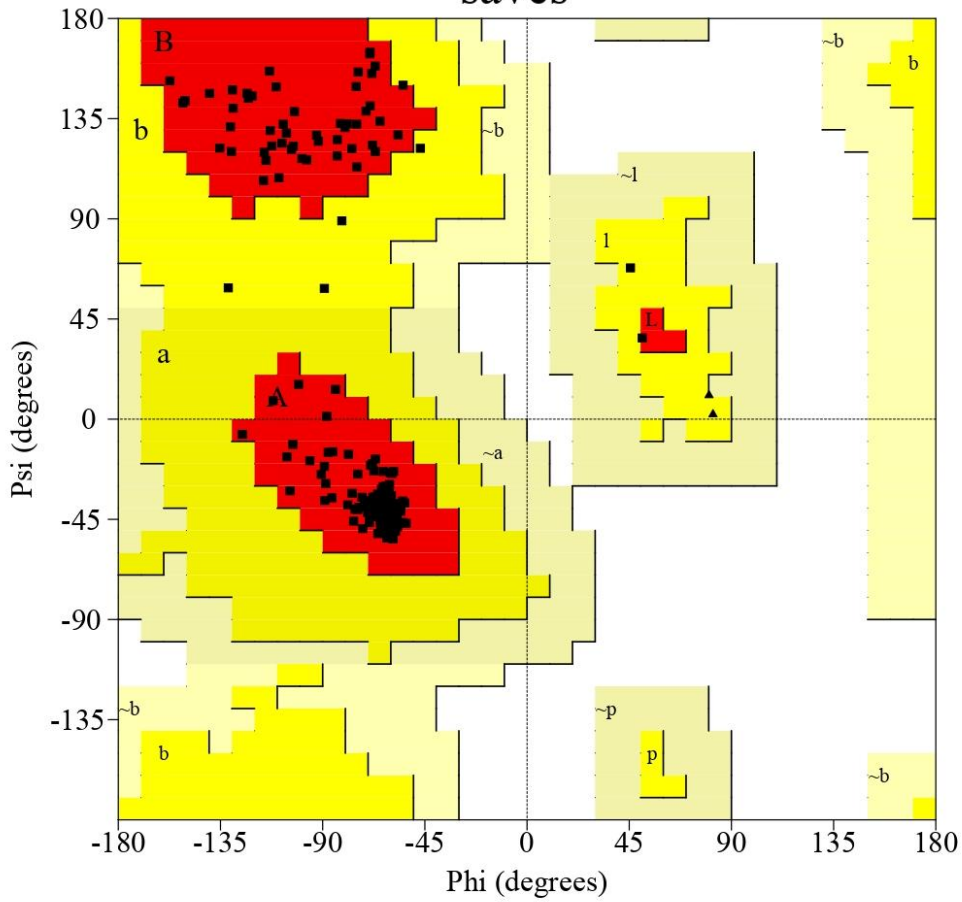
Based on an analysis of 118 structures of resolution of at least 2.0 Angstroms and R-factor no greater than 20%, a good quality model would be expected to have over 90% in the most favoured regions.

WP_260901056.1

PROCHECK

Ramachandran Plot

saves



Plot statistics

Residues in most favoured regions [A,B,L]	253	98.1%
Residues in additional allowed regions [a,b,l,p]	5	1.9%
Residues in generously allowed regions [~a,~b,~l,~p]	0	0.0%
Residues in disallowed regions	0	0.0%

Number of non-glycine and non-proline residues	258	100.0%
Number of end-residues (excl. Gly and Pro)	2	
Number of glycine residues (shown as triangles)	4	
Number of proline residues	6	

