SEQUENCE LISTING

<110> PsiOxus Therapeutics Limited

<120> Adenovirus armed with bispecific T cell engager (BiTE)

<130> P000260_WO

<150> GB1713765.4
<151> 2017-08-28

<150> PCT/EP2017/071674
<151> 2017-08-29

<150> PCT/EP2017/071655
<151> 2017-08-29

<160> 281

<170> PatentIn version 3.5

<210> 1
<211> 1551
<212> DNA
<213> Artificial Sequence

<220>
<223> FAP-BiTE nucleic acid sequence

<400> 1
atgggctgga gctgcatcat cttgttcctg gtcgcaactg ctaccggagt ccattcggac 60

atcgtcatga cccaaagccc tgactcgctc gctgtgtcac tgggagagcg ggcgactatc 120

aactgcaaat catcccagag cctgctgtat tcacgcaatc agaaaaacta cctggcctgg 180

tatcagcaga agccgggcca gcctcccaag ctgctgatct tctgggcctc cacccgcgaa 240

agcggcgtgc cggaccgctt cagcggaagc ggattcggaa ctgactttac tctgaccatt 300

agctccttgc aggcggagga cgtggccgtc tactactgcc agcagtattt ctcctatccg 360

ctcacctttg ggcaaggcac caaggtggag attaagggag ggggcggcag cgggggaggc 420

ggcagcggcg gcgggggatc gcaggtccag ctcgtccaat ccggagccga agtcaagaag 480

ccgggagcgt cggtcaaggt cagctgcaaa acttcgcgct acaccttcac tgagtacacg 540

atccactggg tccgccaggc gcccggccag cggctggagt ggatcggcgg gatcaaccca 600

aacaacggaa tcccaaatta caatcagaaa tttaaagggc gggtgactat caccgtggat 660

acctcggcct ccacggcgta catggagctc tcatcactca gatcggagga caccgcggtc 720

tattactgcg cccgccgccg gatcgcttat ggatacgatg aaggacatgc gatggattac 780

tggggccagg gcaccctcgt cacggtgtcg tcaggaggcg gcggttcaca ggtgcagctg 840

cagcagtctg gggctgaact ggcaagacct ggggcctcag tgaagatgtc ctgcaaggct 900

tctggctaca cctttactag gtacacgatg cactgggtaa aacagaggcc tggacagggt 960

ctggaatgga ttggatacat taatcctagc cgtggttata ctaattacaa tcagaagttc 1020

aaggacaagg ccacattgac tacagacaaa tcctccagca cagcctacat gcaactgagc 1080

agcctgacat ctgaggactc tgcagtctat tactgtgcaa gatattatga tgatcattac 1140

tgccttgact actggggcca aggcaccact ctcacagtct cctcaggtgg cggtggctcg 1200

ggcggtggtg gatctggtgg cggcggatct gatatcgtgc tcactcagtc tccagcaatc 1260

atgtctgcat ctccagggga gaaggtcacc atgacctgca gtgccagctc aagtgtaagt 1320

tacatgaact ggtaccagca gaagtcaggc acctccccca aaagatggat ttatgacaca 1380

tccaaactgg cttctggagt ccctgctcac ttcaggggca gtgggtctgg gacctcttac 1440

tctctcacaa tcagcggcat ggaggctgaa gatgctgcca cttattactg ccagcagtgg 1500

agtagtaacc cattcacgtt cggctcgggg acaaagttgg aaataaaccg g 1551

<210> 2
<211> 517
<212> PRT
<213> Artificial Sequence

<220>
<223> FAP-BiTE amino acid sequence

<400> 2

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
1 5 10 15

Val His Ser Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val
20 25 30

Ser Leu Gly Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu
35 40 45

Leu Tyr Ser Arg Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys
50 55 60

```
Pro Gly Gln Pro Pro Lys Leu Leu Ile Phe Trp Ala Ser Thr Arg Glu
65                  70                  75                  80

Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Phe Gly Thr Asp Phe
                85                  90                  95

Thr Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr
            100                 105                 110

Cys Gln Gln Tyr Phe Ser Tyr Pro Leu Thr Phe Gly Gln Gly Thr Lys
        115                 120                 125

Val Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    130                 135                 140

Gly Gly Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
145                 150                 155                 160

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Thr Ser Arg Tyr Thr Phe
                165                 170                 175

Thr Glu Tyr Thr Ile His Trp Val Arg Gln Ala Pro Gly Gln Arg Leu
            180                 185                 190

Glu Trp Ile Gly Gly Ile Asn Pro Asn Asn Gly Ile Pro Asn Tyr Asn
        195                 200                 205

Gln Lys Phe Lys Gly Arg Val Thr Ile Thr Val Asp Thr Ser Ala Ser
    210                 215                 220

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
225                 230                 235                 240

Tyr Tyr Cys Ala Arg Arg Arg Ile Ala Tyr Gly Tyr Asp Glu Gly His
                245                 250                 255

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly
            260                 265                 270

Gly Gly Gly Ser Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Ala
```

```
        275                 280                 285

Arg Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr
    290                 295                 300

Phe Thr Arg Tyr Thr Met His Trp Val Lys Gln Arg Pro Gly Gln Gly
305                 310                 315                 320

Leu Glu Trp Ile Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr
                325                 330                 335

Asn Gln Lys Phe Lys Asp Lys Ala Thr Leu Thr Thr Asp Lys Ser Ser
            340                 345                 350

Ser Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala
        355                 360                 365

Val Tyr Tyr Cys Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr
    370                 375                 380

Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Val Leu Thr Gln
                405                 410                 415

Ser Pro Ala Ile Met Ser Ala Ser Pro Gly Glu Lys Val Thr Met Thr
            420                 425                 430

Cys Ser Ala Ser Ser Ser Val Ser Tyr Met Asn Trp Tyr Gln Gln Lys
        435                 440                 445

Ser Gly Thr Ser Pro Lys Arg Trp Ile Tyr Asp Thr Ser Lys Leu Ala
    450                 455                 460

Ser Gly Val Pro Ala His Phe Arg Gly Ser Gly Ser Gly Thr Ser Tyr
465                 470                 475                 480

Ser Leu Thr Ile Ser Gly Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr
                485                 490                 495
```

Cys Gln Gln Trp Ser Ser Asn Pro Phe Thr Phe Gly Ser Gly Thr Lys
500 505 510

Leu Glu Ile Asn Arg
515

<210> 3
<211> 1629
<212> DNA
<213> Artificial Sequence

<220>
<223> Control (Anti-FHA) BiTE DNA coding sequence, with N-terminal signal sequence and C-terminal deca-His affinity tag

<400> 3
atgggttggt catgcatcat cctgtttctc gtcgcaactg cgaccggcgt gcattcggaa 60

ctggacatcg tgatgaccca ggcacctgca tcactggcag tgagcctggg acagagagcc 120

accatttcat gccgggccag caagagcgtg tcgtcatccg gatacaatta tctgcactgg 180

tatcagcaga aaccaggaca acctccaaag ctactcatct acctggcgtc gaacctcgaa 240

tcgggcgtcc cagctagatt ctcagggagc ggttcgggaa ccgatttcac cctgaacatc 300

caccctgtgg aggaggaaga cgcggcaacg tactattgcc agcattcccg cgagttccct 360

ctcactttcg gtgcgggaac taagctggag atcaagtcca gcggcggcgg aggtagcggt 420

ggaggtggcg gaggaagctc ccggtcgtcg ctggaggtgc agctgcaaca atccggcccg 480

gaactggtca agccaggcgc atccgtcaag atttcatgca agacctcggg gtacaccttc 540

accgggtaca cgatgcattg ggtcaggcag agccacggca agtccctgga atggatcgga 600

ggaatcaacc ccaaaaacgg cggcatcatc tacaaccaaa agttccaggg aaaagccact 660

ctgaccgtgg acaagtcgtc gagcacggcc agcatggagc tgcggtccct cacttccgac 720

gactcagccg tgtattactg cgcgagacgg gtctacgatg actacccata ctactacgct 780

atggactact ggggacaagg aaccagcgtg accgtctcat cggcgaaaac tactccgccg 840

tcggtgacgt cgggaggtgg tggaagcgac gtgcagctcg tccagtcggg tgccgaggtg 900

aagaagccag gagcctccgt gaaggtctcg tgcaaagcca gcggctacac ttttactagg 960

tacactatgc actgggtgcg gcaagcgccg ggacaaggtc tggagtggat cggatacatc 1020

aatccgtcgc ggggatacac taattacgcg gactccgtca agggacggtt tactatcact 1080

acggataagt ccactagcac cgcctacatg gaactgtcct cgctgcggtc ggaagacact 1140

gcgacctact actgcgctag atattacgat gaccactact gcctcgacta ttgggggcag 1200

ggcactacgg tcaccgtctc gtcgggagaa ggaacctcaa ctggatcggg cggatcggga 1260

ggctccggag gagccgacga catcgtgctt acccagtcgc ctgcgaccct gtccctgtcc 1320

ccaggagaga gagcgactct ttcatgcagg gcttcccaat cagtctccta catgaattgg 1380

tatcaacaaa aacccggcaa ggccccgaaa cgctggatct acgatacttc aaaggtggcc 1440

agcggtgtgc ctgcccgctt ctccgggtcg gggtccggca ccgattactc gttgactatc 1500

aatagcctgg aggccgagga cgctgcaact tactactgcc agcagtggtc ctccaaccct 1560

ctcaccttcg gaggcgggac caaggtggaa atcaaacatc accatcacca tcaccaccat 1620

caccattag 1629

<210> 4
<211> 542
<212> PRT
<213> Artificial Sequence

<220>
<223> Control (Anti-FHA) BiTE amino acid sequence with N-terminal signal sequence and C-terminal deca-His affinity tag

<400> 4

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
1 5 10 15

Val His Ser Glu Leu Asp Ile Val Met Thr Gln Ala Pro Ala Ser Leu
20 25 30

Ala Val Ser Leu Gly Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Lys
35 40 45

Ser Val Ser Ser Ser Gly Tyr Asn Tyr Leu His Trp Tyr Gln Gln Lys
50 55 60

Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Leu Ala Ser Asn Leu Glu
65 70 75 80

Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe

```
                85                  90                  95

Thr Leu Asn Ile His Pro Val Glu Glu Glu Asp Ala Ala Thr Tyr Tyr
            100                 105                 110

Cys Gln His Ser Arg Glu Phe Pro Leu Thr Phe Gly Ala Gly Thr Lys
        115                 120                 125

Leu Glu Ile Lys Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Gly
    130                 135                 140

Gly Ser Ser Arg Ser Ser Leu Glu Val Gln Leu Gln Gln Ser Gly Pro
145                 150                 155                 160

Glu Leu Val Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Thr Ser
                165                 170                 175

Gly Tyr Thr Phe Thr Gly Tyr Thr Met His Trp Val Arg Gln Ser His
            180                 185                 190

Gly Lys Ser Leu Glu Trp Ile Gly Gly Ile Asn Pro Lys Asn Gly Gly
        195                 200                 205

Ile Ile Tyr Asn Gln Lys Phe Gln Gly Lys Ala Thr Leu Thr Val Asp
    210                 215                 220

Lys Ser Ser Ser Thr Ala Ser Met Glu Leu Arg Ser Leu Thr Ser Asp
225                 230                 235                 240

Asp Ser Ala Val Tyr Tyr Cys Ala Arg Arg Val Tyr Asp Asp Tyr Pro
                245                 250                 255

Tyr Tyr Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val
            260                 265                 270

Ser Ser Ala Lys Thr Thr Pro Pro Ser Val Thr Ser Gly Gly Gly Gly
        275                 280                 285

Ser Asp Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly
    290                 295                 300
```

```
Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Arg
305                 310                 315                 320

Tyr Thr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp
                325                 330                 335

Ile Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Ala Asp Ser
            340                 345                 350

Val Lys Gly Arg Phe Thr Ile Thr Thr Asp Lys Ser Thr Ser Thr Ala
        355                 360                 365

Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Thr Tyr Tyr
    370                 375                 380

Cys Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly Gln
385                 390                 395                 400

Gly Thr Thr Val Thr Val Ser Ser Gly Glu Gly Thr Ser Thr Gly Ser
                405                 410                 415

Gly Gly Ser Gly Gly Ser Gly Gly Ala Asp Asp Ile Val Leu Thr Gln
            420                 425                 430

Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser
        435                 440                 445

Cys Arg Ala Ser Gln Ser Val Ser Tyr Met Asn Trp Tyr Gln Gln Lys
    450                 455                 460

Pro Gly Lys Ala Pro Lys Arg Trp Ile Tyr Asp Thr Ser Lys Val Ala
465                 470                 475                 480

Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr
                485                 490                 495

Ser Leu Thr Ile Asn Ser Leu Glu Ala Glu Asp Ala Ala Thr Tyr Tyr
            500                 505                 510

Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr Phe Gly Gly Gly Thr Lys
```

```
        515                 520                 525


Val Glu Ile Lys His His His His His His His His His His
    530                 535                 540


<210>  5
<211>  243
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  SEQ ID NO: 7

<400>  5

Asp Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1               5                   10                  15


Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Arg Tyr
            20                  25                  30


Thr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
        35                  40                  45


Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Ala Asp Ser Val
    50                  55                  60


Lys Gly Arg Phe Thr Ile Thr Thr Asp Lys Ser Thr Ser Thr Ala Tyr
65                  70                  75                  80


Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Thr Tyr Tyr Cys
                85                  90                  95


Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly Gln Gly
            100                 105                 110


Thr Thr Val Thr Val Ser Ser Gly Glu Gly Thr Ser Thr Gly Ser Gly
        115                 120                 125


Gly Ser Gly Gly Ser Gly Gly Ala Asp Asp Ile Val Leu Thr Gln Ser
    130                 135                 140


Pro Ala Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser Cys
```

145 150 155 160

Arg Ala Ser Gln Ser Val Ser Tyr Met Asn Trp Tyr Gln Gln Lys Pro
165 170 175

Gly Lys Ala Pro Lys Arg Trp Ile Tyr Asp Thr Ser Lys Val Ala Ser
180 185 190

Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr Ser
195 200 205

Leu Thr Ile Asn Ser Leu Glu Ala Glu Asp Ala Ala Thr Tyr Tyr Cys
210 215 220

Gln Gln Trp Ser Ser Asn Pro Leu Thr Phe Gly Gly Gly Thr Lys Val
225 230 235 240

Glu Ile Lys

<210> 6
<211> 119
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-CD3 VH

<400> 6

Asp Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Arg Tyr
20 25 30

Thr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45

Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Ala Asp Ser Val
50 55 60

Lys Gly Arg Phe Thr Ile Thr Thr Asp Lys Ser Thr Ser Thr Ala Tyr

65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Thr Tyr Tyr Cys
85 90 95

Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly Gln Gly
100 105 110

Thr Thr Val Thr Val Ser Ser
115

<210> 7
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-CD3 VL

<400> 7

Asp Ile Val Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly
1 5 10 15

Glu Arg Ala Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Tyr Met
20 25 30

Asn Trp Tyr Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Trp Ile Tyr
35 40 45

Asp Thr Ser Lys Val Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser
50 55 60

Gly Ser Gly Thr Asp Tyr Ser Leu Thr Ile Asn Ser Leu Glu Ala Glu
65 70 75 80

Asp Ala Ala Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr
85 90 95

Phe Gly Gly Gly Thr Lys Val Glu Ile Lys
100 105

<210> 8

<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-CD3 ScFv linker sequence

<400> 8

Gly Glu Gly Thr Ser Thr Gly Ser Gly Gly Ser Gly Gly Ser Gly Gly
1 5 10 15

Ala Asp

<210> 9
<211> 252
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-FAP ScFv

<400> 9

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
20 25 30

Arg Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
35 40 45

Pro Pro Lys Leu Leu Ile Phe Trp Ala Ser Thr Arg Glu Ser Gly Val
50 55 60

Pro Asp Arg Phe Ser Gly Ser Gly Phe Gly Thr Asp Phe Thr Leu Thr
65 70 75 80

Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln
85 90 95

Tyr Phe Ser Tyr Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
100 105 110

```
Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
        115                 120                 125


Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
    130                 135                 140


Ser Val Lys Val Ser Cys Lys Thr Ser Arg Tyr Thr Phe Thr Glu Tyr
145                 150                 155                 160


Thr Ile His Trp Val Arg Gln Ala Pro Gly Gln Arg Leu Glu Trp Ile
                165                 170                 175


Gly Gly Ile Asn Pro Asn Asn Gly Ile Pro Asn Tyr Asn Gln Lys Phe
            180                 185                 190


Lys Gly Arg Val Thr Ile Thr Val Asp Thr Ser Ala Ser Thr Ala Tyr
        195                 200                 205


Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
    210                 215                 220


Ala Arg Arg Arg Ile Ala Tyr Gly Tyr Asp Glu Gly His Ala Met Asp
225                 230                 235                 240


Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
                245                 250


<210>  10
<211>  113
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  Anti-FAP VL domain

<400>  10

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1               5                   10                  15


Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu Leu Tyr Ser
            20                  25                  30
```

```
Arg Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln
        35                  40                  45

Pro Pro Lys Leu Leu Ile Phe Trp Ala Ser Thr Arg Glu Ser Gly Val
    50                  55                  60

Pro Asp Arg Phe Ser Gly Ser Gly Phe Gly Thr Asp Phe Thr Leu Thr
65                  70                  75                  80

Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys Gln Gln
                85                  90                  95

Tyr Phe Ser Tyr Pro Leu Thr Phe Gly Gln Gly Thr Lys Val Glu Ile
            100                 105                 110

Lys
```

<210> 11
<211> 124
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-FAP VH domain

<400> 11

```
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
1               5                   10                  15

Ser Val Lys Val Ser Cys Lys Thr Ser Arg Tyr Thr Phe Thr Glu Tyr
            20                  25                  30

Thr Ile His Trp Val Arg Gln Ala Pro Gly Gln Arg Leu Glu Trp Ile
        35                  40                  45

Gly Gly Ile Asn Pro Asn Asn Gly Ile Pro Asn Tyr Asn Gln Lys Phe
    50                  55                  60

Lys Gly Arg Val Thr Ile Thr Val Asp Thr Ser Ala Ser Thr Ala Tyr
65                  70                  75                  80
```

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Arg Arg Arg Ile Ala Tyr Gly Tyr Asp Glu Gly His Ala Met Asp
100 105 110

Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 12
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-FAP and Anti-EpCAM linker sequence

<400> 12

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

<210> 13
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> BiTe leader sequence

<400> 13

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
1 5 10 15

Val His Ser

<210> 14
<211> 542
<212> PRT
<213> Artificial Sequence

<220>
<223> Control BiTe (Anti-FHA)

<400> 14

```
Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
1               5                  10                  15

Val His Ser Glu Leu Asp Ile Val Met Thr Gln Ala Pro Ala Ser Leu
            20                  25                  30

Ala Val Ser Leu Gly Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Lys
        35                  40                  45

Ser Val Ser Ser Ser Gly Tyr Asn Tyr Leu His Trp Tyr Gln Gln Lys
    50                  55                  60

Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Leu Ala Ser Asn Leu Glu
65                  70                  75                  80

Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
                85                  90                  95

Thr Leu Asn Ile His Pro Val Glu Glu Glu Asp Ala Ala Thr Tyr Tyr
            100                 105                 110

Cys Gln His Ser Arg Glu Phe Pro Leu Thr Phe Gly Ala Gly Thr Lys
        115                 120                 125

Leu Glu Ile Lys Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Gly
    130                 135                 140

Gly Ser Ser Arg Ser Ser Leu Glu Val Gln Leu Gln Gln Ser Gly Pro
145                 150                 155                 160

Glu Leu Val Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Thr Ser
                165                 170                 175

Gly Tyr Thr Phe Thr Gly Tyr Thr Met His Trp Val Arg Gln Ser His
            180                 185                 190

Gly Lys Ser Leu Glu Trp Ile Gly Gly Ile Asn Pro Lys Asn Gly Gly
        195                 200                 205

Ile Ile Tyr Asn Gln Lys Phe Gln Gly Lys Ala Thr Leu Thr Val Asp
```

```
    210                 215                 220

Lys Ser Ser Ser Thr Ala Ser Met Glu Leu Arg Ser Leu Thr Ser Asp
225                 230                 235                 240

Asp Ser Ala Val Tyr Tyr Cys Ala Arg Arg Val Tyr Asp Asp Tyr Pro
                245                 250                 255

Tyr Tyr Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val
            260                 265                 270

Ser Ser Ala Lys Thr Thr Pro Pro Ser Val Thr Ser Gly Gly Gly Gly
        275                 280                 285

Ser Asp Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly
    290                 295                 300

Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Arg
305                 310                 315                 320

Tyr Thr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp
                325                 330                 335

Ile Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Ala Asp Ser
            340                 345                 350

Val Lys Gly Arg Phe Thr Ile Thr Thr Asp Lys Ser Thr Ser Thr Ala
        355                 360                 365

Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Thr Tyr Tyr
    370                 375                 380

Cys Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly Gln
385                 390                 395                 400

Gly Thr Thr Val Thr Val Ser Ser Gly Glu Gly Thr Ser Thr Gly Ser
                405                 410                 415

Gly Gly Ser Gly Gly Ser Gly Gly Ala Asp Asp Ile Val Leu Thr Gln
            420                 425                 430
```

```
Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser
        435                 440                 445


Cys Arg Ala Ser Gln Ser Val Ser Tyr Met Asn Trp Tyr Gln Gln Lys
    450                 455                 460


Pro Gly Lys Ala Pro Lys Arg Trp Ile Tyr Asp Thr Ser Lys Val Ala
465                 470                 475                 480


Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr
                485                 490                 495


Ser Leu Thr Ile Asn Ser Leu Glu Ala Glu Asp Ala Ala Thr Tyr Tyr
            500                 505                 510


Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr Phe Gly Gly Gly Thr Lys
        515                 520                 525


Val Glu Ile Lys His His His His His His His His His His
    530                 535                 540
```

