



Log in

Nucleotide

GenBank

Zika virus strain PRVABC59, complete genome

GenBank: KU501215.1

[FASTA](#) [Graphics](#)

Go to:

LOCUS	KU501215	10675 bp	RNA	linear	VRL 01-FEB-2016
DEFINITION	Zika virus strain PRVABC59, complete genome.				
ACCESSION	KU501215				
VERSION	KU501215.1				
KEYWORDS	.				
SOURCE	Zika virus				
ORGANISM	Zika virus Viruses; Riboviria; Orthornavirae; Kitrinoviricota; Flasuviricetes; Amarillovirales; Flaviviridae; Flavivirus.				
REFERENCE	1 (bases 1 to 10675)				
AUTHORS	Lanciotti,R.S., Lambert,A.J., Holodniy,M., Saavedra,S. and Signor Ldel,C.				
TITLE	Phylogeny of Zika Virus in Western Hemisphere, 2015				
JOURNAL	Emerging Infect. Dis. 22 (5), 933-935 (2016)				
PUBMED	27088323				
REFERENCE	2 (bases 1 to 10675)				
AUTHORS	Lanciotti,R.S. and Holodniy,M.				
TITLE	Direct Submission				
JOURNAL	Submitted (06-JAN-2016) Diagnostic & Reference Laboratory, Arbovirus Diseases Branch, Centers for Disease Control & Prevention, 3150 Rampart Road, Fort Collins, CO 80521, USA				
COMMENT	##Assembly-Data-START## Assembly Method :: CLC Genomics Workbench v. V7 Sequencing Technology :: IonTorrent ##Assembly-Data-END##				
FEATURES	Location/Qualifiers				
source	1..10675 /organism="Zika virus" /mol_type="genomic RNA" /strain="PRVABC59" /host="Homo sapiens" /db_xref="taxon: 64320 " /country="Puerto Rico" /collection_date="01-Dec-2015"				
CDS	107..10378 /note="C-prM/M-E-NS1-NS2a-NS2b-NS3-NS4A-NS4B-NS5" /codon_start=1 /product="polyprotein" /protein_id=" AMC13911.1 " /translation="MKNPKKKSGGFRIVNMLKRGVARVSPFGGLKRLPAGLLLGHGPI RMVLAAILAFLRFTAIPSLGLINRWGSVGKKEAMETIKKFKKDLAAMLRRIINARKEK RRGADTSVGIVGLLLTTAMAAEVTRGSAYMYLDRNDAGEAISFPTTLGMNKCYYIQI MDLGHMCDATMSYECPLMDEGVEPDDVDCWNTTSTWVYGTCHHKKGARRSRRAVT LPSHSTRKLQTRSQTWLESREYTKHLIRVENWIFRNPGFALAAAAIAWLLGSSTSQKV IYLVMIILLIAPAYSIRCI GVSNRDFVEGMSGGTWVDVLEHGGCVTVMAQDKPTVDIE LVTTVTSNMAEVRSYCYEASISDMASDSRCPTQGEAYLDKQSDTQYVCKRTLVDRGWG NGCGLFGKGS LVTCAKFACSKMTGKSIQPENLEYRIMLSVHGSQHSGMIVNDTGHE TDENRAKVEITPNSPRAEATLGGFGSLGLDCEPRTGLDFSDLYLTMNNKHWLVHKEWF HDIPLPWAGADTGTPHWNNKEALVEFKDAHAKRQTVVVLGSQEGAVHTALAGALEAE MDGAKGRLLSSGHLKCR LKMDKLR LKGVSYSLCTAAFTFTKIPAETLHGTVTVEVQYAG TDGPCKVPAQMAVDMQTLTPVGR LITANPVITESTENSKMMLELDPFPGDSYIVIGVG EKKITHWHRS GSTIGKA FEATVRGAKRMAVLGDTAWDFGSVGGALNSLGKGIHQIFG AAFKSLFGGMSWFSQILIGTLLMWLGLNTKNGSISLMCLALGGVLIFLSTAVSADVGC				