Total number of residues	270	

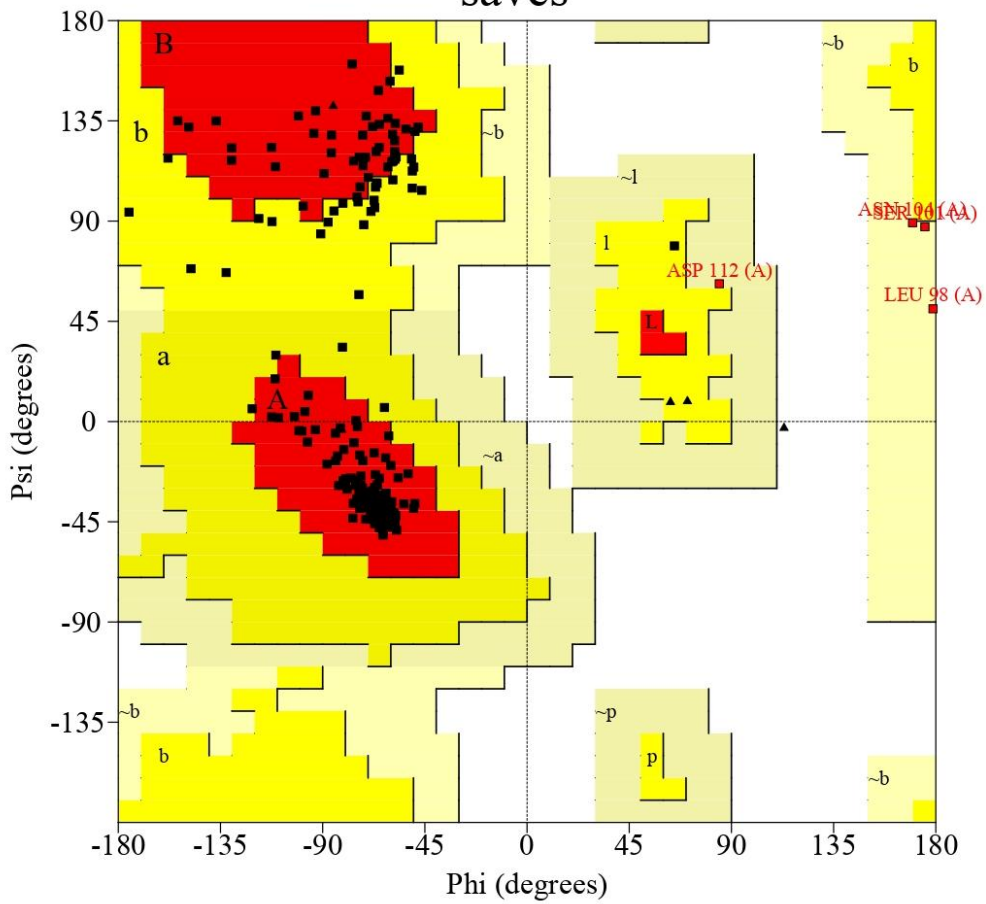
Based on an analysis of 118 structures of resolution of at least 2.0 Angstroms and R-factor no greater than 20%, a good quality model would be expected to have over 90% in the most favoured regions.

WP_012012715.1

PROCHECK

Ramachandran Plot

saves



Plot statistics

Residues in most favoured regions [A,B,L]	255	87.0%
Residues in additional allowed regions [a,b,l,p]	34	11.6%
Residues in generously allowed regions [~a,~b,~l,~p]	4	1.4%
Residues in disallowed regions	0	0.0%

Number of non-glycine and non-proline residues	293	100.0%
Number of end-residues (excl. Gly and Pro)	2	
Number of glycine residues (shown as triangles)	8	
Number of proline residues	7	

Total number of residues	310	

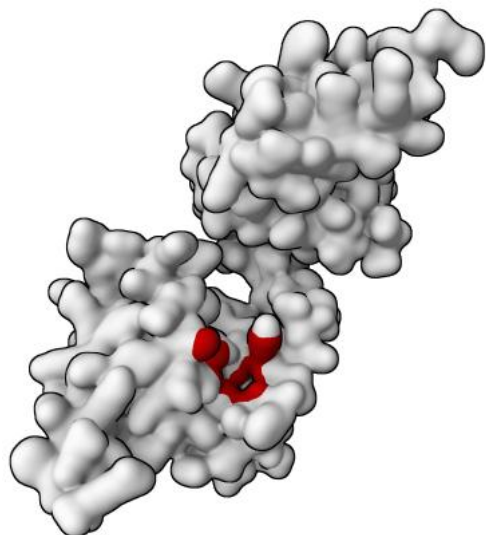
Based on an analysis of 118 structures of resolution of at least 2.0 Angstroms and R-factor no greater than 20%, a good quality model would be expected to have over 90% in the most favoured regions.

WP_193220824.1

Supplementary Figure 4 :- Ligand binding site prediction results of the 6 possible drug targets

*Red color is indicating the binding pocket

1. WP_004510585.1



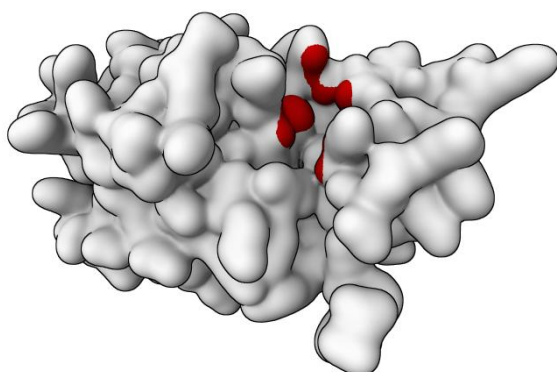
Number of residues: 8

Score: 1.62

Pocket center: (-13.3837, -2.4921, 3.3167)