<210> 15
<211> 265
<212> PRT
<213> Artificial Sequence

<220>
<223> Control (Anti-FHA) ScFv

<400> 15

```
Glu Leu Asp Ile Val Met Thr Gln Ala Pro Ala Ser Leu Ala Val Ser
1               5                   10                  15


Leu Gly Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Lys Ser Val Ser
            20                  25                  30


Ser Ser Gly Tyr Asn Tyr Leu His Trp Tyr Gln Gln Lys Pro Gly Gln
        35                  40                  45


Pro Pro Lys Leu Leu Ile Tyr Leu Ala Ser Asn Leu Glu Ser Gly Val
    50                  55                  60
```

```
Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Asn
65                  70                  75                  80

Ile His Pro Val Glu Glu Glu Asp Ala Ala Thr Tyr Tyr Cys Gln His
                85                  90                  95

Ser Arg Glu Phe Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Ile
            100                 105                 110

Lys Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Gly Gly Ser Ser
        115                 120                 125

Arg Ser Ser Leu Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val
    130                 135                 140

Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Thr Ser Gly Tyr Thr
145                 150                 155                 160

Phe Thr Gly Tyr Thr Met His Trp Val Arg Gln Ser His Gly Lys Ser
                165                 170                 175

Leu Glu Trp Ile Gly Gly Ile Asn Pro Lys Asn Gly Gly Ile Ile Tyr
            180                 185                 190

Asn Gln Lys Phe Gln Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser
        195                 200                 205

Ser Thr Ala Ser Met Glu Leu Arg Ser Leu Thr Ser Asp Asp Ser Ala
    210                 215                 220

Val Tyr Tyr Cys Ala Arg Arg Val Tyr Asp Asp Tyr Pro Tyr Tyr Tyr
225                 230                 235                 240

Ala Met Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser Ala
                245                 250                 255

Lys Thr Thr Pro Pro Ser Val Thr Ser
            260                 265
```

<210> 16

<211> 113
<212> PRT
<213> Artificial Sequence

<220>
<223> Control (Anti-FHA) VL

<400> 16

Glu Leu Asp Ile Val Met Thr Gln Ala Pro Ala Ser Leu Ala Val Ser
1 5 10 15

Leu Gly Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Lys Ser Val Ser
20 25 30

Ser Ser Gly Tyr Asn Tyr Leu His Trp Tyr Gln Gln Lys Pro Gly Gln
35 40 45

Pro Pro Lys Leu Leu Ile Tyr Leu Ala Ser Asn Leu Glu Ser Gly Val
50 55 60

Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Asn
65 70 75 80

Ile His Pro Val Glu Glu Glu Asp Ala Ala Thr Tyr Tyr Cys Gln His
85 90 95

Ser Arg Glu Phe Pro Leu Thr Phe Gly Ala Gly Thr Lys Leu Glu Ile
100 105 110

Lys

<210> 17
<211> 133
<212> PRT
<213> Artificial Sequence

<220>
<223> Control (Anti-FHA) VH

<400> 17

Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Ile Ser Cys Lys Thr Ser Gly Tyr Thr Phe Thr Gly Tyr
            20   25   30

Thr Met His Trp Val Arg Gln Ser His Gly Lys Ser Leu Glu Trp Ile
        35   40   45

Gly Gly Ile Asn Pro Lys Asn Gly Gly Ile Ile Tyr Asn Gln Lys Phe
    50   55   60

Gln Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Ser
65   70   75   80

Met Glu Leu Arg Ser Leu Thr Ser Asp Asp Ser Ala Val Tyr Tyr Cys
                85   90   95

Ala Arg Arg Val Tyr Asp Asp Tyr Pro Tyr Tyr Tyr Ala Met Asp Tyr
            100   105   110

Trp Gly Gln Gly Thr Ser Val Thr Val Ser Ser Ala Lys Thr Thr Pro
        115   120   125

Pro Ser Val Thr Ser
    130

<210> 18
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Control (Anti-FHA) ScFv linker sequence

<400> 18

Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Gly Gly Ser Ser Arg
1   5   10   15

Ser Ser Leu

<210> 19
<211> 10
<212> PRT

<213> Artificial Sequence

<220>
<223> Deca-His Tag sequence

<400> 19

His His His His His His His His His His
1   5   10

<210> 20
<211> 786
<212> PRT
<213> Artificial Sequence

<220>
<223> FAP BiTE-P2A-RFP

<400> 20

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
1   5   10   15

Val His Ser Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val
            20   25   30

Ser Leu Gly Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu
        35   40   45

Leu Tyr Ser Arg Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys
    50   55   60

Pro Gly Gln Pro Pro Lys Leu Leu Ile Phe Trp Ala Ser Thr Arg Glu
65   70   75   80

Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Phe Gly Thr Asp Phe
                85   90   95

Thr Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr
            100   105   110

Cys Gln Gln Tyr Phe Ser Tyr Pro Leu Thr Phe Gly Gln Gly Thr Lys
        115   120   125

Val Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly

```
    130                 135                 140

Gly Gly Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
145                 150                 155                 160

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Thr Ser Arg Tyr Thr Phe
                165                 170                 175

Thr Glu Tyr Thr Ile His Trp Val Arg Gln Ala Pro Gly Gln Arg Leu
            180                 185                 190

Glu Trp Ile Gly Gly Ile Asn Pro Asn Asn Gly Ile Pro Asn Tyr Asn
        195                 200                 205

Gln Lys Phe Lys Gly Arg Val Thr Ile Thr Val Asp Thr Ser Ala Ser
    210                 215                 220

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
225                 230                 235                 240

Tyr Tyr Cys Ala Arg Arg Arg Ile Ala Tyr Gly Tyr Asp Glu Gly His
                245                 250                 255

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly
            260                 265                 270

Gly Gly Gly Ser Asp Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys
        275                 280                 285

Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr
    290                 295                 300

Phe Thr Arg Tyr Thr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly
305                 310                 315                 320

Leu Glu Trp Ile Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr
                325                 330                 335

Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Thr Thr Asp Lys Ser Thr
            340                 345                 350
```

```
Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala
        355                 360                 365

Thr Tyr Tyr Cys Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr
    370                 375                 380

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Glu Gly Thr Ser
385                 390                 395                 400

Thr Gly Ser Gly Gly Ser Gly Gly Ser Gly Gly Ala Asp Asp Ile Val
                405                 410                 415

Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala
            420                 425                 430

Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Tyr Met Asn Trp Tyr
        435                 440                 445

Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Trp Ile Tyr Asp Thr Ser
    450                 455                 460

Lys Val Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly
465                 470                 475                 480

Thr Asp Tyr Ser Leu Thr Ile Asn Ser Leu Glu Ala Glu Asp Ala Ala
                485                 490                 495

Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr Phe Gly Gly
            500                 505                 510

Gly Thr Lys Val Glu Ile Lys His His His His His His His His His
        515                 520                 525

His Arg Arg Lys Arg Gly Ser Gly Ala Thr Asn Phe Ser Leu Leu Lys
    530                 535                 540

Gln Ala Gly Asp Val Glu Glu Asn Pro Gly Pro Met Ser Glu Leu Ile
545                 550                 555                 560

Lys Glu Asn Met His Met Lys Leu Tyr Met Glu Gly Thr Val Asn Asn
```

```
               565                 570                 575

His His Phe Lys Cys Thr Ser Glu Gly Glu Gly Lys Pro Tyr Glu Gly
            580                 585                 590

Thr Gln Thr Met Lys Ile Lys Val Val Glu Gly Gly Pro Leu Pro Phe
        595                 600                 605

Ala Phe Asp Ile Leu Ala Thr Ser Phe Met Tyr Gly Ser Lys Ala Phe
    610                 615                 620

Ile Asn His Thr Gln Gly Ile Pro Asp Phe Phe Lys Gln Ser Phe Pro
625                 630                 635                 640

Glu Gly Phe Thr Trp Glu Arg Ile Thr Thr Tyr Glu Asp Gly Gly Val
               645                 650                 655

Leu Thr Ala Thr Gln Asp Thr Ser Phe Gln Asn Gly Cys Ile Ile Tyr
            660                 665                 670

Asn Val Lys Ile Asn Gly Val Asn Phe Pro Ser Asn Gly Pro Val Met
        675                 680                 685

Gln Lys Lys Thr Arg Gly Trp Glu Ala Asn Thr Glu Met Leu Tyr Pro
    690                 695                 700

Ala Asp Gly Gly Leu Arg Gly His Ser Gln Met Ala Leu Lys Leu Val
705                 710                 715                 720

Gly Gly Gly Tyr Leu His Cys Ser Phe Lys Thr Thr Tyr Arg Ser Lys
               725                 730                 735

Lys Pro Ala Lys Asn Leu Lys Met Pro Gly Phe His Phe Val Asp His
            740                 745                 750

Arg Leu Glu Arg Ile Lys Glu Ala Asp Lys Glu Thr Tyr Val Glu Gln
        755                 760                 765

His Glu Met Ala Val Ala Lys Tyr Cys Asp Leu Pro Ser Lys Leu Gly
    770                 775                 780
```

His Arg
785

<210> 21
<211> 799
<212> PRT
<213> Artificial Sequence

<220>
<223> Control (Anti-FHA) BiTE-P2A-RFP

<400> 21

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
1 5 10 15

Val His Ser Glu Leu Asp Ile Val Met Thr Gln Ala Pro Ala Ser Leu
20 25 30

Ala Val Ser Leu Gly Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Lys
35 40 45

Ser Val Ser Ser Ser Gly Tyr Asn Tyr Leu His Trp Tyr Gln Gln Lys
50 55 60

Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Leu Ala Ser Asn Leu Glu
65 70 75 80

Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
85 90 95

Thr Leu Asn Ile His Pro Val Glu Glu Glu Asp Ala Ala Thr Tyr Tyr
100 105 110

Cys Gln His Ser Arg Glu Phe Pro Leu Thr Phe Gly Ala Gly Thr Lys
115 120 125

Leu Glu Ile Lys Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Gly
130 135 140

Gly Ser Ser Arg Ser Ser Leu Glu Val Gln Leu Gln Gln Ser Gly Pro
145 150 155 160

```
Glu Leu Val Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Thr Ser
                165                 170                 175

Gly Tyr Thr Phe Thr Gly Tyr Thr Met His Trp Val Arg Gln Ser His
            180                 185                 190

Gly Lys Ser Leu Glu Trp Ile Gly Gly Ile Asn Pro Lys Asn Gly Gly
        195                 200                 205

Ile Ile Tyr Asn Gln Lys Phe Gln Gly Lys Ala Thr Leu Thr Val Asp
    210                 215                 220

Lys Ser Ser Ser Thr Ala Ser Met Glu Leu Arg Ser Leu Thr Ser Asp
225                 230                 235                 240

Asp Ser Ala Val Tyr Tyr Cys Ala Arg Arg Val Tyr Asp Asp Tyr Pro
                245                 250                 255

Tyr Tyr Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val
            260                 265                 270

Ser Ser Ala Lys Thr Thr Pro Pro Ser Val Thr Ser Gly Gly Gly Gly
        275                 280                 285

Ser Asp Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly
    290                 295                 300

Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Arg
305                 310                 315                 320

Tyr Thr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp
                325                 330                 335

Ile Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Ala Asp Ser
            340                 345                 350

Val Lys Gly Arg Phe Thr Ile Thr Thr Asp Lys Ser Thr Ser Thr Ala
        355                 360                 365

Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Thr Tyr Tyr
```

```
    370                 375                 380

Cys Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly Gln
385                 390                 395                 400

Gly Thr Thr Val Thr Val Ser Ser Gly Glu Gly Thr Ser Thr Gly Ser
                405                 410                 415

Gly Gly Ser Gly Gly Ser Gly Gly Ala Asp Asp Ile Val Leu Thr Gln
            420                 425                 430

Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser
        435                 440                 445

Cys Arg Ala Ser Gln Ser Val Ser Tyr Met Asn Trp Tyr Gln Gln Lys
    450                 455                 460

Pro Gly Lys Ala Pro Lys Arg Trp Ile Tyr Asp Thr Ser Lys Val Ala
465                 470                 475                 480

Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr
                485                 490                 495

Ser Leu Thr Ile Asn Ser Leu Glu Ala Glu Asp Ala Ala Thr Tyr Tyr
            500                 505                 510

Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr Phe Gly Gly Gly Thr Lys
        515                 520                 525

Val Glu Ile Lys His His His His His His His His His Arg Arg
    530                 535                 540

Lys Arg Gly Ser Gly Ala Thr Asn Phe Ser Leu Leu Lys Gln Ala Gly
545                 550                 555                 560

Asp Val Glu Glu Asn Pro Gly Pro Met Ser Glu Leu Ile Lys Glu Asn
                565                 570                 575

Met His Met Lys Leu Tyr Met Glu Gly Thr Val Asn Asn His His Phe
            580                 585                 590
```

```
Lys Cys Thr Ser Glu Gly Glu Gly Lys Pro Tyr Glu Gly Thr Gln Thr
        595                 600                 605

Met Lys Ile Lys Val Val Glu Gly Gly Pro Leu Pro Phe Ala Phe Asp
    610                 615                 620

Ile Leu Ala Thr Ser Phe Met Tyr Gly Ser Lys Ala Phe Ile Asn His
625                 630                 635                 640

Thr Gln Gly Ile Pro Asp Phe Phe Lys Gln Ser Phe Pro Glu Gly Phe
                645                 650                 655

Thr Trp Glu Arg Ile Thr Thr Tyr Glu Asp Gly Gly Val Leu Thr Ala
            660                 665                 670

Thr Gln Asp Thr Ser Phe Gln Asn Gly Cys Ile Ile Tyr Asn Val Lys
        675                 680                 685

Ile Asn Gly Val Asn Phe Pro Ser Asn Gly Pro Val Met Gln Lys Lys
    690                 695                 700

Thr Arg Gly Trp Glu Ala Asn Thr Glu Met Leu Tyr Pro Ala Asp Gly
705                 710                 715                 720

Gly Leu Arg Gly His Ser Gln Met Ala Leu Lys Leu Val Gly Gly Gly
                725                 730                 735

Tyr Leu His Cys Ser Phe Lys Thr Thr Tyr Arg Ser Lys Lys Pro Ala
            740                 745                 750

Lys Asn Leu Lys Met Pro Gly Phe His Phe Val Asp His Arg Leu Glu
        755                 760                 765

Arg Ile Lys Glu Ala Asp Lys Glu Thr Tyr Val Glu Gln His Glu Met
    770                 775                 780

Ala Val Ala Lys Tyr Cys Asp Leu Pro Ser Lys Leu Gly His Arg
785                 790                 795
```