SVDSFKKETRCGTGVFVYNDVEAWDRYKYHPDSPRRLLAAAVKQAWEDGICGISSVSR
 MENIMWRSVEGELNAILEENGVQLTVVVGSVKNPMWRGPQRLPVPVNELPHGWKAWGK
 SYFVRAAKTNNSSFVVDGDTLKECPLKHWNSFLVEDHGFVFTSVWLKVREDYSLE
 CDPAVIGTAVKGKEAVHSDLGWIESEKNDTWRLKRAHLIEMKTCCEWPKSHTLWTDGI
 EESDLIIPKSLAGPLSHHNTREGYRTQMKGPWHSEELIRFECPGKTVHVEETCGR
 GPSLRSTTASGRVIEEWCCRECTMPPLSFRAGDGCWYGMIEIRPRKEPENSLVRSMVTA
 GSTDHMDHFSGLVLILLMVQEGKKRMTTKIIISTSMAVLVAMILGGFSMSDLAKLA
 ILMGATFAEMTTGGDVAHLALIAAFKVRPALLVSFIFRANWTPRESMLLALASCLLQT
 AISALEGDLMLINGFALAWLAIRAMVVPRTDNITLAILAALTPLARGTLLVAWRAGL
 ATCGGFMLLSLKKGKSVKKNLPFVMALGLTAVRLVDPINVVGLLLLRSGKRSWPPSE
 VLTAVGLICALAGGFAKADIEMAGPMAAVGLLIVSYVVSXSVDMYIERAGDITWEKD
 AEVTGNSPRLDVALDESGDFSLVEDDGPPMREIILKVLMTCGMNPIAIPFAAGAWY
 VVVKTGKRSGLWDVPAPEVKKGETTDGVYRVMTRRLLGSTQVGVGMQEGVFHTMW
 HVTKGSALRSGEGLDPYWGDKQDLVSYCGPWKLDAAWDGHSEVQLLAVPPGERARN
 IQTLPGIFKTKDGDIGAVALDYPAGTSGSPILDKCGRVIGLYGNGVVIKNGSVYSAIT
 QGRREEETPVCECFEPSMLKKQLTVLDLHPGAGKTRRVLPEIVREAIKTRLRVTILAP
 TRVAAEMEEALRGLPVRVMTTAVNVTHSGTEIVDLMCHATFTSRLLPQIRVPNYNLY
 IMDEAHFTDPSIIAARGYISTRVEMGEAAIFMTATPPGTRDAFPDSNSPIMDTEVEV
 PERAWSSGFDVWTDHSGKTVWFVPSVRNGNEIAAALTKAGKRVILSRKTFETEFQKT
 KHQEWDFVVTDISEMANGKADRVIDSRRCLKPVIDGERVILAGPMPVTHASAAQR
 RGRIGRNPKNPGDEYLYGGGCAETDEDHAHWLEARMLDNIYLDQGLIASLYRPEADK
 VAAIEGEFKLRTEQRKTFVELMKRGDLPVWLAYQVASAGITYTDRRCFDGTTNNTIM
 EDSVPAEAVWRHGEKRVLPKRWMDARVCSHAALKSFKEFAAGKGAAGFVMEALGTL
 PGHMTERFQEAIDNLAVLMRAETGSRPYKAAAQLPETLETIMLLGLLGTVSLGIFV
 LMRNKGIGKMGFGMVTLGASAWLMLSEIEPARIACVLIVFLLLVLIPEPEKQKQSP
 QDNQMAIIMVAVGLLGLITANELGWLERTKSDLSHLMGRREEGATIGFSMDIDLRPA
 SAWAIYAALTTFTPAVQHAVTTSYNNYSLMAMATQAGVLFMGKGMFPYAWDFGVPL
 LMIGCYSQPLTPLTIVAIILLVAHYMYLIPGLQAAAAAAQKRTAAGIMKNPVVDGIV
 VTDIDTMTIDPQVEKKMGQVLLIAVAVSSAILLSRTAWGWGEAGALITAASTLWEGSP
 NKYWNSSSTATSLCNIFRGSYLAGASLIYTVTRNAGLVKRRGGGTGETLGEKWKARLNQ
 MSALFEYSYKSGITEVCREEARALKDGVATGGHAVSRGSAKLRLWVERGYLPQYK
 VIDLGCGRGGWSYVATIRKVQEVKGYTKGGPGHEEPVLVQSYGWNIVRLKSGVDVFH
 MAAEPCDTLLCDIGESSSSPEVEEARTLRVLSMVGDWLEKRPAGFCIKVLCPYSTMM
 ETLERLQRRYGGGLVRVPLSRNSTHEMYWVSGAKSNTIKSVSTTSQLLLRMDGPRRP
 VKYEEDVNLGSGTRAVVSCAEAPNMKIIGNRIERIRSEHAETWFFDENHPYRTWAYHG
 SYEAPTQGSASSLINGVVRLLSKPWDVVTGVTGIAMTDTTPYQQQRVFKEKVDTRVPD
 PQEGTRQVMSMVSSWLWKLGLGKHKRPRVCTKEEFINKVRSNAALGAIFEEKEWKTA
 EAVNDPRFWALVDKEREHHLRGECQSCVYMMGKREKKQGEFGKAKGSRAIWMWLGA
 RFLFEALGFLNEDHWMGRENSGGGVEGLGLQRLGYVLEEMSRIPGGRMYADDTAGWD
 TRISRFDLEENALITNQMEKGHRALALAIKYTYQNKVVVLRPAEKGTVMIDISRQ
 DQRGSGQVVYALNTFTNLVVQLIRNMEAEEVLEMQDLWLRLRSEKVTNWLQSNWD
 LKRMVSGDDCVVKPIDDRFAHALRFLNDMGKVRKDTQEWKPTSGWDNWEVFPSCSHH
 FNKLHLKDGSRIVVPCRHQDELIGRARVSPGAGWSIRETACLAKSQAQMWQLLYFHRR
 DLRLMANAICSSVPVDWVPTGRTTWSIHKGGEWMTTDEMVLVWNRVWIEENDHMEDKT
 PVTKWTIDIPYLGKREDLWCGSLIGHRPRTTWAENIKNTVMVRRRIIGDEEKYMDYLST
 QVRYLGEEGSTPGVL"