Residues: A_130, A_134, A_137, A_138, A_139, A_162, A_165, A_166

2. WP_020848489.1



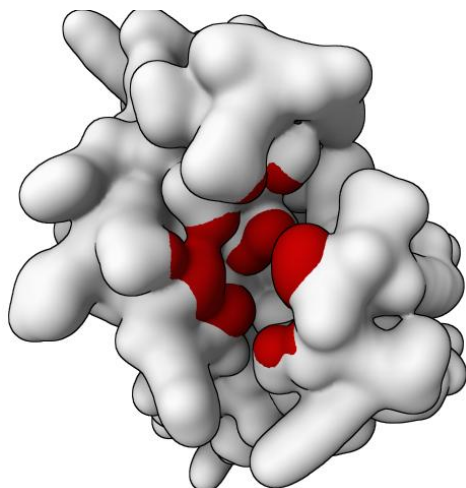
Number of residues: 9

Score: 0.95

Pocket center: (1.0854, 1.8080, 8.7946)

Residues: A_10, A_11, A_123, A_124, A_125, A_126, A_9, A_96, A_98

3. WP_041644687.1



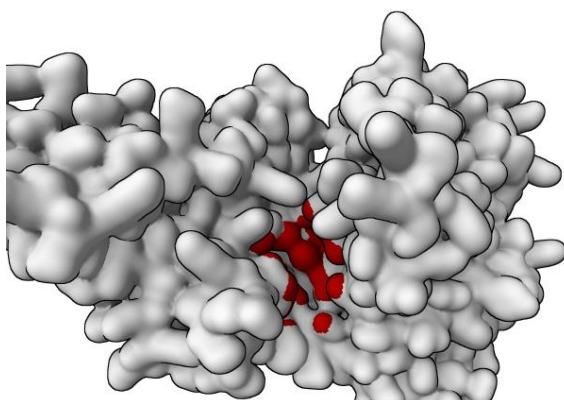
Number of residues: 11

Score: 4.26

Pocket center: (-10.4745, -4.4597, -12.8666)

Residues: A_10, A_102, A_105, A_106, A_109, A_3, A_50, A_52, A_55, A_6, A_7

4. WP_419970369.1



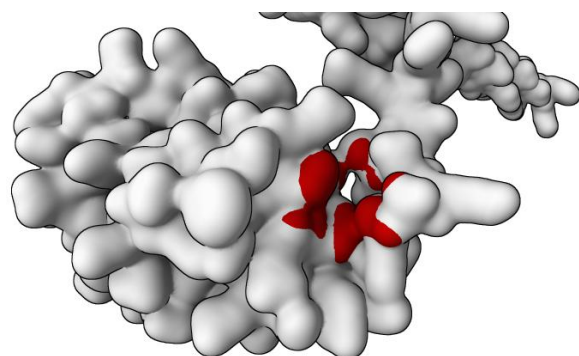
Number of residues: 20

Score: 16.48

Pocket center: (4.6142, -0.9480, -6.3246)

Residues: A_105, A_106, A_109, A_110, A_112, A_113, A_115, A_117, A_207, A_255, A_256, A_259, A_30, A_302, A_305, A_306, A_309, A_323, A_324, A_327

5. WP_260901056.1



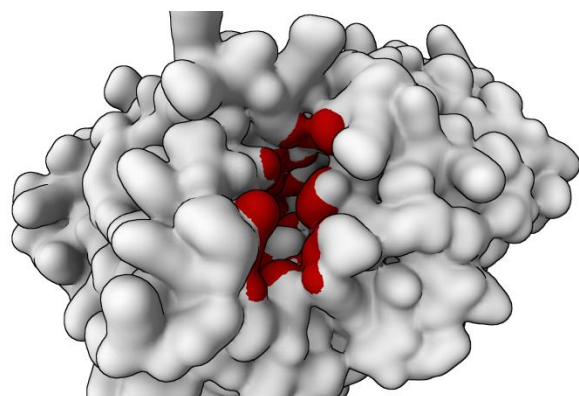
Number of residues: 7

Score: 2

Pocket center: (12.0265, -3.3242, 8.1920)

Residues: A_113, A_114, A_117, A_118, A_55, A_60, A_61

6. WP_420061029.1



Number of residues: 41

Score: 53.36

Pocket center: (-4.5493, 2.4117, 4.4941)

Residues: A_107, A_108, A_110, A_14, A_149, A_154, A_155, A_156, A_159, A_196, A_198, A_216, A_229, A_230, A_235, A_236, A_239, A_242, A_244, A_26, A_27, A_273, A_275, A_277, A_28, A_286, A_287, A_288, A_289, A_29, A_290, A_291, A_293, A_297, A_298, A_299, A_30, A_300, A_302, A_33, A_82