<210> 22

<211> 2283
<212> DNA
<213> Artificial Sequence

<220>
<223> Human FAP DNA coding sequence

<400> 22
atgaagacct gggtgaaaat cgtgtttgga gtcgcaacca gcgccgtgct ggccctgttg 60

gtgatgtgca tcgtgctgcg cccgtcacgc gtgcataaca gcgaagaaaa caccatgaga 120

gctctgacgc taaaggacat cctgaatggc acttttttcct ataagacttt cttcccgaat 180

tggattagcg ggcaggagta cctgcaccaa tcggcggata acaatatcgt gctctacaac 240

atcgaaactg gccagagcta caccatcctg tcgaatagaa ctatgaaatc ggtgaatgcg 300

tcgaactacg gacttagccc ggaccgccag ttcgtgtacc tagaatcgga ctacagcaag 360

ctgtggcggt acagctacac tgctacgtac tacatctacg acctgtcgaa tggcgagttc 420

gtgagaggaa acgaactccc ccgcccgatc caatacctgt gctggagccc tgtgggaagc 480

aagctggcgt acgtgtatca gaacaacatc tacctcaagc agaggccggg cgacccacct 540

ttccagatca cttttaacgg tcgggagaac aagattttca atggaatccc ggattgggtg 600

tacgaagaag agatgctggc gaccaaatat gcgctctggt ggtcgccaaa cggaaaattt 660

ctagcatacg ccgagttcaa tgacaccgac atccccgtca tcgcctacag ctactacgga 720

gatgagcaat acccacgcac tattaatatc ccgtacccga aagccggcgc taaaaatccg 780

gtcgtgcgga tcttcatcat cgacactacc tatccagctt acgtgggacc gcaagaggtc 840

cctgtgccag ccatgatcgc cagcagcgat tactacttct cctggctgac ttgggtcact 900

gacgagaggg tgtgcctcca atggctcaag cgcgtgcaga acgtgagcgt gctgtccatc 960

tgcgacttca gagaagattg gcaaacgtgg gactgtccga aaactcaaga gcatatcgag 1020

gagagcagaa ccggatgggc agggggttc ttcgtgtcca ccccggtgtt cagctacgat 1080

gcgatctcgt actacaagat tttctccgat aaggacgggt acaaacatat ccactacatc 1140

aaggacaccg tggagaatgc gatccaaatc actagcggaa aatgggaagc gattaacatt 1200

ttccgggtga cgcaagactc attgttctat tcatccaatg aatttgaaga gtaccctggc 1260

cggaggaaca tctaccgcat ctccatcgga tcatacccac catcaaagaa gtgcgtgacc 1320

tgccatctcc gcaaggagcg ctgccaatac tacaccgcgt ccttctccga ttacgcgaag 1380

tactacgccc tggtgtgcta cggcccggga atcccaatct cgaccctaca tgatgggcgc 1440

accgaccagg agatcaaaat cctggaggaa aacaaggagc tcgaaaatgc tctgaaaaat 1500

attcaactac cgaaggagga aatcaagaag ctggaggtgg atgaaattac tctgtggtac 1560

aaaatgatcc tgccgccaca gttcgaccgc tccaagaagt acccgctgct gatccaggtg 1620

tacggaggac cctgctcaca gtcggtgcgc tcagtgtttg ctgtgaattg gatcagctac 1680

ctcgcatcaa aggaggggat ggtcatcgcg cttgtggacg gaagaggtac tgcattccag 1740

ggggacaaac tgctctacgc ggtgtaccgc aagctgggcg tctacgaggt ggaggaccaa 1800

atcacggcgg tcagaaagtt catcgagatg ggtttcatcg acgagaagag gatcgccatc 1860

tggggctggt cgtacggagg ttacgtgtcg tcactcgctc tggcgagcgg gactggattg 1920

ttcaaatgcg gtatcgcagt cgcccccgtg tcgtcatggg aatactacgc ctcggtgtat 1980

accgaacgct ttatgggact ccctactaaa gacgataacc tagagcacta caaaaactcg 2040

acggtgatgg cacgcgcaga gtactttcgc aatgtggatt acctcctgat ccacggaacc 2100

gccgatgata atgtccactt ccagaactca gcccaaatcg cgaaagccct ggtgaacgct 2160

caagtggact ttcaagcaat gtggtattca gaccagaacc acggactatc cggcctatcg 2220

actaatcacc tgtacaccca tatgacccat ttccttaaac agtgtttcag cctgtccgat 2280

tag 2283

<210> 23
<211> 760
<212> PRT
<213> Artificial Sequence

<220>
<223> Human FAP amino acid sequence

<400> 23

Met Lys Thr Trp Val Lys Ile Val Phe Gly Val Ala Thr Ser Ala Val
1 5 10 15

Leu Ala Leu Leu Val Met Cys Ile Val Leu Arg Pro Ser Arg Val His
20 25 30

Asn Ser Glu Glu Asn Thr Met Arg Ala Leu Thr Leu Lys Asp Ile Leu
35 40 45

```
Asn Gly Thr Phe Ser Tyr Lys Thr Phe Phe Pro Asn Trp Ile Ser Gly
    50                  55                  60

Gln Glu Tyr Leu His Gln Ser Ala Asp Asn Asn Ile Val Leu Tyr Asn
65                  70                  75                  80

Ile Glu Thr Gly Gln Ser Tyr Thr Ile Leu Ser Asn Arg Thr Met Lys
                85                  90                  95

Ser Val Asn Ala Ser Asn Tyr Gly Leu Ser Pro Asp Arg Gln Phe Val
            100                 105                 110

Tyr Leu Glu Ser Asp Tyr Ser Lys Leu Trp Arg Tyr Ser Tyr Thr Ala
        115                 120                 125

Thr Tyr Tyr Ile Tyr Asp Leu Ser Asn Gly Glu Phe Val Arg Gly Asn
    130                 135                 140

Glu Leu Pro Arg Pro Ile Gln Tyr Leu Cys Trp Ser Pro Val Gly Ser
145                 150                 155                 160

Lys Leu Ala Tyr Val Tyr Gln Asn Asn Ile Tyr Leu Lys Gln Arg Pro
                165                 170                 175

Gly Asp Pro Pro Phe Gln Ile Thr Phe Asn Gly Arg Glu Asn Lys Ile
            180                 185                 190

Phe Asn Gly Ile Pro Asp Trp Val Tyr Glu Glu Glu Met Leu Ala Thr
        195                 200                 205

Lys Tyr Ala Leu Trp Trp Ser Pro Asn Gly Lys Phe Leu Ala Tyr Ala
    210                 215                 220

Glu Phe Asn Asp Thr Asp Ile Pro Val Ile Ala Tyr Ser Tyr Tyr Gly
225                 230                 235                 240

Asp Glu Gln Tyr Pro Arg Thr Ile Asn Ile Pro Tyr Pro Lys Ala Gly
                245                 250                 255

Ala Lys Asn Pro Val Val Arg Ile Phe Ile Ile Asp Thr Thr Tyr Pro
```

```
            260                 265                 270

Ala Tyr Val Gly Pro Gln Glu Val Pro Val Pro Ala Met Ile Ala Ser
        275                 280                 285

Ser Asp Tyr Tyr Phe Ser Trp Leu Thr Trp Val Thr Asp Glu Arg Val
    290                 295                 300

Cys Leu Gln Trp Leu Lys Arg Val Gln Asn Val Ser Val Leu Ser Ile
305                 310                 315                 320

Cys Asp Phe Arg Glu Asp Trp Gln Thr Trp Asp Cys Pro Lys Thr Gln
                325                 330                 335

Glu His Ile Glu Glu Ser Arg Thr Gly Trp Ala Gly Gly Phe Phe Val
            340                 345                 350

Ser Thr Pro Val Phe Ser Tyr Asp Ala Ile Ser Tyr Tyr Lys Ile Phe
        355                 360                 365

Ser Asp Lys Asp Gly Tyr Lys His Ile His Tyr Ile Lys Asp Thr Val
    370                 375                 380

Glu Asn Ala Ile Gln Ile Thr Ser Gly Lys Trp Glu Ala Ile Asn Ile
385                 390                 395                 400

Phe Arg Val Thr Gln Asp Ser Leu Phe Tyr Ser Ser Asn Glu Phe Glu
                405                 410                 415

Glu Tyr Pro Gly Arg Arg Asn Ile Tyr Arg Ile Ser Ile Gly Ser Tyr
            420                 425                 430

Pro Pro Ser Lys Lys Cys Val Thr Cys His Leu Arg Lys Glu Arg Cys
        435                 440                 445

Gln Tyr Tyr Thr Ala Ser Phe Ser Asp Tyr Ala Lys Tyr Tyr Ala Leu
    450                 455                 460

Val Cys Tyr Gly Pro Gly Ile Pro Ile Ser Thr Leu His Asp Gly Arg
465                 470                 475                 480
```

```
Thr Asp Gln Glu Ile Lys Ile Leu Glu Glu Asn Lys Glu Leu Glu Asn
                485                 490                 495

Ala Leu Lys Asn Ile Gln Leu Pro Lys Glu Glu Ile Lys Lys Leu Glu
            500                 505                 510

Val Asp Glu Ile Thr Leu Trp Tyr Lys Met Ile Leu Pro Pro Gln Phe
        515                 520                 525

Asp Arg Ser Lys Lys Tyr Pro Leu Leu Ile Gln Val Tyr Gly Gly Pro
    530                 535                 540

Cys Ser Gln Ser Val Arg Ser Val Phe Ala Val Asn Trp Ile Ser Tyr
545                 550                 555                 560

Leu Ala Ser Lys Glu Gly Met Val Ile Ala Leu Val Asp Gly Arg Gly
                565                 570                 575

Thr Ala Phe Gln Gly Asp Lys Leu Leu Tyr Ala Val Tyr Arg Lys Leu
            580                 585                 590

Gly Val Tyr Glu Val Glu Asp Gln Ile Thr Ala Val Arg Lys Phe Ile
        595                 600                 605

Glu Met Gly Phe Ile Asp Glu Lys Arg Ile Ala Ile Trp Gly Trp Ser
    610                 615                 620

Tyr Gly Gly Tyr Val Ser Ser Leu Ala Leu Ala Ser Gly Thr Gly Leu
625                 630                 635                 640

Phe Lys Cys Gly Ile Ala Val Ala Pro Val Ser Ser Trp Glu Tyr Tyr
                645                 650                 655

Ala Ser Val Tyr Thr Glu Arg Phe Met Gly Leu Pro Thr Lys Asp Asp
            660                 665                 670

Asn Leu Glu His Tyr Lys Asn Ser Thr Val Met Ala Arg Ala Glu Tyr
        675                 680                 685

Phe Arg Asn Val Asp Tyr Leu Leu Ile His Gly Thr Ala Asp Asp Asn
```

690 695 700

Val His Phe Gln Asn Ser Ala Gln Ile Ala Lys Ala Leu Val Asn Ala
705 710 715 720

Gln Val Asp Phe Gln Ala Met Trp Tyr Ser Asp Gln Asn His Gly Leu
725 730 735

Ser Gly Leu Ser Thr Asn His Leu Tyr Thr His Met Thr His Phe Leu
740 745 750

Lys Gln Cys Phe Ser Leu Ser Asp
755 760

<210> 24
<211> 571
<212> DNA
<213> Artificial Sequence

<220>
<223> CMV promoter sequence

<400> 24
agtaatcaat tacggggtca ttagttcata gcccatatat ggagttccgc gttacataac 60

ttacggtaaa tggcccgcct ggctgaccgc ccaacgaccc ccgcccattg acgtcaataa 120

tgacgtatgt tcccatagta acgccaatag ggactttcca ttgacgtcaa tgggtggagt 180

atttacggta aactgcccac ttggcagtac atcaagtgta tcatatgcca agtacgcccc 240

ctattgacgt caatgacggt aaatggcccg cctggcatta tgcccagtac atgaccttat 300

gggactttcc tacttggcag tacatctacg tattagtcat cgctattacc atgctgatgc 360

ggttttggca gtacatcaat gggcgtggat agcggtttga ctcacgggga tttccaagtc 420

tccaccccat tgacgtcaat gggagtttgt tttggcacca aaatcaacgg gactttccaa 480

aatgtcgtaa caactccgcc ccattgacgc aaatgggcgg taggcgtgta cggtgggagg 540

tctatataag cagagctggt ttagtgaacc g 571

<210> 25
<211> 192
<212> DNA
<213> Artificial Sequence

<220>
<223> SV40 late polyadenylation sequence

<400> 25
cagacatgat aagatacatt gatgagtttg gacaaaccac aactagaatg cagtgaaaaa 60

aatgctttat ttgtgaaatt tgtgatgcta ttgctttatt tgtaaccatt ataagctgca 120

ataaacaagt taacaacaac aattgcattc attttatgtt tcaggttcag ggggaggtgt 180

gggaggtttt tt 192

<210> 26
<211> 34895
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-605 (EnAd-CMV-FAPBiTE)