ORIGIN

1 gttgttgatc tgtgtgaatc agactgcgac agttcgagtt tgaagcgaaa gctagcaaca
 61 gtatcaacag gttttatattt ggatttggaa acgagagttt ctggtcatga aaaacccaaa
 121 aaagaaatcc ggaggattcc ggattgtcaa tatgctaaaa cgcgagtag cccgtgtgag
 181 cccctttggg ggcttgaaga ggctgccagc cggacttctg ctgggtcatg ggcccatcag
 241 gatggtcttg gcgattctag cctttttgag attcacggca atcaagccat cactgggtct
 301 catcaataga tggggttcag tggggaaaaa agaggctatg gaaacaataa agaagttcaa
 361 gaaagatctg gctgccatgc tgagaataa caatgctagg aaggagaaga agagacgagg
 421 cgcagatact agtgtcggaa ttgttggcct cctgctgacc acagctatgg cagcggagggt
 481 cactagacgt gggagtgcat actatatgta cttggacaga aacgatgctg gggaggccat
 541 atcttttcca accacattgg ggaatgaataa gtgttatata cagatcatgg atcttgaca
 601 catgtgtgat gccaccatga gctatgaatg ccctatgctg gatgaggggg tggaaccaga
 661 tgacgtcgat tgttgggtca acacgacgtc aacttgggtt gtgtacggaa cctgccatca
 721 caaaaaaggt gaagcacgga gatctagaag agctgtgacg ctcccctccc attccaccag
 781 gaagctgcaa acgcggtgc aaacctgggtt ggaatcaaga gaatacaca agcacttgat
 841 tagatcgaa aattggatat tcaggaaacc tggcttcgag ttagcagcag ctgccatcgc
 901 ttggcttttg ggaagctcaa cgagccaaaa agtcatatac ttgggtcatga tactgctgat
 961 tgccccggca tacagcatca ggtgcatagg agtcagcaat agggactttg tggaaggtat
 1021 gtcaggtggg acttgggttg atgttgtctt ggaacatgga ggttgtgtca cgttaattggc
 1081 acaggacaaa ccgactgtcg acatagagct ggttacaaca acagtcagca acatggcggga
 1141 ggtaagatcc tactgctatg aggcataat atcagacatg gcttctgaca gccgctgccc
 1201 aacacaaggt gaagcctacc ttgacaagca atcagacact caatatgtct gcaaaagaac
 1261 gttagtggac agaggctggg gaaatggatg tggacttttt ggcaaaggga gcctggtgac
 1321 atgcgctaag ttgcatgctt ccaagaaaaa gaccgggaag agcatccagc cagagaatct
 1381 ggagtaccgg ataatgctgt cagttcatgg ctcccagcac agtgggatga tcgttaatga
 1441 cacaggacat gaaactgatg agaatagagc gaaagttgag ataacgccc attcaccgag
 1501 agccgaagcc accctggggg gttttggaag cctaggactt gattgtgaac cgaggacagg
 1561 ccttgacttt tcagatttgt attacttgac tatgaataac aagcactggt tggttcaca
 1621 ggagtgggtc cagcacatc cattacctg gcacgctggg gcagacacgc gaactccaca
 1681 ctggaacaac aaagaagcac tggtagagtt caaggacgca catgccaaaa ggcaactgt

```

1741 cgtgggttcta gggagtaacg aaggagcagt tcacacggcc cttgctggag ctctggaggc
1801 tgagatggat ggtgcaaagg gaaggctgtc ctctggccac ttgaaatgtc gcctgaaaat
1861 ggataaaactt agattgaagg gcgtgtcata ctctttgtgt actgcagcgt tcacattcac
1921 caagatcccc gctgaaacac tgcacgggac agtcacagtg gaggtacagt acgcaggggac
1981 agatggacac tgcaagggtc cagctcagat ggcgggtggc atgcaaacctc tgaccccagt
2041 tgggagggttg ataaccgcta accccgtaat cactgaaagc actgagaact ctaagatgat