<400> 26
tctatctata taatatacct tatagatgga atggtgccaa tatgtaaatg aggtgatttt 60

aaaaagtgtg gatcgtgtgg tgattggctg tggggttaac ggctaaaagg ggcggtgcga 120

ccgtgggaaa atgacgtttt gtgggggtgg agtttttttg caagttgtcg cgggaaatgt 180

gacgcataaa aaggcttttt tctcacggaa ctacttagtt ttcccacggt atttaacagg 240

aaatgaggta gttttgaccg gatgcaagtg aaaattgttg attttcgcgc gaaaactgaa 300

tgaggaagtg tttttctgaa taatgtggta tttatggcag ggtggagtat ttgttcaggg 360

ccaggtagac tttgacccat tacgtggagg tttcgattac cgtgtttttt acctgaattt 420

ccgcgtaccg tgtcaaagtc ttctgttttt acgtaggtgt cagctgatcg ctagggtatt 480

tatacctcag ggtttgtgtc aagaggccac tcttgagtgc cagcgagaag agttttctcc 540

tctgcgccgg cagtttaata ataaaaaaat gagagatttg cgatttctgc ctcaggaaat 600

aatctctgct gagactggaa atgaaatatt ggagcttgtg gtgcacgccc tgatgggaga 660

cgatccggag ccacctgtgc agctttttga gcctcctacg cttcaggaac tgtatgattt 720

agaggtagag ggatcggagg attctaatga ggaagctgta aatggctttt ttaccgattc 780

tatgctttta gctgctaatg aagggttaga attagatccg cctttggaca cttttgatac 840

tccaggggta attgtggaaa gcggtacagg tgtaagaaaa ttacctgatt tgagttccgt 900

ggactgtgat ttgcactgct atgaagacgg gtttcctccg agtgatgagg aggaccatga 960

aaaggagcag tccatgcaga ctgcagcggg tgagggagtg aaggctgcca atgttggttt 1020

tcagttggat tgcccggagc ttcctggaca tggctgtaag tcttgtgaat ttcacaggaa 1080

aaatactgga gtaaaggaac tgttatgttc gctttgttat atgagaacgc actgccactt 1140

tatttacagt aagtgtgttt aagttaaaat ttaaaggaat atgctgtttt tcacatgtat 1200

attgagtgtg agttttgtgc ttcttattat aggtcctgtg tctgatgctg atgaatcacc 1260

atctcctgat tctactacct cacctcctga gattcaagca cctgttcctg tggacgtgcg 1320

caagcccatt cctgtgaagc ttaagcctgg gaaacgtcca gcagtggaaa aacttgagga 1380

cttgttacag ggtggggacg gacctttgga cttgagtaca cggaaacgtc caagacaata 1440

agtgttccat atccgtgttt acttaaggtg acgtcaatat ttgtgtgaca gtgcaatgta 1500

ataaaaatat gttaactgtt cactggtttt tattgctttt tgggcgggga ctcaggtata 1560

taagtagaag cagacctgtg tggttagctc ataggagctg gctttcatcc atggaggttt 1620

gggccatttt ggaagacctt aggaagacta ggcaactgtt agagaacgct tcggacggag 1680

tctccggttt ttggagattc tggttcgcta gtgaattagc tagggtagtt tttaggataa 1740

aacaggacta taaacaagaa tttgaaaagt tgttggtaga ttgcccagga ctttttgaag 1800

ctcttaattt gggccatcag gttcacttta aagaaaaagt tttatcagtt ttagactttt 1860

caaccccagg tagaactgct gctgctgtgg cttttcttac ttttatatta gataaatgga 1920

tcccgcagac tcatttcagc aggggatacg ttttggattt catagccaca gcattgtgga 1980

gaacatggaa ggttcgcaag atgaggacaa tcttaggtta ctggccagtg cagcctttgg 2040

gtgtagcggg aatcctgagg catccaccgg tcatgccagc ggttctggag gaggaacagc 2100

aagaggacaa cccgagagcc ggcctggacc ctccagtgga ggaggcggag tagctgactt 2160

gtctcctgaa ctgcaacggg tgcttactgg atctacgtcc actggacggg ataggggcgt 2220

taagagggag agggcatcta gtggtactga tgctagatct gagttggctt taagtttaat 2280

gagtcgcaga cgtcctgaaa ccatttggtg gcatgaggtt cagaaagagg gaagggatga 2340

agtttctgta ttgcaggaga aatattcact ggaacaggtg aaaacatgtt ggttggagcc 2400

tgaggatgat tgggaggtgg ccattaaaaa ttatgccaag atagctttga ggcctgataa 2460

acagtataag attactagac ggattaatat ccggaatgct tgttacatat ctggaaatgg 2520

ggctgaggtg gtaatagata ctcaagacaa ggcagttatt agatgctgca tgatggatat 2580

gtggcctggg gtagtcggta tggaagcagt aacttttgta aatgttaagt ttaggggaga 2640

tggttataat ggaatagtgt ttatggccaa taccaaactt atattgcatg gttgtagctt 2700

ttttggtttc aacaatacct gtgtagatgc ctggggacag gttagtgtac ggggatgtag 2760

tttctatgcg tgttggattg ccacagctgg cagaaccaag agtcaattgt ctctgaagaa 2820

atgcatattt caaagatgta acctgggcat tctgaatgaa ggcgaagcaa gggtccgcca 2880

ctgcgcttct acagatactg gatgttttat tttgattaag ggaaatgcca gcgtaaagca 2940

taacatgatt tgcggtgctt ccgatgagag gccttatcaa atgctcactt gtgctggtgg 3000

gcattgtaat atgctggcta ctgtgcatat tgtttcccat caacgcaaaa aatggcctgt 3060

ttttgatcac aatgtgatga cgaagtgtac catgcatgca ggtgggcgta gaggaatgtt 3120

tatgccttac cagtgtaaca tgaatcatgt gaaagtgttg ttggaaccag atgccttttc 3180

cagaatgagc ctaacaggaa tttttgacat gaacatgcaa atctggaaga tcctgaggta 3240

tgatgatacg agatcgaggg tacgcgcatg cgaatgcgga ggcaagcatg ccaggttcca 3300

gccggtgtgt gtagatgtga ctgaagatct cagaccggat catttggtta ttgcccgcac 3360

tggagcagag ttcggatcca gtggagaaga aactgactaa ggtgagtatt gggaaaactt 3420

tggggtggga ttttcagatg gacagattga gtaaaaattt gtttttttctg tcttgcagct 3480

gtcatgagtg gaaacgcttc ttttaagggg ggagtcttca gcccttatct gacagggcgt 3540

ctcccatcct gggcaggagt tcgtcagaat gttatgggat ctactgtgga tggaagaccc 3600

gtccaacccg ccaattcttc aacgctgacc tatgctactt taagttcttc acctttggac 3660

gcagctgcag ctgccgccgc cgcttctgtt gccgctaaca ctgtgcttgg aatgggttac 3720

tatggaagca tcatggctaa ttccacttcc tctaataacc cttctaccct gactcaggac 3780

aagttacttg tccttttggc ccagctggag gctttgaccc aacgtctggg tgaactttct 3840

cagcaggtgg tcgagttgcg agtacaaact gagtctgctg tcggcacggc aaagtctaaa 3900

taaaaaaatc ccagaatcaa tgaataaata aacaagcttg ttgttgattt aaaatcaagt 3960

gtttttattt catttttcgc gcacggtatg ccctagacca ccgatctcta tcattgagaa 4020

ctcggtggat tttttccagg atcctataga ggtgggattg aatgtttaga tacatgggca 4080

ttaggccgtc tttggggtgg agatagctcc attgaaggga ttcatgctcc ggggtagtgt 4140

tgtaaatcac ccagtcataa caaggtcgca gtgcatggtg ttgcacaata tcttttagaa 4200

gtaggctgat tgccacagat aagcccttgg tgtaggtgtt tacaaaccgg ttgagctggg 4260

atgggtgcat tcggggtgaa attatgtgca ttttggattg gatttttaag ttggcaatat 4320

tgccgccaag atcccgtctt gggttcatgt tatgaaggac caccaagacg gtgtatccgg 4380

tacatttagg aaatttatcg tgcagcttgg atggaaaagc gtggaaaaat ttggagacac 4440

ccttgtgtcc tccaagattt tccatgcact catccatgat aatagcaatg gggccgtggg 4500

cagcggcgcg ggcaaacacg ttccgtgggt ctgacacatc atagttatgt tcctgagtta 4560

aatcatcata agccatttta atgaatttgg ggcggagagt accagattgg ggtatgaatg 4620

ttccttcggg ccccggagca tagttcccct cacagatttg catttcccaa gctttcagtt 4680

ccgagggtgg aatcatgtcc acctgggggg ctatgaaaaa caccgtttct ggggcggggg 4740

tgattaattg tgatgatagc aaatttctga gcaattgaga tttgccacat ccggtggggc 4800

cataaatgat tccgattacg ggttgcaggt ggtagtttag ggaacggcaa ctgccgtctt 4860

ctcgaagcaa gggggccacc tcgttcatca tttcccttac atgcatattt tcccgcacca 4920

aatccattag gaggcgctct cctcctagtg atagaagttc ttgtagtgag gaaaagtttt 4980

tcagcggttt cagaccgtca gccatgggca ttttggagag agtttgctgc aaaagttcta 5040

gtctgttcca cagttcagtg atgtgttcta tggcatctcg atccagcaga cctcctcgtt 5100

tcgcgggttt ggacggctcc tggaataggg tatgagacga tgggcgtcca gcgctgccag 5160

ggttcggtcc ttccagggtc tcagtgttcg agtcagggtt gtttccgtca cagtgaaggg 5220

gtgtgcgcct gcttgggcgc ttgccagggt gcgcttcaga ctcatcctgc tggtcgaaaa 5280

cttctgtcgc ttggcgccct gtatgtcggc caagtagcag tttaccatga gttcgtagtt 5340

gagcgcctcg gctgcgtggc ctttggcgcg gagcttacct ttggaagttt tcttgcatac 5400

cgggcagtat aggcatttca gcgcatacaa cttgggcgca aggaaaacgg attctgggga 5460

gtatgcatct gcgccgcagg aggcgcaaac agtttcacat tccaccagcc aggttaaatc 5520

cggttcattg gggtcaaaaa caagttttcc gccatatttt ttgatgcgtt tcttaccttt 5580

ggtctccatg agttcgtgtc ctcgttgagt gacaaacagg ctgtccgtgt ccccgtagac 5640

tgattttaca ggcctcttct ccagtggagt gcctcggtct tcttcgtaca ggaactctga 5700

ccactctgat acaaaggcgc gcgtccaggc cagcacaaag gaggctatgt gggaggggta 5760

gcgatcgttg tcaaccaggg ggtccacctt ttccaaagta tgcaaacaca tgtcaccctc 5820

ttcaacatcc aggaatgtga ttggcttgta ggtgtatttc acgtgacctg gggtccccgc 5880

tgggggggta taaaaggggg cggttctttg ctcttcctca ctgtcttccg gatcgctgtc 5940

caggaacgtc agctgttggg gtaggtattc cctctcgaag gcgggcatga cctctgcact 6000

caggttgtca gtttctaaga acgaggagga tttgatattg acagtgccgg ttgagatgcc 6060

tttcatgagg ttttcgtcca tctggtcaga aaacacaatt tttttattgt caagtttggt 6120

ggcaaatgat ccatacaggg cgttggataa aagtttggca atggatcgca tggtttggtt 6180

cttttccttg tccgcgcgct ctttggcggc gatgttgagt tggacatact cgcgtgccag 6240

gcacttccat tcggggaaga tagttgttaa ttcatctggc acgattctca cttgccaccc 6300

tcgattatgc aaggtaatta aatccacact ggtggccacc tcgcctcgaa ggggttcatt 6360

ggtccaacag agcctacctc ctttcctaga acagaaaggg ggaagtgggt ctagcataag 6420

ttcatcggga gggtctgcat ccatggtaaa gattcccgga agtaaatcct tatcaaaata 6480

gctgatggga gtggggtcat ctaaggccat ttgccattct cgagctgcca gtgcgcgctc 6540

atatgggtta aggggactgc cccatggcat gggatgggtg agtgcagagg catacatgcc 6600

acagatgtca tagacgtaga tgggatcctc aaagatgcct atgtaggttg gatagcatcg 6660

ccccccctctg atacttgctc gcacatagtc atatagttca tgtgatggcg ctagcagccc 6720

cggacccaag ttggtgcgat tgggtttttc tgttctgtag acgatctggc gaaagatggc 6780

gtgagaattg gaagagatgg tgggtctttg aaaaatgttg aaatgggcat gaggtagacc 6840

tacagagtct ctgacaaagt gggcataaga ttcttgaagc ttggttacca gttcggcggt 6900

gacaagtacg tctagggcgc agtagtcaag tgtttcttga atgatgtcat aacctggttg 6960

gtttttcttt tcccacagtt cgcggttgag aaggtattct tcgcgatcct tccagtactc 7020

ttctagcgga aacccgtctt tgtctgcacg gtaagatcct agcatgtaga actgattaac 7080

tgccttgtaa gggcagcagc ccttctctac gggtagagag tatgcttgag cagcttttcg 7140

tagcgaagcg tgagtaaggg caaaggtgtc tctgaccatg actttgagga attggtattt 7200

gaagtcgatg tcgtcacagg ctccctgttc ccagagttgg aagtctaccc gtttcttgta 7260

ggcggggttg ggcaaagcga aagtaacatc attgaagaga atcttgccgg ccctgggcat 7320

gaaattgcga gtgatgcgaa aaggctgtgg tacttccgct cggttattga taacctgggc 7380

agctaggacg atctcgtcga aaccgttgat gttgtgtcct acgatgtata attctatgaa 7440

acgcggcgtg cctctgacgt gaggtagctt actgagctca tcaaaggtta ggtctgtggg 7500

gtcagataag gcgtagtgtt cgagagccca ttcgtgcagg tgaggattcg ctttaaggaa 7560

ggaggaccag aggtccactg ccagtgctgt ttgtaactgg tcccggtact gacgaaaatg 7620

ccgtccgact gccatttttt ctggggtgac gcaatagaag gtttgggggt cctgccgcca 7680

gcgatcccac ttgagtttta tggcgaggtc ataggcgatg ttgacgagcc gctggtctcc 7740

agagagtttc atgaccagca tgaaggggat tagctgcttg ccaaaggacc ccatccaggt 7800

gtaggtttcc acatcgtagg tgagaaagag cctttctgtg cgaggatgag agccaatcgg 7860

gaagaactgg atctcctgcc accagttgga ggaatggctg ttgatgtgat ggaagtagaa 7920

ctccctgcga cgcgccgagc attcatgctt gtgcttgtac agacggccgc agtagtcgca 7980

gcgttgcacg ggttgtatct cgtgaatgag ttgtacctgg cttcccttga cgagaaattt 8040

cagtgggaag ccgaggcctg gcgattgtat ctcgtgcttt actatgttgt ctgcatcggc 8100

ctgttcatct tctgtctcga tggtggtcat gctgacgagc cctcgcggga ggcaagtcca 8160

gacctcggcg cggcaggggc ggagctcgag gacgagagcg cgcaggctgg agctgtccag 8220

ggtcctgaga cgctgcggac tcaggttagt aggcagtgtc aggagattaa cttgcatgat 8280

cttttggagg gcgtgcggga ggttcagata gtacttgatc tcaacgggtc cgttggtgga 8340

gatgtcgatg gcttgcaggg ttccgtgtcc cttgggcgct accaccgtgc ccttgttttt 8400

cattttggac ggcggtggct ctgttgcttc ttgcatgttt agaagcggtg tcgagggcgc 8460

gcaccgggcg gcaggggcgg ctcgggaccc ggcggcatgg ctggcagtgg tacgtcggcg 8520

ccgcgcgcgg gtaggttctg gtactgcgcc ctgagaagac tcgcatgcgc gacgacgcgg 8580

cggttgacat cctggatctg acgcctctgg gtgaaagcta ccggccccgt gagcttgaac 8640

ctgaaagaga gttcaacaga atcaatctcg gtatcgttga cggcggcttg cctaaggatt 8700

tcttgcacgt caccagagtt gtcctggtag gcgatctccg ccatgaactg ctcgatctct 8760

tcctcttgaa gatctccgcg gcccgctctc tcgacggtgg ccgcgaggtc gttggagatg 8820

cgcccaatga gttgagagaa tgcattcatg cccgcctcgt tccagacgcg gctgtagacc 8880

acggccccca cgggatctct cgcgcgcatg accacctggg cgaggttgag ctccacgtgg 8940

cgggtgaaga ccgcatagtt gcataggcgc tggaaaaggt agttgagtgt ggtggcgatg 9000

tgctcggtga cgaagaaata catgatccat cgtctcagcg gcatctcgct gacatcgccc 9060

agagcttcca agcgctccat ggcctcgtag aagtccacgg caaaattaaa aaactgggag 9120

tttcgcgcgg acacggtcaa ctcctcttcc agaagacgga taagttcggc gatggtggtg 9180

cgcacctcgc gctcgaaagc ccctgggatt tcttcctcaa tctcttcttc ttccactaac 9240

atctcttcct cttcaggtgg ggctgcagga ggagggggaa cgcggcgacg ccggcggcgc 9300

acgggcagac ggtcgatgaa tctttcaatg acctctccgc ggcggcggcg catggtttca 9360

gtgacggcgc ggccgttctc gcgcggtcgc agagtaaaaa caccgccgcg catctcctta 9420

aagtggtgac tgggaggttc tccgtttggg agggagaggg cgctgattat acattttatt 9480

aattggcccg tagggactgc acgcagagat ctgatcgtgt caagatccac gggatctgaa 9540

aacctttcga cgaaagcgtc taaccagtca cagtcacaag gtaggctgag tacggcttct 9600

tgtgggcggg ggtggttatg tgttcggtct gggtcttctg tttcttcttc atctcgggaa 9660

ggtgagacga tgctgctggt gatgaaatta aagtaggcag ttctaagacg gcggatggtg 9720

gcgaggagca ccaggtcttt gggtccggct tgctggatac gcaggcgatt ggccattccc 9780

caagcattat cctgacatct agcaagatct ttgtagtagt cttgcatgag ccgttctacg 9840

ggcacttctt cctcacccgt tctgccatgc atacgtgtga gtccaaatcc gcgcattggt 9900

tgtaccagtg ccaagtcagc tacgactctt tcggcgagga tggcttgctg tacttgggta 9960

agggtggctt gaaagtcatc aaaatccaca aagcggtggt aagctcctgt attaatggtg 10020

taagcacagt tggccatgac tgaccagtta actgtctggt gaccagggcg cacgagctcg 10080

gtgtatttaa ggcgcgaata ggcgcgggtg tcaaagatgt aatcgttgca ggtgcgcacc 10140

agatactggt accctataag aaaatgcggc ggtggttggc ggtagagagg ccatcgttct 10200

gtagctggag cgccaggggc gaggtcttcc aacataaggc ggtgatagcc gtagatgtac 10260

ctggacatcc aggtgattcc tgcggcggta gtagaagccc gaggaaactc gcgtacgcgg 10320

ttccaaatgt tgcgtagcgg catgaagtag ttcattgtag gcacggtttg accagtgagg 10380

cgcgcgcagt cattgatgct ctatagacac ggagaaaatg aaagcgttca gcgactcgac 10440

tccgtagcct ggaggaacgt gaacgggttg ggtcgcggtg taccccggtt cgagacttgt 10500

actcgagccg gccggagccg cggctaacgt ggtattggca ctcccgtctc gacccagcct 10560

acaaaaatcc aggatacgga atcgagtcgt tttgctggtt tccgaatggc agggaagtga 10620

gtcctatttt ttttttttgc cgctcagatg catcccgtgc tgcgacagat gcgcccccaa 10680

caacagcccc cctcgcagca gcagcagcag caatcacaaa aggctgtccc tgcaactact 10740

gcaactgccg ccgtgagcgg tgcgggacag cccgcctatg atctggactt ggaagagggc 10800

gaaggactgg cacgtctagg tgcgccttca cccgagcggc atccgcgagt tcaactgaaa 10860

aaagattctc gcgaggcgta tgtgccccaa cagaacctat ttagagacag aagcggcgag 10920

gagccggagg agatgcgagc ttcccgcttt aacgcgggtc gtgagctgcg tcacggtttg 10980

gaccgaagac gagtgttgcg ggacgaggat ttcgaagttg atgaaatgac agggatcagt 11040

cctgccaggg cacacgtggc tgcagccaac cttgtatcgg cttacgagca gacagtaaag 11100

gaagagcgta acttccaaaa gtcttttaat aatcatgtgc gaaccctgat tgcccgcgaa 11160

gaagttaccc ttggtttgat gcatttgtgg gatttgatgg aagctatcat tcagaaccct 11220

actagcaaac ctctgaccgc ccagctgttt ctggtggtgc aacacagcag agacaatgag 11280

gctttcagag aggcgctgct gaacatcacc gaacccgagg ggagatggtt gtatgatctt 11340

atcaacattc tacagagtat catagtgcag gagcggagcc tgggcctggc cgagaaggtg 11400

gctgccatca attactcggt tttgagcttg ggaaaatatt acgctcgcaa aatctacaag 11460

actccatacg ttcccataga caaggaggtg aagatagatg ggttctacat gcgcatgacg 11520

ctcaaggtct tgaccctgag cgatgatctt ggggtgtatc gcaatgacag aatgcatcgc 11580

gcggttagcg ccagcaggag gcgcgagtta agcgacaggg aactgatgca cagtttgcaa 11640

agagctctga ctggagctgg aaccgagggt gagaattact tcgacatggg agctgacttg 11700

cagtggcagc ctagtcgcag ggctctgagc gccgcgacgg caggatgtga gcttccttac 11760