2101 gctggaactt gatccacatc ttggggactc ttacattgtc ataggagtgc gggagaagaa
2161 gatcaccacc cactggcaca ggagtggcag caccattgga aaagcatttg aagccactgt
2221 gagaggtgcc aagagaatgg cagtcttggg agacacagcc tgggactttg gatcagttgg
2281 aggcgctctc aactcattgg gcaagggcac ccatcaaatt tttggagcag ctttcaaatc
2341 attgttttga ggaatgtcct ggttctcaca aattctcatt ggaacgttgc tgaatgtgtt
2401 ggggtctgaac acaaagaatg gatctatttc cttatgtgc ttggccttag ggggagtggt
2461 gatcttctta tcacagcgcg tctctgtcga tgtgggtgac tcggtggact tctcaaagaa
2521 ggagacgaga tgcggtacag ggggtgttct ctataacgac gttgaagcct ggaggggacag
2581 gtacaagtag catcctgact cccccgtag attggcagca gcagtcaagc aagcctggga
2641 agatgggtatc tgggggatct cctctgtttc aagaatggaa aacatcatgt ggagatcagt
2701 agaagggggag ctcaacgcaa tcctggaaga gaatggagtt caactgacgg tcgttgtggg
2761 atctgtaaaa aaccccatgt ggagaggtcc acagagattg ccctgtcctg tgaacgagct
2821 gccccacggc tgggaaggctt ggggggaaatc gtatttctgc agagcagcaa agacaaataa
2881 cagctttgtc gtgtagtggt acacactgaa ggaatgccca ctcaaacata gagcatggaa
2941 cagctttctt gtggaggatc atgggttcgg ggtatttcac actagtgtct ggctcaaggt
3001 tagagaagat tattcattag agtgtgatcc agccgttatt ggaacagctg ttaagggaag
3061 ggaggctgta cacagtgtac taggctactg gattgagagt gagaagaatg acacatggag
3121 gctgaagagg gcccatctga tcgagatgaa aacatgtgaa tggccaaagt cccacacatt
3181 gtggacagat ggaatagaag agagtgtatc gatcataccc aagtctttag ctgggccact
3241 cagccatcac aataccagag agggctacag gacccaatg aaagggccat ggccacagtga
3301 agagcttgaa attcggtttg aggaatgccc aggcactaag gtccacgtgg aggaacatg
3361 tggaaacaaga ggaccatctc tgagatcaac cactgcaagc ggaagggtga tcgaggaaatg
3421 gtgctgcagg gagtgcacaa tgccccact gtctgttcgg gctaaagatg gctgttggtg
3481 tggaaatggag ataaggccca ggaagaacac agaaagcaac ttagtaaggt caatggtagc
3541 tgcaggatca actgatacaca tggaccactt ctcccttgga gtgctgtgta tcctgctcat
3601 ggtgcaggaa gggctgaaga agagaatgac cacaaagatc atcataagca catcaatggc
3661 agtgctggta gctatgatcc tgggaggatt ttcaatgagt gacctggcta agcttgcaat
3721 tttgatgggt gccaccttcg cggaaatgaa cactggagga gatgtagctc atctggcgct
3781 gatagcggca ttcaaagtca gaccagcgtt gctggatatc ttcatcttca gagctaattg
3841 gacaccccggt gaagcctgac tgctggcctt ggctcgtgtt cttttgcaaa ctgctgcttc
3901 cgctttgtaa ggcgacctga tggttctcat caatggtttt gctttggcct ggttggcaat
3961 acgagcgatg gttgttcac gcactgataa catcaccttg gcaatcctgg ctgctctgac
4021 accatgggcc cggggcacac tgcttggggc gtggagagca ggcttgccta cttcgggggg
4081 gtttatgtct ctctctctga agggaaaagg cagtgtgaag aagaacttac catttgctat
4141 ggccctggga ctaaccgctg tgaggctggt cgacccatc aacgtgggtg gactgctgtt