atagaagagg cggatgaagg cgaggaggaa gagggcgagt acttggaaga ctgatggcac 11820

aacccgtgtt ttttgctaga tggaacagca agcaccggat cccgcaatgc gggcggcgct 11880

gcagagccag ccgtccggca ttaactcctc ggacgattgg acccaggcca tgcaacgtat 11940

catggcgttg acgactcgca accccgaagc ctttagacag caaccccagg ccaaccgtct 12000

atcggccatc atggaagctg tagtgccttc ccgctctaat cccactcatg agaaggtcct 12060

ggccatcgtg aacgcgttgg tggagaacaa agctattcgt ccagatgagg ccggactggt 12120

atacaacgct ctcttagaac gcgtggctcg ctacaacagt agcaatgtgc aaaccaattt 12180

ggaccgtatg ataacagatg tacgcgaagc cgtgtctcag cgcgaaaggt tccagcgtga 12240

tgccaacctg ggttcgctgg tggcgttaaa tgctttcttg agtactcagc ctgctaatgt 12300

gccgcgtggt caacaggatt atactaactt tttaagtgct ttgagactga tggtatcaga 12360

agtacctcag agcgaagtgt atcagtccgg tcctgattac ttctttcaga ctagcagaca 12420

gggcttgcag acggtaaatc tgagccaagc ttttaaaaac cttaaaggtt tgtggggagt 12480

gcatgccccg gtaggagaaa gagcaaccgt gtctagcttg ttaactccga actcccgcct 12540

attattactg ttggtagctc ctttcaccga cagcggtagc atcgaccgta attcctattt 12600

gggttaccta ctaaacctgt atcgcgaagc catagggcaa agtcaggtgg acgagcagac 12660

ctatcaagaa attacccaag tcagtcgcgc tttgggacag gaagacactg gcagtttgga 12720

agccactctg aacttcttgc ttaccaatcg gtctcaaaag atccctcctc aatatgctct 12780

tactgcggag gaggagagga tccttagata tgtgcagcag agcgtgggat tgtttctgat 12840

gcaagagggg gcaactccga ctgcagcact ggacatgaca gcgcgaaata tggagcccag 12900

catgtatgcc agtaaccgac ctttcattaa caaactgctg gactacttgc acagagctgc 12960

cgctatgaac tctgattatt tcaccaatgc catcttaaac ccgcactggc tgcccccacc 13020

tggtttctac acgggcgaat atgacatgcc cgaccctaat gacggatttc tgtgggacga 13080

cgtggacagc gatgtttttt cacctctttc tgatcatcgc acgtggaaaa aggaaggcgg 13140

cgatagaatg cattcttctg catcgctgtc cggggtcatg ggtgctaccg cggctgagcc 13200

cgagtctgca agtccttttc ctagtctacc cttttctcta cacagtgtac gtagcagcga 13260

agtgggtaga ataagtcgcc cgagtttaat gggcgaagag gagtatctaa acgattcctt 13320

gctcagaccg gcaagagaaa aaaatttccc aaacaatgga atagaaagtt tggtggataa 13380

aatgagtaga tggaagactt atgctcagga tcacagagac gagcctggga tcatggggat 13440

tacaagtaga gcgagccgta gacgccagcg ccatgacaga cagaggggtc ttgtgtggga 13500

cgatgaggat tcggccgatg atagcagcgt gctggacttg ggtgggagag gaaggggcaa 13560

cccgtttgct catttgcgcc ctcgcttggg tggtatgttg taaaaaaaaa taaaaaaaaa 13620

actcaccaag gccatggcga cgagcgtacg ttcgttcttc tttattatct gtgtctagta 13680

taatgaggcg agtcgtgcta ggcggagcgg tggtgtatcc ggagggtcct cctccttcgt 13740

acgagagcgt gatgcagcag cagcaggcga cggcggtgat gcaatcccca ctggaggctc 13800

cctttgtgcc tccgcgatac ctggcaccta cggagggcag aaacagcatt cgttattcgg 13860

aactggcacc tcagtacgat accaccaggt tgtatctggt ggacaacaag tcggcggaca 13920

ttgcttctct gaactatcag aatgaccaca gcaacttctt gaccacggtg gtgcaaaaca 13980

atgactttac ccctacggaa gccagcaccc agaccattaa ctttgatgaa cgatcgcggt 14040

ggggcggtca gctaaagacc atcatgcata ctaacatgcc aaacgtgaac gagtatatgt 14100

ttagtaacaa gttcaaagcg cgtgtgatgg tgtccagaaa acctcccgac ggtgctgcag 14160

ttggggatac ttatgatcac aagcaggata ttttgaaata tgagtggttc gagtttactt 14220

tgccagaagg caacttttca gttactatga ctattgattt gatgaacaat gccatcatag 14280

ataattactt gaaagtgggt agacagaatg gagtgcttga aagtgacatt ggtgttaagt 14340

tcgacaccag gaacttcaag ctgggatggg atcccgaaac caagttgatc atgcctggag 14400

tgtatacgta tgaagccttc catcctgaca ttgtcttact gcctggctgc ggagtggatt 14460

ttaccgagag tcgtttgagc aaccttcttg gtatcagaaa aaaacagcca tttcaagagg 14520

gttttaagat tttgtatgaa gatttagaag gtggtaatat tccggccctc ttggatgtag 14580

atgcctatga gaacagtaag aaagaacaaa aagccaaaat agaagctgct acagctgctg 14640

cagaagctaa ggcaaacata gttgccagcg actctacaag ggttgctaac gctggagagg 14700

tcagaggaga caattttgcg ccaacacctg ttccgactgc agaatcatta ttggccgatg 14760

tgtctgaagg aacggacgtg aaactcacta ttcaacctgt agaaaaagat agtaagaata 14820

gaagctataa tgtgttggaa gacaaaatca acacagccta tcgcagttgg tatctttcgt 14880

acaattatgg cgatcccgaa aaaggagtgc gttcctggac attgctcacc acctcagatg 14940

tcacctgcgg agcagagcag gtctactggt cgcttccaga catgatgaag gatcctgtca 15000

ctttccgctc cactagacaa gtcagtaact accctgtggt gggtgcagag cttatgcccg 15060

tcttctcaaa gagcttctac aacgaacaag ctgtgtactc ccagcagctc cgccagtcca 15120

cctcgcttac gcacgtcttc aaccgctttc ctgagaacca gattttaatc cgtccgccgg 15180

cgcccaccat taccaccgtc agtgaaaacg ttcctgctct cacagatcac gggaccctgc 15240

cgttgcgcag cagtatccgg ggagtccaac gtgtgaccgt tactgacgcc agacgccgca 15300

cctgtcccta cgtgtacaag gcactgggca tagtcgcacc gcgcgtcctt tcaagccgca 15360

ctttctaaaa aaaaaaaaaa tgtccattct tatctcgccc agtaataaca ccggttgggg 15420

tctgcgcgct ccaagcaaga tgtacggagg cgcacgcaaa cgttctaccc aacatcctgt 15480

ccgtgttcgc ggacattttc gcgctccatg gggcgccctc aagggccgca ctcgcgttcg 15540

aaccaccgtc gatgatgtaa tcgatcaggt ggttgccgac gcccgtaatt atactcctac 15600

tgcgcctaca tctactgtgg atgcagttat tgacagtgta gtggctgacg ctcgcaacta 15660

tgctcgacgt aagagccggc gaaggcgcat tgccagacgc caccgagcta ccactgccat 15720

gcgagccgca agagctctgc tacgaagagc tagacgcgtg gggcgaagag ccatgcttag 15780

ggcggccaga cgtgcagctt cgggcgccag cgccggcagg tcccgcaggc aagcagccgc 15840

tgtcgcagcg gcgactattg ccgacatggc ccaatcgcga agaggcaatg tatactgggt 15900

gcgtgacgct gccaccggtc aacgtgtacc cgtgcgcacc cgtccccctc gcacttagaa 15960

gatactgagc agtctccgat gttgtgtccc agcggcgagg atgtccaagc gcaaatacaa 16020

ggaagaaatg ctgcaggtta tcgcacctga agtctacggc caaccgttga aggatgaaaa 16080

aaaaccccgc aaaatcaagc gggttaaaaa ggacaaaaaa gaagaggaag atggcgatga 16140

tgggctggcg gagtttgtgc gcgagtttgc cccacggcga cgcgtgcaat ggcgtgggcg 16200

caaagttcga catgtgttga gacctggaac ttcggtggtc tttacacccg gcgagcgttc 16260

aagcgctact tttaagcgtt cctatgatga ggtgtacggg gatgatgata ttcttgagca 16320

ggcggctgac cgattaggcg agtttgctta tggcaagcgt agtagaataa cttccaagga 16380

tgagacagtg tcgataccct tggatcatgg aaatcccacc cctagtctta aaccggtcac 16440

tttgcagcaa gtgttacccg taactccgcg aacaggtgtt aaacgcgaag gtgaagattt 16500

gtatcccact atgcaactga tggtacccaa acgccagaag ttggaggacg ttttggagaa 16560

agtaaaagtg gatccagata ttcaacctga ggttaaagtg agacccatta agcaggtagc 16620

gcctggtctg ggggtacaaa ctgtagacat taagattccc actgaaagta tggaagtgca 16680

aactgaaccc gcaaagccta ctgccacctc cactgaagtg caaacggatc catggatgcc 16740

catgcctatt acaactgacg ccgccggtcc cactcgaaga tcccgacgaa agtacggtcc 16800

agcaagtctg ttgatgccca attatgttgt acacccatct attattccta ctcctggtta 16860

ccgaggcact cgctactatc gcagccgaaa cagtacctcc cgccgtcgcc gcaagacacc 16920

tgcaaatcgc agtcgtcgcc gtagacgcac aagcaaaccg actcccggcg ccctggtgcg 16980

gcaagtgtac cgcaatggta gtgcggaacc tttgacactg ccgcgtgcgc gttaccatcc 17040

gagtatcatc acttaatcaa tgttgccgct gcctccttgc agatatggcc ctcacttgtc 17100

gccttcgcgt tcccatcact ggttaccgag gaagaaactc gcgccgtaga agagggatgt 17160

tgggacgcgg aatgcgacgc tacaggcgac ggcgtgctat ccgcaagcaa ttgcggggtg 17220

gtttttacc agccttaatt ccaattatcg ctgctgcaat tggcgcgata ccaggcatag 17280

cttccgtggc ggttcaggcc tcgcaacgac attgacattg gaaaaaaacg tataaataaa 17340

aaaaaaaaaa tacaatggac tctgacactc ctggtcctgt gactatgttt tcttagagat 17400

ggaagacatc aatttttcat ccttggctcc gcgacacggc acgaagccgt acatgggcac 17460

ctggagcgac atcggcacga gccaactgaa cgggggcgcc ttcaattgga gcagtatctg 17520

gagcgggctt aaaaattttg gctcaaccat aaaaacatac gggaacaaag cttggaacag 17580

cagtacagga caggcgctta gaaataaact taaagaccag aacttccaac aaaaagtagt 17640

cgatgggata gcttccggca tcaatggagt ggtagatttg gctaaccagg ctgtgcagaa 17700

aaagataaac agtcgtttgg acccgccgcc agcaacccca ggtgaaatgc aagtggagga 17760

agaaattcct ccgccagaaa aacgaggcga caagcgtccg cgtcccgatt tggaagagac 17820

gctggtgacg cgcgtagatg aaccgccttc ttatgaggaa gcaacgaagc ttggaatgcc 17880

caccactaga ccgatagccc caatggccac cggggtgatg aaaccttctc agttgcatcg 17940

acccgtcacc ttggatttgc cccctccccc tgctgctact gctgtacccg cttctaagcc 18000

tgtcgctgcc ccgaaaccag tcgccgtagc caggtcacgt cccgggggcg ctcctcgtcc 18060

aaatgcgcac tggcaaaata ctctgaacag catcgtgggt ctaggcgtgc aaagtgtaaa 18120

acgccgtcgc tgcttttaat taaatatgga gtagcgctta acttgcctat ctgtgtatat 18180

gtgtcattac acgccgtcac agcagcagag gaaaaaagga agaggtcgtg cgtcgacgct 18240

gagttacttt caagatggcc accccatcga tgctgcccca atgggcatac atgcacatcg 18300

ccggacagga tgcttcggag tacctgagtc cgggtctggt gcagttcgcc cgcgccacag 18360

acacctactt caatctggga aataagttta gaaatcccac cgtagcgccg acccacgatg 18420

tgaccaccga ccgtagccag cggctcatgt tgcgcttcgt gcccgttgac cgggaggaca 18480

atacatactc ttacaaagtg cggtacaccc tggccgtggg cgacaacaga gtgctggata 18540

tggccagcac gttctttgac attaggggtg tgttggacag aggtcccagt ttcaaaccct 18600

attctggtac ggcttacaac tccctggctc ctaaaggcgc tccaaataca tctcagtgga 18660

ttgcagaagg tgtaaaaaat acaactggtg aggaacacgt aacagaagag gaaaccaata 18720

ctactactta cacttttggc aatgctcctg taaaagctga agctgaaatt acaaaagaag 18780

gactcccagt aggtttggaa gtttcagatg aagaaagtaa accgatttat gctgataaaa 18840

catatcagcc agaacctcag ctgggagatg aaacttggac tgaccttgat ggaaaaaccg 18900

aaaagtatgg aggcagggct ctcaaacccg atactaagat gaaaccatgc tacgggtcct 18960

ttgccaaacc tactaatgtg aaaggcggtc aggcaaaaca aaaaacaacg gagcagccaa 19020

atcagaaagt cgaatatgat atcgacatgg agtttttga tgcggcatcg cagaaaacaa 19080

acttaagtcc taaaattgtc atgtatgcag aaaatgtaaa tttggaaact ccagacactc 19140

atgtagtgta caaacctgga acagaagaca caagttccga agctaatttg ggacaacaat 19200

ctatgcccaa cagacccaac tacattggct tcagagataa ctttattgga cttatgtact 19260

ataacagtac tggtaacatg ggggtgctgg ctggtcaagc gtctcagtta aatgcagtgg 19320

ttgacttgca ggacagaaac acagaacttt cttaccaact cttgcttgac tctctgggcg 19380

acagaaccag atactttagc atgtggaatc aggctgtgga cagttatgat cctgatgtac 19440

gtgttattga aaatcatggt gtggaagatg aacttcccaa ctactgtttt ccactggacg 19500

gcataggtgt tccaacaacc agttacaaat caatagttcc aaatggagac aatgcgccta 19560

attggaagga acctgaagta aatggaacaa gtgagatcgg acagggtaat ttgtttgcca 19620

tggaaattaa ccttcaagcc aatctatggc gaagtttcct ttattccaat gtggctctat 19680

atctcccaga ctcgtacaaa tacaccccgt ccaatgtcac tcttccagaa aacaaaaaca 19740

cctacgacta catgaacggg cgggtggtgc cgccatctct agtagacacc tatgtgaaca 19800

ttggtgccag gtggtctctg gatgccatgg acaatgtcaa cccattcaac caccaccgta 19860

acgctggctt gcgttaccga tccatgcttc tgggtaacgg acgttatgtg cctttccaca 19920

tacaagtgcc tcaaaaattc ttcgctgtta aaaacctgct gcttctccca ggctcctaca 19980

cttatgagtg gaactttagg aaggatgtga acatggttct acagagttcc ctcggtaacg 20040

acctgcgggt agatggcgcc agcatcagtt tcacgagcat caacctctat gctacttttt 20100

tccccatggc tcacaacacc gcttccaccc ttgaagccat gctgcggaat gacaccaatg 20160

atcagtcatt caacgactac ctatctgcag ctaacatgct ctaccccatt cctgccaatg 20220

caaccaatat tcccatttcc attccttctc gcaactgggc ggctttcaga ggctggtcat 20280

ttaccagact gaaaaccaaa gaaactccct ctttggggtc tggatttgac ccctactttg 20340

tctattctgg ttctattccc tacctggatg gtaccttcta cctgaaccac acttttaaga 20400

aggtttccat catgtttgac tcttcagtga gctggcctgg aaatgacagg ttactatctc 20460

ctaacgaatt tgaaataaag cgcactgtgg atggcgaagg ctacaacgta gcccaatgca 20520

acatgaccaa agactggttc ttggtacaga tgctcgccaa ctacaacatc ggctatcagg 20580

gcttctacat tccagaagga tacaaagatc gcatgtattc atttttcaga aacttccagc 20640

ccatgagcag gcaggtggtt gatgaggtca attacaaaga cttcaaggcc gtcgccatac 20700

cctaccaaca caacaactct ggctttgtgg gttacatggc tccgaccatg cgccaaggtc 20760

aaccctatcc cgctaactat ccctatccac tcattggaac aactgccgta aatagtgtta 20820

cgcagaaaaa gttcttgtgt gacagaacca tgtggcgcat accgttctcg agcaacttca 20880

tgtctatggg ggcccttaca gacttgggac agaatatgct ctatgccaac tcagctcatg 20940

ctctggacat gacctttgag gtggatccca tggatgagcc caccctgctt tatcttctct 21000

tcgaagtttt cgacgtggtc agagtgcatc agccacaccg cggcatcatc gaggcagtct 21060

acctgcgtac accgttctcg gccggtaacg ctaccacgta agaagcttct tgcttcttgc 21120

aaatagcagc tgcaaccatg gcctgcggat cccaaaacgg ctccagcgag caagagctca 21180

gagccattgt ccaagacctg ggttgcggac cctatttttt gggaacctac gataagcgct 21240

tcccggggtt catggccccc gataagctcg cctgtgccat tgtaaatacg gccggacgtg 21300

agacgggggg agagcactgg ttggctttcg gttggaaccc acgttctaac acctgctacc 21360

tttttgatcc ttttggattc tcggatgatc gtctcaaaca gatttaccag tttgaatatg 21420

agggtctcct gcgccgcagc gctcttgcta ccaaggaccg ctgtattacg ctggaaaaat 21480

ctacccagac cgtgcagggt ccccgttctg ccgcctgcgg acttttctgc tgcatgttcc 21540

ttcacgcctt tgtgcactgg cctgaccgtc ccatggacgg aaaccccacc atgaaattgc 21600

taactggagt gccaaacaac atgcttcatt ctcctaaagt ccagcccacc ctgtgtgaca 21660

atcaaaaagc actctaccat tttcttaata cccattcgcc ttattttcgc tcccatcgta 21720

cacacatcga aagggccact gcgttcgacc gtatggatgt tcaataatga ctcatgtaaa 21780

caacgtgttc aataaacatc actttatttt tttacatgta tcaaggctct gcattactta 21840

tttatttaca agtcgaatgg gttctgacga gaatcagaat gacccgcagg cagtgatacg 21900

ttgcggaact gatacttggg ttgccacttg aattcgggaa tcaccaactt gggaaccggt 21960

atatcgggca ggatgtcact ccacagcttt ctggtcagct gcaaagctcc aagcaggtca 22020

ggagccgaaa tcttgaaatc acaattagga ccagtgcttt gagcgcgaga gttgcggtac 22080

accggattgc agcactgaaa caccatcagc gacggatgtc tcacgcttgc cagcacggtg 22140

ggatctgcaa tcatgcccac atccagatct tcagcattgg caatgctgaa cggggtcatc 22200

ttgcaggtct gcctacccat ggcgggcacc caattaggct tgtggttgca atcgcagtgc 22260

agggggatca gtatcatctt ggcctgatcc tgtctgattc ctggatacac ggctctcatg 22320

aaagcatcat attgcttgaa agcctgctgg gctttactac cctcggtata aaacatcccg 22380

caggacctgc tcgaaaactg gttagctgca cagccggcat cattcacaca gcagcgggcg 22440

tcattgttag ctatttgcac cacacttctg ccccagcggt tttgggtgat tttggttcgc 22500

tcgggattct cctttaaggc tcgttgtccg ttctcgctgg ccacatccat ctcgataatc 22560

tgctccttct gaatcataat attgccatgc aggcacttca gcttgccctc ataatcattg 22620

cagccatgag gccacaacgc acagcctgta cattcccaat tatggtgggc gatctgagaa 22680

aaagaatgta tcattccctg cagaaatctt cccatcatcg tgctcagtgt cttgtgacta 22740

gtgaaagtta actggatgcc tcggtgctcc tcgtttacgt actggtgaca gatgcgcttg 22800

tattgttcgt gttgctcagg cattagttta aaagaggttc taagttcgtt atccagcctg 22860

tacttctcca tcagcagaca catcacttcc atgcctttct cccaagcaga caccaggggc 22920

aagctaatcg gattcttaac agtgcaggca gcagctcctt tagccagagg gtcatcttta 22980

gcgatcttct caatgcttct tttgccatcc ttctcaacga tgcgcacggg cgggtagctg 23040

aaacccactg ctacaagttg cgcctcttct ctttcttctt cgctgtcttg actgatgtct 23100

tgcatgggga tatgtttggt cttccttggc ttctttttgg ggggtatcgg aggaggagga 23160

ctgtcgctcc gttccggaga cagggaggat tgtgacgttt cgctcaccat taccaactga 23220

ctgtcggtag aagaacctga ccccacacgg cgacaggtgt ttctcttcgg gggcagaggt 23280

ggaggcgatt gcgaagggct gcggtccgac ctggaaggcg gatgactggc agaacccctt 23340

ccgcgttcgg gggtgtgctc cctgtggcgg tcgcttaact gatttccttc gcggctggcc 23400

attgtgttct cctaggcaga gaaacaacag acatggaaac tcagccattg ctgtcaacat 23460

cgccacgagt gccatcacat ctcgtcctca gcgacgagga aaaggagcag agcttaagca 23520

ttccaccgcc cagtcctgcc accacctcta ccctagaaga taaggaggtc gacgcatctc 23580

atgacatgca gaataaaaaa gcgaaagagt ctgagacaga catcgagcaa gacccgggct 23640

atgtgacacc ggtggaacac gaggaagagt tgaaacgctt tctagagaga gaggatgaaa 23700

actgcccaaa acaacgagca gataactatc accaagatgc tggaaatagg gatcagaaca 23760

ccgactacct catagggctt gacggggaag acgcgctcct taaacatcta gcaagacagt 23820

cgctcatagt caaggatgca ttattggaca gaactgaagt gcccatcagt gtggaagagc 23880

tcagccgcgc ctacgagctt aacctctttt cacctcgtac tccccccaaa cgtcagccaa 23940

acggcacctg cgagccaaat cctcgcttaa acttttatcc agcttttgct gtgccagaag 24000

tactggctac ctatcacatc ttttttaaaa atcaaaaaat tccagtctcc tgccgcgcta 24060

atcgcacccg cgccgatgcc ctactcaatc tgggacctgg ttcacgctta cctgatatag 24120

cttccttgga agaggttcca aagatcttcg agggtctggg caataatgag actcgggccg 24180

caaatgctct gcaaaaggga gaaaatggca tggatgagca tcacagcgtt ctggtggaat 24240

tggaaggcga taatgccaga ctcgcagtac tcaagcgaag catcgaggtc acacacttcg 24300

catatcccgc tgtcaacctg ccccctaaag tcatgacggc ggtcatggac cagttactca 24360

ttaagcgcgc aagtcccctt tcagaagaca tgcatgaccc agatgcctgt gatgagggta 24420

aaccagtggt cagtgatgag cagctaaccc gatggctggg caccgactct cccagggatt 24480

tggaagagcg tcgcaagctt atgatggccg tggtgctggt taccgtagaa ctagagtgtc 24540

tccgacgttt ctttaccgat tcagaaacct tgcgcaaact cgaagagaat ctgcactaca 24600

cttttagaca cggctttgtg cggcaggcat gcaagatatc taacgtggaa ctcaccaacc 24660

tggtttccta catgggtatt ctgcatgaga atcgcctagg acaaagcgtg ctgcacagca 24720

ccctgaaggg ggaagcccgc cgtgattaca tccgcgattg tgtctatctg tacctgtgcc 24780

acacgtggca aaccggcatg ggtgtatggc agcaatgttt agaagaacag aacttgaaag 24840

agcttgacaa gctcttacag aaatctctta aggttctgtg gacagggttc gacgagcgca 24900

ccgtcgcttc cgacctggca gacctcatct tcccagagcg tctcagggtt actttgcgaa 24960

acggattgcc tgactttatg agccagagca tgcttaacaa ttttcgctct ttcatcctgg 25020

aacgctccgg tatcctgccc gccacctgct gcgcactgcc ctccgacttt gtgcctctca 25080

cctaccgcga gtgcccccg ccgctatgga gtcactgcta cctgttccgt ctggccaact 25140

atctctccta ccactcggat gtgatcgagg atgtgagcgg agacggcttg ctggagtgtc 25200

actgccgctg caatctgtgc acgccccacc ggtccctagc ttgcaacccc cagttgatga 25260

gcgaaaccca gataataggc acctttgaat tgcaaggccc cagcagccaa ggcgatgggt 25320

cttctcctgg gcaaagttta aaactgaccc cgggactgtg gacctccgcc tacttgcgca 25380

agtttgctcc ggaagattac cacccctatg aaatcaagtt ctatgaggac caatcacagc 25440

ctccaaaggc cgaactttcg gcctgcgtca tcacccaggg ggcaattctg gcccaattgc 25500

aagccatcca aaaatcccgc caagaatttc tactgaaaaa gggtaagggg gtctaccttg 25560

acccccagac cggcgaggaa ctcaacacaa ggttccctca ggatgtccca acgacgagaa 25620

aacaagaagt tgaaggtgca gccgccgccc ccagaagata tggaggaaga ttgggacagt 25680

caggcagagg aggcggagga ggacagtctg gaggacagtc tggaggaaga cagtttggag 25740

gaggaaaacg aggaggcaga ggaggtggaa gaagtaaccg ccgacaaaca gttatcctcg 25800

gctgcggaga caagcaacag cgctaccatc tccgctccga gtcgaggaac ccggcggcgt 25860

cccagcagta gatgggacga gaccggacgc ttcccgaacc caaccagcgc ttccaagacc 25920

ggtaagaagg atcggcaggg atacaagtcc tggcgggggc ataagaatgc catcatctcc 25980

tgcttgcatg agtgcggggg caacatatcc ttcacgcggc gctacttgct attccaccat 26040

ggggtgaact ttccgcgcaa tgttttgcat tactaccgtc acctccacag cccctactat 26100

agccagcaaa tcccggcagt ctcgacagat aaagacagcg gcggcgacct ccaacagaaa 26160

accagcagcg gcagttagaa aatacacaac aagtgcagca acaggaggat taaagattac 26220

agccaacgag ccagcgcaaa cccgagagtt aagaaatcgg atctttccaa ccctgtatgc 26280

catcttccag cagagtcggg gtcaagagca ggaactgaaa ataaaaaacc gatctctgcg 26340

ttcgctcacc agaagttgtt tgtatcacaa gagcgaagat caacttcagc gcactctcga 26400

ggacgccgag gctctcttca acaagtactg cgcgctgact cttaaagagt aggcagcgac 26460

cgcgcttatt caaaaaaggc gggaattaca tcatcctcga catgagtaaa gaaattccca 26520

cgccttacat gtggagttat caaccccaaa tgggattggc ggcaggcgcc tcccaggact 26580

actccacccg catgaattgg ctcagcgccg ggccttctat gatttctcga gttaatgata 26640

tacgcgccta ccgaaaccaa atacttttgg aacagtcagc tcttaccacc acgccccgcc 26700

aacaccttaa tcccagaaat tggcccgccg ccctagtgta ccaggaaagt cccgctccca 26760

ccactgtatt acttcctcga gacgcccagg ccgaagtcca aatgactaat gcaggtgcgc 26820

agttagctgg cggctccacc ctatgtcgtc acaggcctcg gcataatata aaacgcctga 26880

tgatcagagg ccgaggtatc cagctcaacg acgagtcggt gagctctccg cttggtctac 26940

gaccagacgg aatctttcag attgccggct gcgggagatc ttccttcacc cctcgtcagg 27000

ctgttctgac tttggaaagt tcgtcttcgc aaccccgctc gggcggaatc gggaccgttc 27060

aatttgtgga ggagtttact ccctctgtct acttcaaccc cttctccgga tctcctgggc 27120

attacccgga cgagttcata ccgaacttcg acgcgattag cgagtcagtg gacggctacg 27180

attgatgtct ggtgacgcgg ctgagctatc tcggctgcga catctagacc actgccgccg 27240

ctttcgctgc tttgcccggg aactcattga gttcatctac ttcgaactcc ccaaggatca 27300

ccctcaaggt ccggcccacg gagtgcggat ttctatcgaa ggcaaaatag actctcgcct 27360

gcaacgaatt ttctcccagc ggcccgtgct gatcgagcga gaccagggaa acaccacggt 27420

ttccatctac tgcatttgta atcaccccgg attgcatgaa agcctttgct gtcttatgtg 27480

tactgagttt aataaaaact gaattaagac tctcctacgg actgccgctt cttcaacccg 27540

gattttacaa ccagaagaac gaaacttttc ctgtcgtcca ggactctgtt aacttcacct 27600

ttcctactca caaactagaa gctcaacgac tacaccgctt ttccagaagc attttcccta 27660

ctaatactac tttcaaaacc ggaggtgagc tccaaggtct tcctacagaa aacccttggg 27720

tggaagcggg ccttgtagtg ctaggaattc ttgcgggtgg gcttgtgatt attctttgct 27780

acctatacac accttgcttc actttcttag tggtgttgtg gtattggttt aaaaaatggg 27840

gcccatacta gtcttgcttg ttttactttc gcttttggaa ccgggttctg ccaattacga 27900

tccatgtcta gacttcgacc cagaaaactg cacacttact tttgcacccg acacaagccg 27960

catctgtgga gttcatcgcc tctcttacga acttggcccc caacgacaaa aatttacctg 28020

catggtggga atcaacccca tagttatcac ccagcaaagt ggagatacta agggttgcat 28080

tcactgctcc tgcgattcca tcgagtgcac ctacaccctg ctgaagaccc tatgcggcct 28140

aagagacctg ctaccaatga attaaaaaat gattaataaa aaatcactta cttgaaatca 28200

gcaataaggt ctctgttgaa attttctccc agcagcacct cacttccctc ttcccaactc 28260

tggtattcta aaccccgttc agcggcatac tttctccata ctttaaaggg gatgtcaaat 28320

tttagctcct ctcctgtacc cacaatcttc atgtctttct tcccagatga ccaagagagt 28380

ccggctcagt gactccttca accctgtcta cccctatgaa gatgaaagca cctcccaaca 28440

ccccttttata aacccagggt ttatttcccc aaatggcttc acacaaagcc caaacggagt 28500

tcttacttta aaatgtttaa ccccactaac aaccacaggc ggatctctac agctaaaagt 28560

gggaggggga cttacagtgg atgacaccaa cggttttttg aaagaaaaca taagtgccac 28620

cacaccactc gttaagactg gtcactctat aggtttacca ctaggagccg gattgggaac 28680

gaatgaaaat aaactttgta tcaaattagg acaaggactt acattcaatt caaacaacat 28740

ttgcattgat gacaatatta acaccttatg gacaggagtc aaccccaccg aagccaactg 28800

tcaaatcatg aactccagtg aatctaatga ttgcaaatta attctaacac tagttaaaac 28860

tggagcacta gtcactgcat ttgtttatgt tataggagta tctaacaatt ttaatatgct 28920

aactacacac agaaatataa attttactgc agagctgttt ttcgattcta ctggtaattt 28980

actaactaga ctctcatccc tcaaaactcc acttaatcat aaatcaggac aaaacatggc 29040

tactggtgcc attactaatg ctaaaggttt catgcccagc acgactgcct atcctttcaa 29100

tgataattct agagaaaaag aaaactacat ttacggaact tgttactaca cagctagtga 29160

tcgcactgct tttcccattg acatatctgt catgcttaac cgaagagcaa taaatgacga 29220

gacatcatat tgtattcgta taacttggtc ctggaacaca ggagatgccc cagaggtgca 29280

aacctctgct acaaccctag tcacctcccc atttaccttt tactacatca gagaagacga 29340

ctgacaaata aagtttgcga tcgccagggg ctcccgccag atctagtaat caattacggg 29400

gtcattagtt catagcccat atatggagtt ccgcgttaca taacttacgg taaatggccc 29460

gcctggctga ccgcccaacg acccccgccc attgacgtca ataatgacgt atgttcccat 29520

agtaacgcca atagggactt tccattgacg tcaatgggtg gagtatttac ggtaaactgc 29580

ccacttggca gtacatcaag tgtatcatat gccaagtacg ccccctattg acgtcaatga 29640

cggtaaatgg cccgcctggc attatgccca gtacatgacc ttatgggact ttcctacttg 29700

gcagtacatc tacgtattag tcatcgctat taccatgctg atgcggtttt ggcagtacat 29760

caatgggcgt ggatagcggt ttgactcacg gggatttcca agtctccacc ccattgacgt 29820

caatgggagt ttgttttggc accaaaatca acgggacttt ccaaaatgtc gtaacaactc 29880

cgccccattg acgcaaatgg gcggtaggcg tgtacggtgg gaggtctata taagcagagc 29940

tggtttagtg aaccgtcaga tcagatcttt gtcgatccta ccatccactc gacacacccg 30000

ccagcggccg ctgccaagct tccgagctct cgaattcaaa ggaggtaccc accatgggct 30060

ggagctgcat catcttgttc ctggtcgcaa ctgctaccgg agtccattcg gacatcgtca 30120

tgacccaaag ccctgactcg ctcgctgtgt cactgggaga gcgggcgact atcaactgca 30180

aatcatccca gagcctgctg tattcacgca atcagaaaaa ctacctggcc tggtatcagc 30240

agaagccggg ccagcctccc aagctgctga tcttctgggc ctccacccgc gaaagcggcg 30300

tgccggaccg cttcagcgga agcggattcg gaactgactt tactctgacc attagctcct 30360

tgcaggcgga ggacgtggcc gtctactact gccagcagta tttctcctat ccgctcacct 30420

ttgggcaagg caccaaggtg gagattaagg gagggggcgg cagcgggggа ggcggcagcg 30480

gcggcggggg atcgcaggtc cagctcgtcc aatccggagc cgaagtcaag aagccgggag 30540

cgtcggtcaa ggtcagctgc aaaacttcgc gctacacctt cactgagtac acgatccact 30600

gggtccgcca ggcgcccggc cagcggctgg agtggatcgg cgggatcaac ccaaacaacg 30660

gaatcccaaa ttacaatcag aaatttaaag ggcgggtgac tatcaccgtg gatacctcgg 30720

cctccacggc gtacatggag ctctcatcac tcagatcgga ggacaccgcg gtctattact 30780

gcgcccgccg ccggatcgct tatggatacg atgaaggaca tgcgatggat tactggggcc 30840

agggcaccct cgtcacggtg tcgtcaggag gcggcggttc agatgtgcaa ctcgtgcagt 30900

ccggtgcgga agtgaaaaag ccgggcgcga gcgtcaaagt gtcatgcaag gcgtcaggat 30960

atacgtttac tagatacact atgcactggg tgcgccaggc acctggtcag ggccttgaat 31020

ggatcggcta catcaatccg tcgagaggct acactaatta cgcggactca gtcaaagggc 31080

gcttcacgat tacgaccgac aagtccacct cgactgcata catggaactg tcctcgctga 31140

gaagcgagga caccgctact tactactgcg ctagatacta cgatgatcac tactgcctcg 31200

attactgggg ccagggaacc actgtcacgg tgtcatcggg agagggcacc tcaaccggat 31260

caggggatc gggaggctcg ggcggcgcag acgacatcgt cctgacccag tcgcccgcca 31320

ccttgtcgct gtccccagga gaaagagcga ccctgtcatg ccgggcgtcg caaagcgtga 31380

gctatatgaa ttggtatcag cagaagccag gaaaggcgcc gaagagatgg atctacgaca 31440

cctccaaggt cgcttcaggt gtcccggcta gattctcagg atcgggatca ggaacggact 31500

actccctgac catcaattca ctggaagcag aagatgcggc cacctactac tgtcagcagt 31560

ggtcctccaa cccgctgact ttcggaggcg gaactaaggt cgagatcaag catcaccatc 31620

accatcacca ccatcaccat taggctagct tgactgactg agatacagcg taccttcagc 31680

tcacagacat gataagatac attgatgagt ttggacaaac cacaactaga atgcagtgaa 31740

aaaaatgctt tatttgtgaa atttgtgatg ctattgcttt atttgtaacc attataagct 31800

gcaataaaca agttaacaac aacaattgca ttcattttat gtttcaggtt caggggggagg 31860

tgtgggaggt tttttaaagc aagtaaaacc tctacaaatg tggtagtcgt cagctatcct 31920

gcaggaactt gtttatttga aaatcaattc acaaaatccg agtagttatt ttgcctcccc 31980

cttcccattt aacagaatac accaatctct ccccacgcac agctttaaac atttggatac 32040

cattagatat agacatggtt ttagattcca cattccaaac agtttcagag cgagccaatc 32100

tggggtcagt gatagataaa aatccatcgg gatagtcttt taaagcgctt tcacagtcca 32160

actgctgcgg atgcgactcc ggagtctgga tcacggtcat ctggaagaag aacgatggga 32220

atcataatcc gaaaacggta tcggacgatt gtgtctcatc aaacccacaa gcagccgctg 32280

tctgcgtcgc tccgtgcgac tgctgtttat gggatcaggg tccacagtgt cctgaagcat 32340

gattttaata gcccttaaca tcaactttct ggtgcgatgc gcgcagcaac gcattctgat 32400

ttcactcaaa tctttgcagt aggtacaaca cattattaca atattgttta ataaaccata 32460

attaaaagcg ctccagccaa aactcatatc tgatataatc gcccctgcat gaccatcata 32520

ccaaagttta atataaatta aatgacgttc cctcaaaaac acactaccca catacatgat 32580

ctcttttggc atgtgcatat taacaatctg tctgtaccat ggacaacgtt ggttaatcat 32640

gcaacccaat ataaccttcc ggaaccacac tgccaacacc gctcccccag ccatgcattg 32700

aagtgaaccc tgctgattac aatgacaatg aagaacccaa ttctctcgac cgtgaatcac 32760

ttgagaatga aaaatatcta tagtggcaca acatagacat aaatgcatgc atcttctcat 32820

aatttttaac tcctcaggat ttagaaacat atcccaggga ataggaagct cttgcagaac 32880

agtaaagctg gcagaacaag gaagaccacg aacacaactt acactatgca tagtcatagt 32940

atcacaatct ggcaacagcg ggtggtcttc agtcatagaa gctcgggttt cattttcctc 33000

acaacgtggt aactgggctc tggtgtaagg gtgatgtctg gcgcatgatg tcgagcgtgc 33060

gcgcaacctt gtcataatgg agttgcttcc tgacattctc gtattttgta tagcaaaacg 33120

cggccctggc agaacacact cttcttcgcc ttctatcctg ccgcttagcg tgttccgtgt 33180

gatagttcaa gtacaaccac actcttaagt tggtcaaaag aatgctggct tcagttgtaa 33240

tcaaaactcc atcgcatcta atcgttctga ggaaatcatc caagcaatgc aactggattg 33300

tgtttcaagc aggagaggag agggaagaga cggaagaacc atgttaattt ttattccaaa 33360

cgatctcgca gtacttcaaa ttgtagatcg cgcagatggc atctctcgcc cccactgtgt 33420

tggtgaaaaa gcacagctag atcaaaagaa atgcgatttt caaggtgctc aacggtggct 33480

tccagcaaag cctccacgcg cacatccaag aacaaaagaa taccaaaaga aggagcattt 33540

tctaactcct caatcatcat attacattcc tgcaccattc ccagataatt ttcagctttc 33600

cagccttgaa ttattcgtgt cagttcttgt ggtaaatcca atccacacat tacaaacagg 33660

tcccggaggg cgccctccac caccattctt aaacacaccc tcataatgac aaaatatctt 33720

gctcctgtgt cacctgtagc gaattgagaa tggcaacatc aattgacatg cccttggctc 33780

taagttcttc tttaagttct agttgtaaaa actctctcat attatcacca aactgcttag 33840

ccagaagccc cccgggaaca agagcagggg acgctacagt gcagtacaag cgcagacctc 33900

cccaattggc tccagcaaaa acaagattgg aataagcata ttgggaaccg ccagtaatat 33960

catcgaagtt gctggaaata taatcaggca gagtttcttg taaaaattga ataaaagaaa 34020

aatttgccaa aaaaacattc aaaacctctg ggatgcaaat gcaataggtt accgcgctgc 34080

gctccaacat tgttagtttt gaattagtct gcaaaaataa aaaaaaaaac aagcgtcata 34140

tcatagtagc ctgacgaaca gatggataaa tcagtctttc catcacaaga caagccacag 34200

ggtctccagc tcgaccctcg taaaacctgt catcatgatt aaacaacagc accgaaagtt 34260

cctcgcggtg accagcatga ataattcttg atgaagcata caatccagac atgttagcat 34320

cagttaacga gaaaaaacag ccaacatagc ctttgggtat aattatgctt aatcgtaagt 34380

atagcaaagc caccctcgc ggatacaaag taaaaggcac aggagaataa aaaatataat 34440

tatttctctg ctgctgttca ggcaacgtcg cccccggtcc ctctaaatac acatacaaag 34500

cctcatcagc catggcttac cagacaaagt acagcgggca cacaaagcac aagctctaaa 34560

gtgactctcc aacctctcca caatatatat atacacaagc cctaaactga cgtaatggga 34620

gtaaagtgta aaaaatcccg ccaaacccaa cacacacccc gaaactgcgt caccagggaa 34680

aagtacagtt tcacttccgc aatcccaaca ggcgtaactt cctctttctc acggtacgtg 34740

atatcccact aacttgcaac gtcattttcc cacggtcgca ccgccccttt tagccgttaa 34800

ccccacagcc aatcaccaca cgatccacac tttttaaaat cacctcattt acatattggc 34860

accattccat ctataaggta tattatatag ataga 34895

<210> 27

<211> 34216
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-606 (EnAd-SA-FAPBiTE)