4201 gctcacaagg agtgggaagc ggagctggcc ccctagcgaa gtactcacag ctgttggcct
4261 gatatgcgca ttggctggag ggttcgccc aaaggagatata gagatggctg ggcccatggc
4321 cgcggtcggg ctgctaattg tcagttacgt ggtctcagga aagagtgtgg acatgtacat
4381 tgaagagaga ggtgacatca catgggaaaa agatgcggaa gtcactggaa acagtcctccg
4441 gctcgatgtg cgcgtatgat agagtggtag tttctccctg gtggaggatg acggtccccc
4501 catgagagag atcatactca aggtggtcct gatgaccatc tgtggcatga acccaatagc
4561 catacccttt gcagctggag cgtggtacgt atacgtgaag actggaaaaa ggagtgtgtc
4621 tctatgggat gtgcctgtct ccaaggaaat aaaaaagggg gagaccacag atggagtgtg
4681 cagagtaaat actcgtagac tgctagggtc aacacaagtt ggagtgggag ttatgcaaga
4741 ggggggtctt cactatgtg ggcacgtcac aaaaaggatc cgctgtagaa gcggtgaagg
4801 gagacttgat ccatactggg gagatgtcaa gcaggatctg gtgtcactat gtgttccatg
4861 gaagctagat gccgcctggg atgggcacag cgagggtcag ctcttggcgg tgccccccgg
4921 agagagagcg aggaacatcc agactctgcc cggaaatatt aagacaaagg atggggacat
4981 tggagcgggt gcctggatt accagcagg aacttcagga tctccaatcc tagacaagtg
5041 tgggagagtg ataggacttt atggcaatgg ggtcgtgatc aaaaacggga gttatgttag
5101 tgccatcacc caagggagga gggaggaaga gactcctgtt gagtgtctcg agccctcgat
5161 gctgaagaag aagcagctaa ctgtcttaga cttgcatcct ggagctggga aaaccaggag
5221 agttcttctc gaaatagtcg gtgaagccat aaaaacaaga ctccgtactg tgatcttagc
5281 tccaaccagg gttgtcgtcg ctgaaatgga ggaggccctt agagggtctc cagtgcgtta
5341 tatgacaaca gcagtcaatg tcacccactc tggaaacagaa atcgtcgact taatgtgcca
5401 tgccaccttc acttcacgtc tactacagcc aatcagagtc cccaactata atctgtatat
5461 tatggatgag gcccaactca cagatccctc aagtatagca gcaagaggat acatttcaac
5521 aagggttgag atgggcgagg cggctgccat cttcatgacc gccacgccac caggaaaccg
5581 tgacgcattt ccgactgcca actcaccaat tatggacacc gaagtggaaag tcccagagag
5641 agcctggagc tcaggctttg attgggtgac ggatcattct ggaaaaacag tttggtttgt
5701 tccaagcgtg aggaacggca atgagatcgc agcttgtctg acaaaggctg gaaaacgggt
5761 catacagctc agcagaaaga cttttgagac agagtccag aaaaacaaac atcaagagtg
5821 ggactttgtc gtgacaactg acatttcaga gatgggcgcc aactttaaag ctgaccgtgt
5881 catagatttc agggagatcc taaagcgggt catacttgat ggctgagagag tcatcttggc
5941 tggaccatg cctgtcacac atgccagcgc tgcccagagg agggggcgca taggcaggaa
6001 tccaacaaa cctggagatg agtatctgta tggagggtgg tgcgcagaga ctgacgaaga
6061 ccatgcacac tggcttgaag caagaatgct ctttgacaat atttacctc aagatggcct
6121 catagcctcg ctctatcgac ctgaggccga caaagtagca gccattgagg gagagttcaa
6181 gcttaggacg gagcaaaagg agacctttgt ggaactcatg aaaaaggagg atcttctctg
6241 ttggctggcc tatcaggttg catctgccgg aataacctac acagatagaa gatggtgctt

```

```

6301 tgatggcagc accaacaaca ccataatgga agacagtgtg ccggcagagg tgtggaccag
6361 acacggagag aaaagagtgc tcaaacggag gtggatggac gccagagttt gttcagatca
6421 tgcggccctg aagtcattca aggagtttgc cgctgggaaa agaggagcgg cttttggagt
6481 gatggaagcc ctgggaacac tgccaggaca catgacagag agattccagg aagccattga
6541 caacctcgct gtgctcatgc gggcagagac tggaagcagg cttacaaga ccgcggcggc
6601 ccaattggcg gagaccctag agaccataat gcttttgggg ttgctgggaa cagtctcgct
6661 gggaattctt ttcgtcttga tgaggaaaca gggcataggg aagatgggct ttggaatggt
6721 gactcttggg gccagcgcat ggctcatgtg gctctcggaa attgagccag ccagaattgc
6781 atgtgtcctc attgttgtgt tcctattgct ggtgggtgctc atacctgagc cagaaaagca
6841 aagatctccc caggacaacc aaatggcaat catcatcatg gtagcagtag gtcttctggg
6901 cttgattacc gccaatgaac tcggatgggt ggagagaaca aagagtgacc taagccatct
6961 aatgggaagg agagaggagg gggcaacccat aggtattctca atggacattg acctgcggcc
7021 agcctcagct tgggcatctt atgctgcctt gacaactttc attacccagc ccgtccaaca
7081 tgcatgagac acctcataca acaactactc cttaatggcg atggccacgc aagctggagt
7141 gttgtttggc atgggcaaa ggtatgccatt ctacgcatgg gactttggag tcccgtgct
7201 aatgataggt tgctactcac aattaacacc cctgacccta atagtggcca tcattttgct
7261 cgtggcgcac tacatgtact tgatccagg gctgcaggca gcagctgcgc gtgctgcca
7321 gaagagaacg gcagctggca tcatgaagaa ccctgttgtg gatggaatag tggtgactga
7381 cattgacaca atgacaattg accccaagt ggagaaaaag atgggacagg tgctactcat
7441 agcagtagcc gtctccagcg ccatactgtc gcggaccgcc tgggggtggg gggaggctgg
7501 ggctctgatc acagccgcaa cttccacttt gtgggaaggc tctccgaaca agtactggaa
7561 ctctctaca gccacttcac tgtgtaacat ttttagggga agttacttgg ctggagcttc
7621 tctaattcac acagtacaac gaaacgctgg cttggtcaag agactggggg gtggaacagg
7681 agagaccttg ggagagaat ggaaggcccg cttgaaccag atgtcggccc tggagtctca
7741 ctctacaaa aagtcaggca tcaccgaggt gtgcagagaa gagggccgcc gcgccctcaa
7801 ggacggtgtg gcaacgggag gccatgctgt gtcccaggga agtgcaaaag tgagatggtt
7861 ggtggagcgg ggatactgc agccctatgg aaaggctatt gatcttggat gtggcagagg
7921 gggctggagt tactacgtcg ccaccatccg caaagttcaa gaagtgaag gatacacaaa
7981 aggaggccct ggtcatgaag aaccgtgttt ggtgcaaaag tatgggtgga acatagtcg
8041 tcttaagagt ggggtggacg tctttcatat ggcggtgtag ccgtgtgaca cgttgctgtg
8101 tgacataggt gagtcatcat ctagtctga agtggaagaa gcacggagcgc tcagagtctc
8161 ctccatggtg ggggattggc ttgaaaaaag accaggagcc tttgtataa aagtgttgtg
8221 ccatacacc agcactatga tggaaaccct ggagcgactg cagcgtagggt atgggggagg
8281 actggtcaga gtgccactct cccgcaactc tacacatgag atgtactggg tctctggagc
8341 gaaaagcaac accataaaaa gtgtgtccac cacgagccag ctctcttgg ggcgcatgga
8401 cgggcctagg agccctagtg aatatgagga ggtatgtaat ctcggtctg gcacgctggc