<400> 27
tctatctata taatatacct tatagatgga atggtgccaa tatgtaaatg aggtgatttt 60

aaaaagtgtg gatcgtgtgg tgattggctg tggggttaac ggctaaaagg ggcggtgcga 120

ccgtgggaaa atgacgtttt gtgggggtgg agttttttg caagttgtcg cgggaaatgt 180

gacgcataaa aaggcttttt tctcacggaa ctacttagtt ttcccacggt atttaacagg 240

aaatgaggta gttttgaccg gatgcaagtg aaaattgttg attttcgcgc gaaaactgaa 300

tgaggaagtg tttttctgaa taatgtggta tttatggcag ggtggagtat ttgttcaggg 360

ccaggtagac tttgacccat tacgtggagg tttcgattac cgtgtttttt acctgaattt 420

ccgcgtaccg tgtcaaagtc ttctgttttt acgtaggtgt cagctgatcg ctagggtatt 480

tatacctcag ggtttgtgtc aagaggccac tcttgagtgc cagcgagaag agttttctcc 540

tctgcgccgg cagtttaata ataaaaaaat gagagatttg cgatttctgc ctcaggaaat 600

aatctctgct gagactggaa atgaaatatt ggagcttgtg gtgcacgccc tgatgggaga 660

cgatccggag ccacctgtgc agctttttga gcctcctacg cttcaggaac tgtatgattt 720

agaggtagag ggatcggagg attctaatga ggaagctgta aatggctttt ttaccgattc 780

tatgctttta gctgctaatg aagggttaga attagatccg cctttggaca cttttgatac 840

tccaggggta attgtggaaa gcggtacagg tgtaagaaaa ttacctgatt tgagttccgt 900

ggactgtgat ttgcactgct atgaagacgg gtttcctccg agtgatgagg aggaccatga 960

aaaggagcag tccatgcaga ctgcagcggg tgagggagtg aaggctgcca atgttggttt 1020

tcagttggat tgcccggagc ttcctggaca tggctgtaag tcttgtgaat ttcacaggaa 1080

aaatactgga gtaaaggaac tgttatgttc gctttgttat atgagaacgc actgccactt 1140

tatttacagt aagtgtgttt aagttaaaat ttaaaggaat atgctgtttt tcacatgtat 1200

attgagtgtg agttttgtgc ttcttattat aggtcctgtg tctgatgctg atgaatcacc 1260

atctcctgat tctactacct cacctcctga gattcaagca cctgttcctg tggacgtgcg 1320

caagcccatt cctgtgaagc ttaagcctgg gaaacgtcca gcagtggaaa aacttgagga 1380

cttgttacag ggtggggacg gacctttgga cttgagtaca cggaaacgtc caagacaata 1440

agtgttccat atccgtgttt acttaaggtg acgtcaatat ttgtgtgaca gtgcaatgta 1500

ataaaaatat gttaactgtt cactggtttt tattgctttt tgggcgggga ctcaggtata 1560

taagtagaag cagacctgtg tggttagctc ataggagctg gctttcatcc atggaggttt 1620

gggccatttt ggaagacctt aggaagacta ggcaactgtt agagaacgct tcggacggag 1680

tctccggttt ttggagattc tggttcgcta gtgaattagc tagggtagtt tttaggataa 1740

aacaggacta taaacaagaa tttgaaaagt tgttggtaga ttgcccagga ctttttgaag 1800

ctcttaattt gggccatcag gttcacttta aagaaaaagt tttatcagtt ttagactttt 1860

caaccccagg tagaactgct gctgctgtgg cttttcttac ttttatatta gataaatgga 1920

tcccgcagac tcatttcagc aggggatacg ttttggattt catagccaca gcattgtgga 1980

gaacatggaa ggttcgcaag atgaggacaa tcttaggtta ctggccagtg cagcctttgg 2040

gtgtagcggg aatcctgagg catccaccgg tcatgccagc ggttctggag gaggaacagc 2100

aagaggacaa cccgagagcc ggcctggacc ctccagtgga ggaggcggag tagctgactt 2160

gtctcctgaa ctgcaacggg tgcttactgg atctacgtcc actggacggg ataggggcgt 2220

taagagggag agggcatcta gtggtactga tgctagatct gagttggctt taagtttaat 2280

gagtcgcaga cgtcctgaaa ccatttggtg gcatgaggtt cagaaagagg gaagggatga 2340

agtttctgta ttgcaggaga aatattcact ggaacaggtg aaaacatgtt ggttggagcc 2400

tgaggatgat tgggaggtgg ccattaaaaa ttatgccaag atagctttga ggcctgataa 2460

acagtataag attactagac ggattaatat ccggaatgct tgttacatat ctggaaatgg 2520

ggctgaggtg gtaatagata ctcaagacaa ggcagttatt agatgctgca tgatggatat 2580

gtggcctggg gtagtcggta tggaagcagt aacttttgta aatgttaagt ttaggggaga 2640

tggttataat ggaatagtgt ttatggccaa taccaaactt atattgcatg gttgtagctt 2700

ttttggtttc aacaatacct gtgtagatgc ctggggacag gttagtgtac ggggatgtag 2760

tttctatgcg tgttggattg ccacagctgg cagaaccaag agtcaattgt ctctgaagaa 2820

atgcatattt caaagatgta acctgggcat tctgaatgaa ggcgaagcaa gggtccgcca 2880

ctgcgcttct acagatactg gatgttttat tttgattaag ggaaatgcca gcgtaaagca 2940

taacatgatt tgcggtgctt ccgatgagag gccttatcaa atgctcactt gtgctggtgg 3000

gcattgtaat atgctggcta ctgtgcatat tgtttcccat caacgcaaaa aatggcctgt 3060

ttttgatcac aatgtgatga cgaagtgtac catgcatgca ggtgggcgta gaggaatgtt 3120

tatgccttac cagtgtaaca tgaatcatgt gaaagtgttg ttggaaccag atgccttttc 3180

cagaatgagc ctaacaggaa tttttgacat gaacatgcaa atctggaaga tcctgaggta 3240

tgatgatacg agatcgaggg tacgcgcatg cgaatgcgga ggcaagcatg ccaggttcca 3300

gccggtgtgt gtagatgtga ctgaagatct cagaccggat catttggtta ttgcccgcac 3360

tggagcagag ttcggatcca gtggagaaga aactgactaa ggtgagtatt gggaaaactt 3420

tggggtggga ttttcagatg gacagattga gtaaaaattt gtttttttctg tcttgcagct 3480

gtcatgagtg gaaacgcttc ttttaagggg ggagtcttca gcccttatct gacagggcgt 3540

ctcccatcct gggcaggagt tcgtcagaat gttatgggat ctactgtgga tggaagaccc 3600

gtccaacccg ccaattcttc aacgctgacc tatgctactt taagttcttc acctttggac 3660

gcagctgcag ctgccgccgc cgcttctgtt gccgctaaca ctgtgcttgg aatgggttac 3720

tatggaagca tcatggctaa ttccacttcc tctaataacc cttctaccct gactcaggac 3780

aagttacttg tccttttggc ccagctggag gctttgaccc aacgtctggg tgaactttct 3840

cagcaggtgg tcgagttgcg agtacaaact gagtctgctg tcggcacggc aaagtctaaa 3900

taaaaaaatc ccagaatcaa tgaataaata aacaagcttg ttgttgattt aaaatcaagt 3960

gtttttattt catttttcgc gcacggtatg ccctagacca ccgatctcta tcattgagaa 4020

ctcggtggat tttttccagg atcctataga ggtgggattg aatgtttaga tacatgggca 4080

ttaggccgtc tttggggtgg agatagctcc attgaaggga ttcatgctcc ggggtagtgt 4140

tgtaaatcac ccagtcataa caaggtcgca gtgcatggtg ttgcacaata tcttttagaa 4200

gtaggctgat tgccacagat aagcccttgg tgtaggtgtt tacaaaccgg ttgagctggg 4260

atgggtgcat tcggggtgaa attatgtgca ttttggattg gatttttaag ttggcaatat 4320

tgccgccaag atcccgtctt gggttcatgt tatgaaggac caccaagacg gtgtatccgg 4380

tacatttagg aaatttatcg tgcagcttgg atggaaaagc gtggaaaaat ttggagacac 4440

ccttgtgtcc tccaagattt tccatgcact catccatgat aatagcaatg gggccgtggg 4500

cagcggcgcg ggcaaacacg ttccgtgggt ctgacacatc atagttatgt tcctgagtta 4560

aatcatcata agccatttta atgaatttgg ggcggagagt accagattgg ggtatgaatg 4620

ttccttcggg ccccggagca tagttcccct cacagatttg catttcccaa gctttcagtt 4680

ccgagggtgg aatcatgtcc acctgggggg ctatgaaaaa caccgtttct ggggcggggg 4740

tgattaattg tgatgatagc aaatttctga gcaattgaga tttgccacat ccggtggggc 4800

cataaatgat tccgattacg ggttgcaggt ggtagtttag ggaacggcaa ctgccgtctt 4860

ctcgaagcaa gggggccacc tcgttcatca tttcccttac atgcatattt tcccgcacca 4920

aatccattag gaggcgctct cctcctagtg atagaagttc ttgtagtgag gaaaagtttt 4980

tcagcggttt cagaccgtca gccatgggca ttttggagag agtttgctgc aaaagttcta 5040

gtctgttcca cagttcagtg atgtgttcta tggcatctcg atccagcaga cctcctcgtt 5100

tcgcgggttt ggacggctcc tggaataggg tatgagacga tgggcgtcca gcgctgccag 5160

ggttcggtcc ttccagggtc tcagtgttcg agtcagggtt gtttccgtca cagtgaaggg 5220

gtgtgcgcct gcttgggcgc ttgccagggt gcgcttcaga ctcatcctgc tggtcgaaaa 5280

cttctgtcgc ttggcgccct gtatgtcggc caagtagcag tttaccatga gttcgtagtt 5340

gagcgcctcg gctgcgtggc ctttggcgcg gagcttacct ttggaagttt tcttgcatac 5400

cgggcagtat aggcatttca gcgcatacaa cttgggcgca aggaaaacgg attctgggga 5460

gtatgcatct gcgccgcagg aggcgcaaac agtttcacat tccaccagcc aggttaaatc 5520

cggttcattg gggtcaaaaa caagttttcc gccatatttt ttgatgcgtt tcttaccttt 5580

ggtctccatg agttcgtgtc ctcgttgagt gacaaacagg ctgtccgtgt ccccgtagac 5640

tgattttaca ggcctcttct ccagtggagt gcctcggtct tcttcgtaca ggaactctga 5700

ccactctgat acaaaggcgc gcgtccaggc cagcacaaag gaggctatgt gggaggggta 5760

gcgatcgttg tcaaccaggg ggtccacctt ttccaaagta tgcaaacaca tgtcaccctc 5820

ttcaacatcc aggaatgtga ttggcttgta ggtgtatttc acgtgacctg gggtccccgc 5880

tgggggggta taaaaggggg cggttctttg ctcttcctca ctgtcttccg gatcgctgtc 5940

caggaacgtc agctgttggg gtaggtattc cctctcgaag gcgggcatga cctctgcact 6000

caggttgtca gtttctaaga acgaggagga tttgatattg acagtgccgg ttgagatgcc 6060

tttcatgagg ttttcgtcca tctggtcaga aaacacaatt tttttattgt caagtttggt 6120

ggcaaatgat ccatacaggg cgttggataa aagtttggca atggatcgca tggtttggtt 6180

cttttccttg tccgcgcgct ctttggcggc gatgttgagt tggacatact cgcgtgccag 6240

gcacttccat tcggggaaga tagttgttaa ttcatctggc acgattctca cttgccaccc 6300

tcgattatgc aaggtaatta aatccacact ggtggccacc tcgcctcgaa ggggttcatt 6360

ggtccaacag agcctacctc ctttcctaga acagaaaggg ggaagtgggt ctagcataag 6420

ttcatcggga gggtctgcat ccatggtaaa gattcccgga agtaaatcct tatcaaaata 6480

gctgatggga gtggggtcat ctaaggccat ttgccattct cgagctgcca gtgcgcgctc 6540

atatgggtta aggggactgc cccatggcat gggatgggtg agtgcagagg catacatgcc 6600

acagatgtca tagacgtaga tgggatcctc aaagatgcct atgtaggttg gatagcatcg 6660

ccccccctctg atacttgctc gcacatagtc atatagttca tgtgatggcg ctagcagccc 6720

cggacccaag ttggtgcgat tgggtttttc tgttctgtag acgatctggc gaaagatggc 6780

gtgagaattg gaagagatgg tgggtctttg aaaaatgttg aaatgggcat gaggtagacc 6840

tacagagtct ctgacaaagt gggcataaga ttcttgaagc ttggttacca gttcggcggt 6900

gacaagtacg tctagggcgc agtagtcaag tgtttcttga atgatgtcat aacctggttg 6960

gtttttcttt tcccacagtt cgcggttgag aaggtattct tcgcgatcct tccagtactc 7020

ttctagcgga aacccgtctt tgtctgcacg gtaagatcct agcatgtaga actgattaac 7080

tgccttgtaa gggcagcagc ccttctctac gggtagagag tatgcttgag cagcttttcg 7140

tagcgaagcg tgagtaaggg caaaggtgtc tctgaccatg actttgagga attggtattt 7200

gaagtcgatg tcgtcacagg ctccctgttc ccagagttgg aagtctaccc gtttcttgta 7260

ggcggggttg ggcaaagcga aagtaacatc attgaagaga atcttgccgg ccctgggcat 7320

gaaattgcga gtgatgcgaa aaggctgtgg tacttccgct cggttattga taacctgggc 7380

agctaggacg atctcgtcga aaccgttgat gttgtgtcct acgatgtata attctatgaa 7440

acgcggcgtg cctctgacgt gaggtagctt actgagctca tcaaaggtta ggtctgtggg 7500

gtcagataag gcgtagtgtt cgagagccca ttcgtgcagg tgaggattcg ctttaaggaa 7560

ggaggaccag aggtccactg ccagtgctgt ttgtaactgg tcccggtact gacgaaaatg 7620

ccgtccgact gccatttttt ctggggtgac gcaatagaag gtttgggggt cctgccgcca 7680

gcgatcccac ttgagtttta tggcgaggtc ataggcgatg ttgacgagcc gctggtctcc 7740

agagagtttc atgaccagca tgaaggggat tagctgcttg ccaaaggacc ccatccaggt 7800

gtaggtttcc acatcgtagg tgagaaagag cctttctgtg cgaggatgag agccaatcgg 7860

gaagaactgg atctcctgcc accagttgga ggaatggctg ttgatgtgat ggaagtagaa 7920

ctccctgcga cgcgccgagc attcatgctt gtgcttgtac agacggccgc agtagtcgca 7980

gcgttgcacg ggttgtatct cgtgaatgag ttgtacctgg cttcccttga cgagaaattt 8040

cagtgggaag ccgaggcctg gcgattgtat ctcgtgcttt actatgttgt ctgcatcggc 8100

ctgttcatct tctgtctcga tggtggtcat gctgacgagc cctcgcggga ggcaagtcca 8160

gacctcggcg cggcaggggc ggagctcgag gacgagagcg cgcaggctgg agctgtccag 8220

ggtcctgaga cgctgcggac tcaggttagt aggcagtgtc aggagattaa cttgcatgat 8280

cttttggagg gcgtgcggga ggttcagata gtacttgatc tcaacgggtc cgttggtgga 8340

gatgtcgatg gcttgcaggg ttccgtgtcc cttgggcgct accaccgtgc ccttgttttt 8400

cattttggac ggcggtggct ctgttgcttc ttgcatgttt agaagcggtg tcgagggcgc 8460

gcaccgggcg gcaggggcgg ctcgggaccc ggcggcatgg ctggcagtgg tacgtcggcg 8520

ccgcgcgcgg gtaggttctg gtactgcgcc ctgagaagac tcgcatgcgc gacgacgcgg 8580

cggttgacat cctggatctg acgcctctgg gtgaaagcta ccggccccgt gagcttgaac 8640

ctgaaagaga gttcaacaga atcaatctcg gtatcgttga cggcggcttg cctaaggatt 8700

tcttgcacgt caccagagtt gtcctggtag gcgatctccg ccatgaactg ctcgatctct 8760

tcctcttgaa gatctccgcg gcccgctctc tcgacggtgg ccgcgaggtc gttggagatg 8820

cgcccaatga gttgagagaa tgcattcatg cccgcctcgt tccagacgcg gctgtagacc 8880

acggccccca cgggatctct cgcgcgcatg accacctggg cgaggttgag ctccacgtgg 8940

cgggtgaaga ccgcatagtt gcataggcgc tggaaaaggt agttgagtgt ggtggcgatg 9000

tgctcggtga cgaagaaata catgatccat cgtctcagcg gcatctcgct gacatcgccc 9060

agagcttcca agcgctccat ggcctcgtag aagtccacgg caaaattaaa aaactgggag 9120

tttcgcgcgg acacggtcaa ctcctcttcc agaagacgga taagttcggc gatggtggtg 9180

cgcacctcgc gctcgaaagc ccctgggatt tcttcctcaa tctcttcttc ttccactaac 9240

atctcttcct cttcaggtgg ggctgcagga ggagggggaa cgcggcgacg ccggcggcgc 9300

acgggcagac ggtcgatgaa tctttcaatg acctctccgc ggcggcggcg catggtttca 9360

gtgacggcgc ggccgttctc gcgcggtcgc agagtaaaaa caccgccgcg catctcctta 9420

aagtggtgac tgggaggttc tccgtttggg agggagaggg cgctgattat acattttatt 9480

aattggcccg tagggactgc acgcagagat ctgatcgtgt caagatccac gggatctgaa 9540

aacctttcga cgaaagcgtc taaccagtca cagtcacaag gtaggctgag tacggcttct 9600

tgtgggcggg ggtggttatg tgttcggtct gggtcttctg tttcttcttc atctcgggaa 9660

ggtgagacga tgctgctggt gatgaaatta aagtaggcag ttctaagacg gcggatggtg 9720

gcgaggagca ccaggtcttt gggtccggct tgctggatac gcaggcgatt ggccattccc 9780

caagcattat cctgacatct agcaagatct ttgtagtagt cttgcatgag ccgttctacg 9840

ggcacttctt cctcacccgt tctgccatgc atacgtgtga gtccaaatcc gcgcattggt 9900

tgtaccagtg ccaagtcagc tacgactctt tcggcgagga tggcttgctg tacttgggta 9960

agggtggctt gaaagtcatc aaaatccaca aagcggtggt aagctcctgt attaatggtg 10020

taagcacagt tggccatgac tgaccagtta actgtctggt gaccagggcg cacgagctcg 10080

gtgtatttaa ggcgcgaata ggcgcgggtg tcaaagatgt aatcgttgca ggtgcgcacc 10140

agatactggt accctataag aaaatgcggc ggtggttggc ggtagagagg ccatcgttct 10200

gtagctggag cgccaggggc gaggtcttcc aacataaggc ggtgatagcc gtagatgtac 10260

ctggacatcc aggtgattcc tgcggcggta gtagaagccc gaggaaactc gcgtacgcgg 10320

ttccaaatgt tgcgtagcgg catgaagtag ttcattgtag gcacggtttg accagtgagg 10380

cgcgcgcagt cattgatgct ctatagacac ggagaaaatg aaagcgttca gcgactcgac 10440

tccgtagcct ggaggaacgt gaacgggttg ggtcgcggtg taccccggtt cgagacttgt 10500

actcgagccg gccggagccg cggctaacgt ggtattggca ctcccgtctc gacccagcct 10560

acaaaaatcc aggatacgga atcgagtcgt tttgctggtt tccgaatggc agggaagtga 10620

gtcctatttt tttttttgc cgctcagatg catcccgtgc tgcgacagat gcgcccccaa 10680

caacagcccc cctcgcagca gcagcagcag caatcacaaa aggctgtccc tgcaactact 10740

gcaactgccg ccgtgagcgg tgcgggacag cccgcctatg atctggactt ggaagagggc 10800

gaaggactgg cacgtctagg tgcgccttca cccgagcggc atccgcgagt tcaactgaaa 10860

aaagattctc gcgaggcgta tgtgccccaa cagaacctat ttagagacag aagcggcgag 10920

gagccggagg agatgcgagc ttcccgcttt aacgcgggtc gtgagctgcg tcacggtttg 10980

gaccgaagac gagtgttgcg ggacgaggat ttcgaagttg atgaaatgac agggatcagt 11040

cctgccaggg cacacgtggc tgcagccaac cttgtatcgg cttacgagca gacagtaaag 11100

gaagagcgta acttccaaaa gtcttttaat aatcatgtgc gaaccctgat tgcccgcgaa 11160

gaagttaccc ttggtttgat gcatttgtgg gatttgatgg aagctatcat tcagaaccct 11220

actagcaaac ctctgaccgc ccagctgttt ctggtggtgc aacacagcag agacaatgag 11280

gctttcagag aggcgctgct gaacatcacc gaacccgagg ggagatggtt gtatgatctt 11340

atcaacattc tacagagtat catagtgcag gagcggagcc tgggcctggc cgagaaggtg 11400

gctgccatca attactcggt ttgagcttg ggaaaatatt acgctcgcaa aatctacaag 11460

actccatacg ttcccataga caaggaggtg aagatagatg ggttctacat gcgcatgacg 11520

ctcaaggtct tgaccctgag cgatgatctt ggggtgtatc gcaatgacag aatgcatcgc 11580

gcggttagcg ccagcaggag gcgcgagtta agcgacaggg aactgatgca cagtttgcaa 11640

agagctctga ctggagctgg aaccgagggt gagaattact tcgacatggg agctgacttg 11700

cagtggcagc ctagtcgcag ggctctgagc gccgcgacgg caggatgtga gcttccttac 11760

atagaagagg cggatgaagg cgaggaggaa gagggcgagt acttggaaga ctgatggcac 11820

aacccgtgtt ttttgctaga tggaacagca agcaccggat cccgcaatgc gggcggcgct 11880

gcagagccag ccgtccggca ttaactcctc ggacgattgg acccaggcca tgcaacgtat 11940

catggcgttg acgactcgca accccgaagc ctttagacag caaccccagg ccaaccgtct 12000

atcggccatc atggaagctg tagtgccttc ccgctctaat cccactcatg agaaggtcct 12060

ggccatcgtg aacgcgttgg tggagaacaa agctattcgt ccagatgagg ccggactggt 12120

atacaacgct ctcttagaac gcgtggctcg ctacaacagt agcaatgtgc aaaccaattt 12180

ggaccgtatg ataacagatg tacgcgaagc cgtgtctcag cgcgaaaggt tccagcgtga 12240

tgccaacctg ggttcgctgg tggcgttaaa tgctttcttg agtactcagc ctgctaatgt 12300

gccgcgtggt caacaggatt atactaactt tttaagtgct ttgagactga tggtatcaga 12360

agtacctcag agcgaagtgt atcagtccgg tcctgattac ttctttcaga ctagcagaca 12420

gggcttgcag acggtaaatc tgagccaagc ttttaaaaac cttaaaggtt tgtggggagt 12480

gcatgccccg gtaggagaaa gagcaaccgt gtctagcttg ttaactccga actcccgcct 12540

attattactg ttggtagctc ctttcaccga cagcggtagc atcgaccgta attcctattt 12600

gggttaccta ctaaacctgt atcgcgaagc catagggcaa agtcaggtgg acgagcagac 12660

ctatcaagaa attacccaag tcagtcgcgc tttgggacag gaagacactg gcagtttgga 12720

agccactctg aacttcttgc ttaccaatcg gtctcaaaag atccctcctc aatatgctct 12780

tactgcggag gaggagagga tccttagata tgtgcagcag agcgtgggat tgtttctgat 12840

gcaagagggg gcaactccga ctgcagcact ggacatgaca gcgcgaaata tggagcccag 12900

catgtatgcc agtaaccgac ctttcattaa caaactgctg gactacttgc acagagctgc 12960

cgctatgaac tctgattatt tcaccaatgc catcttaaac ccgcactggc tgcccccacc 13020

tggtttctac acgggcgaat atgacatgcc cgaccctaat gacggatttc tgtgggacga 13080

cgtggacagc gatgtttttt cacctctttc tgatcatcgc acgtggaaaa aggaaggcgg 13140

cgatagaatg cattcttctg catcgctgtc cggggtcatg ggtgctaccg cggctgagcc 13200

cgagtctgca agtccttttc ctagtctacc cttttctcta cacagtgtac gtagcagcga 13260

agtgggtaga ataagtcgcc cgagtttaat gggcgaagag gagtatctaa acgattcctt 13320

gctcagaccg gcaagagaaa aaaatttccc aaacaatgga atagaaagtt tggtggataa 13380

aatgagtaga tggaagactt atgctcagga tcacagagac gagcctggga tcatggggat 13440

tacaagtaga gcgagccgta gacgccagcg ccatgacaga cagaggggtc ttgtgtggga 13500

cgatgaggat tcggccgatg atagcagcgt gctggacttg ggtgggagag gaaggggcaa 13560

cccgtttgct catttgcgcc ctcgcttggg tggtatgttg taaaaaaaaa taaaaaaaaa 13620

actcaccaag gccatggcga cgagcgtacg ttcgttcttc tttattatct gtgtctagta 13680

taatgaggcg agtcgtgcta ggcggagcgg tggtgtatcc ggagggtcct cctccttcgt 13740

acgagagcgt gatgcagcag cagcaggcga cggcggtgat gcaatcccca ctggaggctc 13800

cctttgtgcc tccgcgatac ctggcaccta cggagggcag aaacagcatt cgttattcgg 13860

aactggcacc tcagtacgat accaccaggt tgtatctggt ggacaacaag tcggcggaca 13920

ttgcttctct gaactatcag aatgaccaca gcaacttctt gaccacggtg gtgcaaaaca 13980

atgactttac ccctacggaa gccagcaccc agaccattaa ctttgatgaa cgatcgcggt 14040

ggggcggtca gctaaagacc atcatgcata ctaacatgcc aaacgtgaac gagtatatgt 14100

ttagtaacaa gttcaaagcg cgtgtgatgg tgtccagaaa acctcccgac ggtgctgcag 14160

ttggggatac ttatgatcac aagcaggata ttttgaaata tgagtggttc gagtttactt 14220

tgccagaagg caacttttca gttactatga ctattgattt gatgaacaat gccatcatag 14280

ataattactt gaaagtgggt agacagaatg gagtgcttga aagtgacatt ggtgttaagt 14340

tcgacaccag gaacttcaag ctgggatggg atcccgaaac caagttgatc atgcctggag 14400

tgtatacgta tgaagccttc catcctgaca ttgtcttact gcctggctgc ggagtggatt 14460

ttaccgagag tcgtttgagc aaccttcttg gtatcagaaa aaaacagcca tttcaagagg 14520

gttttaagat tttgtatgaa gatttagaag gtggtaatat tccggccctc ttggatgtag 14580

atgcctatga gaacagtaag aaagaacaaa aagccaaaat agaagctgct acagctgctg 14640

cagaagctaa ggcaaacata gttgccagcg actctacaag ggttgctaac gctggagagg 14700

tcagaggaga caattttgcg ccaacacctg ttccgactgc agaatcatta ttggccgatg 14760

tgtctgaagg aacggacgtg aaactcacta ttcaacctgt agaaaaagat agtaagaata 14820

gaagctataa tgtgttggaa gacaaaatca acacagccta tcgcagttgg tatctttcgt 14880

acaattatgg cgatcccgaa aaaggagtgc gttcctggac attgctcacc acctcagatg 14940

tcacctgcgg agcagagcag gtctactggt cgcttccaga catgatgaag gatcctgtca 15000

ctttccgctc cactagacaa gtcagtaact accctgtggt gggtgcagag cttatgcccg 15060

tcttctcaaa gagcttctac aacgaacaag ctgtgtactc ccagcagctc cgccagtcca 15120

cctcgcttac gcacgtcttc aaccgctttc ctgagaacca gattttaatc cgtccgccgg 15180

cgcccaccat taccaccgtc agtgaaaacg ttcctgctct cacagatcac gggaccctgc 15240

cgttgcgcag cagtatccgg ggagtccaac gtgtgaccgt tactgacgcc agacgccgca 15300

cctgtcccta cgtgtacaag gcactgggca tagtcgcacc gcgcgtcctt tcaagccgca 15360

ctttctaaaa aaaaaaaaaa tgtccattct tatctcgccc agtaataaca ccggttgggg 15420

tctgcgcgct ccaagcaaga tgtacggagg cgcacgcaaa cgttctaccc aacatcctgt 15480

ccgtgttcgc ggacatttc gcgctccatg gggcgccctc aagggccgca ctcgcgttcg 15540

aaccaccgtc gatgatgtaa tcgatcaggt ggttgccgac gcccgtaatt atactcctac 15600

tgcgcctaca tctactgtgg atgcagttat tgacagtgta gtggctgacg ctcgcaacta 15660

tgctcgacgt aagagccggc gaaggcgcat tgccagacgc caccgagcta ccactgccat 15720

gcgagccgca agagctctgc tacgaagagc tagacgcgtg gggcgaagag ccatgcttag 15780

ggcggccaga cgtgcagctt cgggcgccag cgccggcagg tcccgcaggc aagcagccgc 15840

tgtcgcagcg gcgactattg ccgacatggc ccaatcgcga agaggcaatg tatactgggt 15900

gcgtgacgct gccaccggtc aacgtgtacc cgtgcgcacc cgtccccctc gcacttagaa 15960

gatactgagc agtctccgat gttgtgtccc agcggcgagg atgtccaagc gcaaatacaa 16020

ggaagaaatg ctgcaggtta tcgcacctga agtctacggc caaccgttga aggatgaaaa 16080