8461 tgtgtaagc tgcgtgaag ctcccaacat gaagatcatt ggtaacgcga ttgaaaggat
8521 ccgcagtgag cacgcggaag cgtggttctt tgacgagaac caccatata ggacatgggc
8581 ttaccatgga agctatgagg cccccacaca agggtcagcg tctctctaa taaacggggt
8641 gtgcaggctc ctgtcaaaac cctgggatgt ggtgactgga gtcacaggaa tagccatgac
8701 cgacaccaca cgtatggtc agcaaaagat tttcaaggaa aaagtggaca ctagggtgac
8761 agaccccaa gaaggcactc gtcaggttat gagcatggtc tcttctggt tgtgaaaga
8821 gctaggcaaa cacaacggc cacgagtctg caccaaagaa gattcatca acaaggttcg
8881 tagcaatgca gcattagggg caatatttga agaggaaaaa gattggaaga ctgcagtgga
8941 agctgtgaac gatccaaggt tctgggctct agtggacaag gaaagagagc accacctgag
9001 aggagatgct cagagtctgt tgtacaacat gatgggaaaa agagaaaaa aacaagggga
9061 atttggaag gccaagggca gccgcgcat ctggtatatg tggctagggg ctagatttct
9121 agagtctgaa gcccttggat tcttgaacga ggtacactgg atggggagag agaactcagg
9181 aggtggtgtt gaagggtggt gattacaaag actcggatat gtcctagaag agatgagtcg
9241 tataccagga ggaaggatgt atgcagatga cactgctggc tgggacacc gcattagcag
9301 gtttgatctg gagaatgaag ctctaatac caaccaatg gagaaagggc acagggcctt
9361 ggcatggcc ataataaagt acacatacca aaacaaagt gtaaaggctc ttagaccagc
9421 tgaaaaaggg aaaaacagtt tggacattat ttcgagacaa gaccaaaggg ggagcggaca
9481 agttgtcact tacgctctta acacatttac caacctagtg gtgcaactca ttcggaatat
9541 ggaggctgag gaagttctag agatgcaaga cttgtggctg ctgcggagggt cagaaaaagt
9601 gaccaactgg ttgcagagca acggatggga taggtctaaa cgaatggcag tcagtggaga
9661 tgattgcgtt gtgaagccaa ttgatgatag gtttgacat gccctcagggt tcttgaatga
9721 tatgggaaaa gttagggaag acacacaaga gtggaaacc tcaactggat gggacaactg
9781 ggaagaagtt ccgttttct cccaccactt caacaagctc catctcaagg acgggagggtc
9841 cattgtggtt cccctcgcc accaagatga actgattggc cgggcccgcg tctctccagg
9901 ggcgggatgg agcatccggg agactgcttg cctagcaaaa tcatatgctc aaatgtggca
9961 gtccttttat ttccacagaa gggacctccg actgatggcc aatgccattt gttcatctgt
10021 gccagttgac tgggttccaa ctgggagaa tacctgtgca atccatggaa agggagaatg
10081 gatgaccact gaagacatgc ttgtggtgtg gaacagagtg tggattgagg agaacgacca
10141 catggaagac aagaccaccag ttacgaaatg gacagacatt ccctatttgg gaaaaaggga
10201 agacttgttg tgtggatctc tcatagggca cagaccgcgc accacctggg ctgagaacat
10261 taaaacaca gtcaaatgg tgcgaggat cataggtgat gaagaaaagt acatggacta
10321 cctatccacc caagtctgct acttgggtga agaagggtct acacctggag tgctgtaagc
10381 accaatctta atgttgtcag gcctgctagt cagccacagc ttggggaaag ctgtgcagcc
10441 tgtgacccc ccaggagaag ctgggaaacc aagcctatag tcaggccgag aacgccatgg
10501 cacggaagaa gccatgctgc ctgtgagccc ctgagaggac actgagtaaa aaaacccac
10561 gcgcttgagg gcgcaggatg ggaagaagag gtggcgacct tccccacct tcaatctggg
10621 gcctgaactg gagatcagct gtggatctcc agaagaggga ctagtgttta gagga

```

//