aaaaccccgc aaaatcaagc gggttaaaaa ggacaaaaaa gaagaggaag atggcgatga 16140

tgggctggcg gagtttgtgc gcgagtttgc cccacggcga cgcgtgcaat ggcgtgggcg 16200

caaagttcga catgtgttga gacctggaac ttcggtggtc tttacacccg gcgagcgttc 16260

aagcgctact tttaagcgtt cctatgatga ggtgtacggg gatgatgata ttcttgagca 16320

ggcggctgac cgattaggcg agtttgctta tggcaagcgt agtagaataa cttccaagga 16380

tgagacagtg tcgataccct tggatcatgg aaatcccacc cctagtctta aaccggtcac 16440

tttgcagcaa gtgttacccg taactccgcg aacaggtgtt aaacgcgaag gtgaagattt 16500

gtatcccact atgcaactga tggtacccaa acgccagaag ttggaggacg ttttggagaa 16560

agtaaaagtg gatccagata ttcaacctga ggttaaagtg agacccatta agcaggtagc 16620

gcctggtctg ggggtacaaa ctgtagacat taagattccc actgaaagta tggaagtgca 16680

aactgaaccc gcaaagccta ctgccacctc cactgaagtg caaacggatc catggatgcc 16740

catgcctatt acaactgacg ccgccggtcc cactcgaaga tcccgacgaa agtacggtcc 16800

agcaagtctg ttgatgccca attatgttgt acacccatct attattccta ctcctggtta 16860

ccgaggcact cgctactatc gcagccgaaa cagtacctcc cgccgtcgcc gcaagacacc 16920

tgcaaatcgc agtcgtcgcc gtagacgcac aagcaaaccg actcccggcg ccctggtgcg 16980

gcaagtgtac cgcaatggta gtgcggaacc tttgacactg ccgcgtgcgc gttaccatcc 17040

gagtatcatc acttaatcaa tgttgccgct gcctccttgc agatatggcc ctcacttgtc 17100

gccttcgcgt tcccatcact ggttaccgag gaagaaactc gcgccgtaga agagggatgt 17160

tgggacgcgg aatgcgacgc tacaggcgac ggcgtgctat ccgcaagcaa ttgcggggtg 17220

gtttttacc agccttaatt ccaattatcg ctgctgcaat tggcgcgata ccaggcatag 17280

cttccgtggc ggttcaggcc tcgcaacgac attgacattg gaaaaaaacg tataaataaa 17340

aaaaaaaaaa tacaatggac tctgacactc ctggtcctgt gactatgttt tcttagagat 17400

ggaagacatc aatttttcat ccttggctcc gcgacacggc acgaagccgt acatgggcac 17460

ctggagcgac atcggcacga gccaactgaa cgggggcgcc ttcaattgga gcagtatctg 17520

gagcgggctt aaaaattttg gctcaaccat aaaaacatac gggaacaaag cttggaacag 17580

cagtacagga caggcgctta gaaataaact taaagaccag aacttccaac aaaaagtagt 17640

cgatgggata gcttccggca tcaatggagt ggtagatttg gctaaccagg ctgtgcagaa 17700

aaagataaac agtcgtttgg acccgccgcc agcaacccca ggtgaaatgc aagtggagga 17760

agaaattcct ccgccagaaa aacgaggcga caagcgtccg cgtcccgatt tggaagagac 17820

gctggtgacg cgcgtagatg aaccgccttc ttatgaggaa gcaacgaagc ttggaatgcc 17880

caccactaga ccgatagccc caatggccac cggggtgatg aaaccttctc agttgcatcg 17940

acccgtcacc ttggatttgc cccctccccc tgctgctact gctgtacccg cttctaagcc 18000

tgtcgctgcc ccgaaaccag tcgccgtagc caggtcacgt cccgggggcg ctcctcgtcc 18060

aaatgcgcac tggcaaaata ctctgaacag catcgtgggt ctaggcgtgc aaagtgtaaa 18120

acgccgtcgc tgcttttaat taaatatgga gtagcgctta acttgcctat ctgtgtatat 18180

gtgtcattac acgccgtcac agcagcagag gaaaaaagga agaggtcgtg cgtcgacgct 18240

gagttacttt caagatggcc accccatcga tgctgcccca atgggcatac atgcacatcg 18300

ccggacagga tgcttcggag tacctgagtc cgggtctggt gcagttcgcc cgcgccacag 18360

acacctactt caatctggga aataagttta gaaatcccac cgtagcgccg acccacgatg 18420

tgaccaccga ccgtagccag cggctcatgt tgcgcttcgt gcccgttgac cgggaggaca 18480

atacatactc ttacaaagtg cggtacaccc tggccgtggg cgacaacaga gtgctggata 18540

tggccagcac gttctttgac attaggggtg tgttggacag aggtcccagt ttcaaaccct 18600

attctggtac ggcttacaac tccctggctc ctaaaggcgc tccaaataca tctcagtgga 18660

ttgcagaagg tgtaaaaaat acaactggtg aggaacacgt aacagaagag gaaaccaata 18720

ctactactta cacttttggc aatgctcctg taaaagctga agctgaaatt acaaaagaag 18780

gactcccagt aggtttggaa gtttcagatg aagaaagtaa accgatttat gctgataaaa 18840

catatcagcc agaacctcag ctgggagatg aaacttggac tgaccttgat ggaaaaaccg 18900

aaaagtatgg aggcagggct ctcaaacccg atactaagat gaaaccatgc tacgggtcct 18960

ttgccaaacc tactaatgtg aaaggcggtc aggcaaaaca aaaaacaacg gagcagccaa 19020

atcagaaagt cgaatatgat atcgacatgg agtttttga tgcggcatcg cagaaaacaa 19080

acttaagtcc taaaattgtc atgtatgcag aaaatgtaaa tttggaaact ccagacactc 19140

atgtagtgta caaacctgga acagaagaca caagttccga agctaatttg ggacaacaat 19200

ctatgcccaa cagacccaac tacattggct tcagagataa ctttattgga cttatgtact 19260

ataacagtac tggtaacatg ggggtgctgg ctggtcaagc gtctcagtta aatgcagtgg 19320

ttgacttgca ggacagaaac acagaacttt cttaccaact cttgcttgac tctctgggcg 19380

acagaaccag atactttagc atgtggaatc aggctgtgga cagttatgat cctgatgtac 19440

gtgttattga aaatcatggt gtggaagatg aacttcccaa ctactgtttt ccactggacg 19500

gcataggtgt tccaacaacc agttacaaat caatagttcc aaatggagac aatgcgccta 19560

attggaagga acctgaagta aatggaacaa gtgagatcgg acagggtaat ttgtttgcca 19620

tggaaattaa ccttcaagcc aatctatggc gaagtttcct ttattccaat gtggctctat 19680

atctcccaga ctcgtacaaa tacaccccgt ccaatgtcac tcttccagaa aacaaaaaca 19740

cctacgacta catgaacggg cgggtggtgc cgccatctct agtagacacc tatgtgaaca 19800

ttggtgccag gtggtctctg gatgccatgg acaatgtcaa cccattcaac caccaccgta 19860

acgctggctt gcgttaccga tccatgcttc tgggtaacgg acgttatgtg cctttccaca 19920

tacaagtgcc tcaaaaattc ttcgctgtta aaaacctgct gcttctccca ggctcctaca 19980

cttatgagtg gaactttagg aaggatgtga acatggttct acagagttcc ctcggtaacg 20040

acctgcgggt agatggcgcc agcatcagtt tcacgagcat caacctctat gctacttttt 20100

tccccatggc tcacaacacc gcttccaccc ttgaagccat gctgcggaat gacaccaatg 20160

atcagtcatt caacgactac ctatctgcag ctaacatgct ctaccccatt cctgccaatg 20220

caaccaatat tcccatttcc attccttctc gcaactgggc ggctttcaga ggctggtcat 20280

ttaccagact gaaaaccaaa gaaactccct ctttggggtc tggatttgac ccctactttg 20340

tctattctgg ttctattccc tacctggatg gtaccttcta cctgaaccac acttttaaga 20400

aggtttccat catgtttgac tcttcagtga gctggcctgg aaatgacagg ttactatctc 20460

ctaacgaatt tgaaataaag cgcactgtgg atggcgaagg ctacaacgta gcccaatgca 20520

acatgaccaa agactggttc ttggtacaga tgctcgccaa ctacaacatc ggctatcagg 20580

gcttctacat tccagaagga tacaaagatc gcatgtattc atttttcaga aacttccagc 20640

ccatgagcag gcaggtggtt gatgaggtca attacaaaga cttcaaggcc gtcgccatac 20700

cctaccaaca caacaactct ggctttgtgg gttacatggc tccgaccatg cgccaaggtc 20760

aaccctatcc cgctaactat ccctatccac tcattggaac aactgccgta aatagtgtta 20820

cgcagaaaaa gttcttgtgt gacagaacca tgtggcgcat accgttctcg agcaacttca 20880

tgtctatggg ggcccttaca gacttgggac agaatatgct ctatgccaac tcagctcatg 20940

ctctggacat gacctttgag gtggatccca tggatgagcc caccctgctt tatcttctct 21000

tcgaagtttt cgacgtggtc agagtgcatc agccacaccg cggcatcatc gaggcagtct 21060

acctgcgtac accgttctcg gccggtaacg ctaccacgta agaagcttct tgcttcttgc 21120

aaatagcagc tgcaaccatg gcctgcggat cccaaaacgg ctccagcgag caagagctca 21180

gagccattgt ccaagacctg ggttgcggac cctatttttt gggaacctac gataagcgct 21240

tcccggggtt catggccccc gataagctcg cctgtgccat tgtaaatacg gccggacgtg 21300

agacgggggg agagcactgg ttggctttcg gttggaaccc acgttctaac acctgctacc 21360

tttttgatcc ttttggattc tcggatgatc gtctcaaaca gatttaccag tttgaatatg 21420

agggtctcct gcgccgcagc gctcttgcta ccaaggaccg ctgtattacg ctggaaaaat 21480

ctacccagac cgtgcagggt ccccgttctg ccgcctgcgg acttttctgc tgcatgttcc 21540

ttcacgcctt tgtgcactgg cctgaccgtc ccatggacgg aaaccccacc atgaaattgc 21600

taactggagt gccaaacaac atgcttcatt ctcctaaagt ccagcccacc ctgtgtgaca 21660

atcaaaaagc actctaccat tttcttaata cccattcgcc ttattttcgc tcccatcgta 21720

cacacatcga aagggccact gcgttcgacc gtatggatgt tcaataatga ctcatgtaaa 21780

caacgtgttc aataaacatc actttatttt tttacatgta tcaaggctct gcattactta 21840

tttatttaca agtcgaatgg gttctgacga gaatcagaat gacccgcagg cagtgatacg 21900

ttgcggaact gatacttggg ttgccacttg aattcgggaa tcaccaactt gggaaccggt 21960

atatcgggca ggatgtcact ccacagcttt ctggtcagct gcaaagctcc aagcaggtca 22020

ggagccgaaa tcttgaaatc acaattagga ccagtgcttt gagcgcgaga gttgcggtac 22080

accggattgc agcactgaaa caccatcagc gacggatgtc tcacgcttgc cagcacggtg 22140

ggatctgcaa tcatgcccac atccagatct tcagcattgg caatgctgaa cggggtcatc 22200

ttgcaggtct gcctacccat ggcgggcacc caattaggct tgtggttgca atcgcagtgc 22260

agggggatca gtatcatctt ggcctgatcc tgtctgattc ctggatacac ggctctcatg 22320

aaagcatcat attgcttgaa agcctgctgg gctttactac cctcggtata aaacatcccg 22380

caggacctgc tcgaaaactg gttagctgca cagccggcat cattcacaca gcagcgggcg 22440

tcattgttag ctatttgcac cacacttctg ccccagcggt tttgggtgat tttggttcgc 22500

tcgggattct cctttaaggc tcgttgtccg ttctcgctgg ccacatccat ctcgataatc 22560

tgctccttct gaatcataat attgccatgc aggcacttca gcttgccctc ataatcattg 22620

cagccatgag gccacaacgc acagcctgta cattcccaat tatggtgggc gatctgagaa 22680

aaagaatgta tcattccctg cagaaatctt cccatcatcg tgctcagtgt cttgtgacta 22740

gtgaaagtta actggatgcc tcggtgctcc tcgtttacgt actggtgaca gatgcgcttg 22800

tattgttcgt gttgctcagg cattagttta aaagaggttc taagttcgtt atccagcctg 22860

tacttctcca tcagcagaca catcacttcc atgcctttct cccaagcaga caccaggggc 22920

aagctaatcg gattcttaac agtgcaggca gcagctcctt tagccagagg gtcatcttta 22980

gcgatcttct caatgcttct tttgccatcc ttctcaacga tgcgcacggg cgggtagctg 23040

aaacccactg ctacaagttg cgcctcttct ctttcttctt cgctgtcttg actgatgtct 23100

tgcatgggga tatgtttggt cttccttggc ttctttttgg ggggtatcgg aggaggagga 23160

ctgtcgctcc gttccggaga cagggaggat tgtgacgttt cgctcaccat taccaactga 23220

ctgtcggtag aagaacctga ccccacacgg cgacaggtgt ttctcttcgg gggcagaggt 23280

ggaggcgatt gcgaagggct gcggtccgac ctggaaggcg gatgactggc agaacccctt 23340

ccgcgttcgg gggtgtgctc cctgtggcgg tcgcttaact gatttccttc gcggctggcc 23400

attgtgttct cctaggcaga gaaacaacag acatggaaac tcagccattg ctgtcaacat 23460

cgccacgagt gccatcacat ctcgtcctca gcgacgagga aaaggagcag agcttaagca 23520

ttccaccgcc cagtcctgcc accacctcta ccctagaaga taaggaggtc gacgcatctc 23580

atgacatgca gaataaaaaa gcgaaagagt ctgagacaga catcgagcaa gacccgggct 23640

atgtgacacc ggtggaacac gaggaagagt tgaaacgctt tctagagaga gaggatgaaa 23700

actgcccaaa acaacgagca gataactatc accaagatgc tggaaatagg gatcagaaca 23760

ccgactacct catagggctt gacggggaag acgcgctcct taaacatcta gcaagacagt 23820

cgctcatagt caaggatgca ttattggaca gaactgaagt gcccatcagt gtggaagagc 23880

tcagccgcgc ctacgagctt aacctctttt cacctcgtac tccccccaaa cgtcagccaa 23940

acggcacctg cgagccaaat cctcgcttaa acttttatcc agcttttgct gtgccagaag 24000

tactggctac ctatcacatc ttttttaaaa atcaaaaaat tccagtctcc tgccgcgcta 24060

atcgcacccg cgccgatgcc ctactcaatc tgggacctgg ttcacgctta cctgatatag 24120

cttccttgga agaggttcca aagatcttcg agggtctggg caataatgag actcgggccg 24180

caaatgctct gcaaaaggga gaaaatggca tggatgagca tcacagcgtt ctggtggaat 24240

tggaaggcga taatgccaga ctcgcagtac tcaagcgaag catcgaggtc acacacttcg 24300

catatcccgc tgtcaacctg ccccctaaag tcatgacggc ggtcatggac cagttactca 24360

ttaagcgcgc aagtcccctt tcagaagaca tgcatgaccc agatgcctgt gatgagggta 24420

aaccagtggt cagtgatgag cagctaaccc gatggctggg caccgactct cccagggatt 24480

tggaagagcg tcgcaagctt atgatggccg tggtgctggt taccgtagaa ctagagtgtc 24540

tccgacgttt ctttaccgat tcagaaacct tgcgcaaact cgaagagaat ctgcactaca 24600

cttttagaca cggctttgtg cggcaggcat gcaagatatc taacgtggaa ctcaccaacc 24660

tggtttccta catgggtatt ctgcatgaga atcgcctagg acaaagcgtg ctgcacagca 24720

ccctgaaggg ggaagcccgc cgtgattaca tccgcgattg tgtctatctg tacctgtgcc 24780

acacgtggca aaccggcatg ggtgtatggc agcaatgttt agaagaacag aacttgaaag 24840

agcttgacaa gctcttacag aaatctctta aggttctgtg gacagggttc gacgagcgca 24900

ccgtcgcttc cgacctggca gacctcatct tcccagagcg tctcagggtt actttgcgaa 24960

acggattgcc tgactttatg agccagagca tgcttaacaa ttttcgctct ttcatcctgg 25020

aacgctccgg tatcctgccc gccacctgct gcgcactgcc ctccgacttt gtgcctctca 25080

cctaccgcga gtgccccccg ccgctatgga gtcactgcta cctgttccgt ctggccaact 25140

atctctccta ccactcggat gtgatcgagg atgtgagcgg agacggcttg ctggagtgtc 25200

actgccgctg caatctgtgc acgccccacc ggtccctagc ttgcaacccc cagttgatga 25260

gcgaaaccca gataataggc acctttgaat tgcaaggccc cagcagccaa ggcgatgggt 25320

cttctcctgg gcaaagttta aaactgaccc cgggactgtg gacctccgcc tacttgcgca 25380

agtttgctcc ggaagattac cacccctatg aaatcaagtt ctatgaggac caatcacagc 25440

ctccaaaggc cgaactttcg gcctgcgtca tcacccaggg ggcaattctg gcccaattgc 25500

aagccatcca aaaatcccgc caagaatttc tactgaaaaa gggtaagggg gtctaccttg 25560

acccccagac cggcgaggaa ctcaacacaa ggttccctca ggatgtccca acgacgagaa 25620

aacaagaagt tgaaggtgca gccgccgccc ccagaagata tggaggaaga ttgggacagt 25680

caggcagagg aggcggagga ggacagtctg gaggacagtc tggaggaaga cagtttggag 25740

gaggaaaacg aggaggcaga ggaggtggaa gaagtaaccg ccgacaaaca gttatcctcg 25800

gctgcggaga caagcaacag cgctaccatc tccgctccga gtcgaggaac ccggcggcgt 25860

cccagcagta gatgggacga gaccggacgc ttcccgaacc caaccagcgc ttccaagacc 25920

ggtaagaagg atcggcaggg atacaagtcc tggcgggggc ataagaatgc catcatctcc 25980

tgcttgcatg agtgcggggg caacatatcc ttcacgcggc gctacttgct attccaccat 26040

ggggtgaact ttccgcgcaa tgttttgcat tactaccgtc acctccacag cccctactat 26100

agccagcaaa tcccggcagt ctcgacagat aaagacagcg gcggcgacct ccaacagaaa 26160

accagcagcg gcagttagaa aatacacaac aagtgcagca acaggaggat taaagattac 26220

agccaacgag ccagcgcaaa cccgagagtt aagaaatcgg atctttccaa ccctgtatgc 26280

catcttccag cagagtcggg gtcaagagca ggaactgaaa ataaaaaacc gatctctgcg 26340

ttcgctcacc agaagttgtt tgtatcacaa gagcgaagat caacttcagc gcactctcga 26400

ggacgccgag gctctcttca acaagtactg cgcgctgact cttaaagagt aggcagcgac 26460

cgcgcttatt caaaaaaggc gggaattaca tcatcctcga catgagtaaa gaaattccca 26520

cgccttacat gtggagttat caaccccaaa tgggattggc ggcaggcgcc tcccaggact 26580

actccacccg catgaattgg ctcagcgccg ggccttctat gatttctcga gttaatgata 26640

tacgcgccta ccgaaaccaa atacttttgg aacagtcagc tcttaccacc acgccccgcc 26700

aacaccttaa tcccagaaat tggcccgccg ccctagtgta ccaggaaagt cccgctccca 26760

ccactgtatt acttcctcga gacgcccagg ccgaagtcca aatgactaat gcaggtgcgc 26820

agttagctgg cggctccacc ctatgtcgtc acaggcctcg gcataatata aaacgcctga 26880

tgatcagagg ccgaggtatc cagctcaacg acgagtcggt gagctctccg cttggtctac 26940

gaccagacgg aatctttcag attgccggct gcgggagatc ttccttcacc cctcgtcagg 27000

ctgttctgac tttggaaagt tcgtcttcgc aaccccgctc gggcggaatc gggaccgttc 27060

aatttgtgga ggagtttact ccctctgtct acttcaaccc cttctccgga tctcctgggc 27120

attacccgga cgagttcata ccgaacttcg acgcgattag cgagtcagtg gacggctacg 27180

attgatgtct ggtgacgcgg ctgagctatc tcggctgcga catctagacc actgccgccg 27240

ctttcgctgc tttgcccggg aactcattga gttcatctac ttcgaactcc ccaaggatca 27300

ccctcaaggt ccggcccacg gagtgcggat ttctatcgaa ggcaaaatag actctcgcct 27360

gcaacgaatt ttctcccagc ggcccgtgct gatcgagcga gaccagggaa acaccacggt 27420

ttccatctac tgcatttgta atcaccccgg attgcatgaa agcctttgct gtcttatgtg 27480

tactgagttt aataaaaact gaattaagac tctcctacgg actgccgctt cttcaacccg 27540

gattttacaa ccagaagaac gaaacttttc ctgtcgtcca ggactctgtt aacttcacct 27600

ttcctactca caaactagaa gctcaacgac tacaccgctt ttccagaagc attttcccta 27660

ctaatactac tttcaaaacc ggaggtgagc tccaaggtct tcctacagaa aacccttggg 27720

tggaagcggg ccttgtagtg ctaggaattc ttgcgggtgg gcttgtgatt attctttgct 27780

acctatacac accttgcttc actttcttag tggtgttgtg gtattggttt aaaaaatggg 27840

gcccatacta gtcttgcttg ttttactttc gcttttggaa ccgggttctg ccaattacga 27900

tccatgtcta gacttcgacc cagaaaactg cacacttact tttgcacccg acacaagccg 27960

catctgtgga gttcatcgcc tctcttacga acttggcccc caacgacaaa aatttacctg 28020

catggtggga atcaacccca tagttatcac ccagcaaagt ggagatacta agggttgcat 28080

tcactgctcc tgcgattcca tcgagtgcac ctacaccctg ctgaagaccc tatgcggcct 28140

aagagacctg ctaccaatga attaaaaaat gattaataaa aaatcactta cttgaaatca 28200

gcaataaggt ctctgttgaa attttctccc agcagcacct cacttccctc ttcccaactc 28260

tggtattcta aaccccgttc agcggcatac tttctccata ctttaaaggg gatgtcaaat 28320

tttagctcct ctcctgtacc cacaatcttc atgtctttct tcccagatga ccaagagagt 28380

ccggctcagt gactccttca accctgtcta cccctatgaa gatgaaagca cctcccaaca 28440

ccccttttata aacccagggt ttatttcccc aaatggcttc acacaaagcc caaacggagt 28500

tcttacttta aaatgtttaa ccccactaac aaccacaggc ggatctctac agctaaaagt 28560

gggaggggga cttacagtgg atgacaccaa cggtttttg aaagaaaaca taagtgccac 28620

cacaccactc gttaagactg gtcactctat aggtttacca ctaggagccg gattgggaac 28680

gaatgaaaat aaactttgta tcaaattagg acaaggactt acattcaatt caaacaacat 28740

ttgcattgat gacaatatta acaccttatg gacaggagtc aaccccaccg aagccaactg 28800

tcaaatcatg aactccagtg aatctaatga ttgcaaatta attctaacac tagttaaaac 28860

tggagcacta gtcactgcat ttgtttatgt tataggagta tctaacaatt ttaatatgct 28920

aactacacac agaaatataa attttactgc agagctgttt ttcgattcta ctggtaattt 28980

actaactaga ctctcatccc tcaaaactcc acttaatcat aaatcaggac aaaacatggc 29040

tactggtgcc attactaatg ctaaaggttt catgcccagc acgactgcct atcctttcaa 29100

tgataattct agagaaaaag aaaactacat ttacggaact tgttactaca cagctagtga 29160

tcgcactgct tttcccattg acatatctgt catgcttaac cgaagagcaa taaatgacga 29220

gacatcatat tgtattcgta taacttggtc ctggaacaca ggagatgccc cagaggtgca 29280

aacctctgct acaaccctag tcacctcccc atttaccttt tactacatca gagaagacga 29340

ctgacaaata aagtttgcga tcgccaggcc caccatgggc tggagctgca tcatcttgtt 29400

cctggtcgca actgctaccg gagtccattc ggacatcgtc atgacccaaa gccctgactc 29460

gctcgctgtg tcactgggag agcgggcgac tatcaactgc aaatcatccc agagcctgct 29520

gtattcacgc aatcagaaaa actacctggc ctggtatcag cagaagccgg gccagcctcc 29580

caagctgctg atcttctggg cctccacccg cgaaagcggc gtgccggacc gcttcagcgg 29640

aagcggattc ggaactgact ttactctgac cattagctcc ttgcaggcgg aggacgtggc 29700

cgtctactac tgccagcagt atttctccta tccgctcacc tttgggcaag gcaccaaggt 29760

ggagattaag ggaggggcg gcagcggggg aggcggcagc ggcggcgggg gatcgcaggt 29820

ccagctcgtc caatccggag ccgaagtcaa gaagccggga gcgtcggtca aggtcagctg 29880

caaaacttcg cgctacacct tcactgagta cacgatccac tgggtccgcc aggcgcccgg 29940

ccagcggctg gagtggatcg gcgggatcaa cccaaacaac ggaatcccaa attacaatca 30000

gaaatttaaa gggcgggtga ctatcaccgt ggatacctcg gcctccacgg cgtacatgga 30060

gctctcatca ctcagatcgg aggacaccgc ggtctattac tgcgcccgcc gccggatcgc 30120

ttatggatac gatgaaggac atgcgatgga ttactggggc cagggcaccc tcgtcacggt 30180

gtcgtcagga ggcggcggtt cagatgtgca actcgtgcag tccggtgcgg aagtgaaaaa 30240

gccgggcgcg agcgtcaaag tgtcatgcaa ggcgtcagga tatacgttta ctagatacac 30300

tatgcactgg gtgcgccagg cacctggtca gggccttgaa tggatcggct acatcaatcc 30360

gtcgagaggc tacactaatt acgcggactc agtcaaaggg cgcttcacga ttacgaccga 30420

caagtccacc tcgactgcat acatggaact gtcctcgctg agaagcgagg acaccgctac 30480

ttactactgc gctagatact acgatgatca ctactgcctc gattactggg gccagggaac 30540

cactgtcacg gtgtcatcgg gagagggcac ctcaaccgga tcaggggat cgggaggctc 30600

gggcggcgca gacgacatcg tcctgaccca gtcgcccgcc accttgtcgc tgtccccagg 30660

agaaagagcg accctgtcat gccgggcgtc gcaaagcgtg agctatatga attggtatca 30720

gcagaagcca ggaaaggcgc cgaagagatg gatctacgac acctccaagg tcgcttcagg 30780

tgtcccggct agattctcag gatcgggatc aggaacggac tactccctga ccatcaattc 30840

actggaagca gaagatgcgg ccacctacta ctgtcagcag tggtcctcca acccgctgac 30900

tttcggaggc ggaactaagg tcgagatcaa gcatcaccat caccatcacc accatcacca 30960

ttaggctagc ttgactgact gagatacagc gtaccttcag ctcacagaca tgataagata 31020

cattgatgag tttggacaaa ccacaactag aatgcagtga aaaaaatgct ttatttgtga 31080

aatttgtgat gctattgctt tatttgtaac cattataagc tgcaataaac aagttaacaa 31140

caacaattgc attcatttta tgtttcaggt tcaggggga gtgtgggagg ttttttaaag 31200

caagtaaaac ctctacaaat gtggtagtcg tcagctatcc tgcaggaact tgtttatttg 31260

aaaatcaatt cacaaaatcc gagtagttat tttgcctccc ccttcccatt taacagaata 31320

caccaatctc tccccacgca cagctttaaa catttggata ccattagata tagacatggt 31380

tttagattcc acattccaaa cagtttcaga gcgagccaat ctggggtcag tgatagataa 31440

aaatccatcg ggatagtctt ttaaagcgct ttcacagtcc aactgctgcg gatgcgactc 31500

cggagtctgg atcacggtca tctggaagaa gaacgatggg aatcataatc cgaaaacggt 31560

atcggacgat tgtgtctcat caaacccaca agcagccgct gtctgcgtcg ctccgtgcga 31620

ctgctgttta tgggatcagg gtccacagtg tcctgaagca tgattttaat agcccttaac 31680

atcaactttc tggtgcgatg cgcgcagcaa cgcattctga tttcactcaa atctttgcag 31740

taggtacaac acattattac aatattgttt aataaaccat aattaaaagc gctccagcca 31800

aaactcatat ctgatataat cgcccctgca tgaccatcat accaaagttt aatataaatt 31860

aaatgacgtt ccctcaaaaa cacactaccc acatacatga tctcttttgg catgtgcata 31920

ttaacaatct gtctgtacca tggacaacgt tggttaatca tgcaacccaa tataaccttc 31980

cggaaccaca ctgccaacac cgctccccca gccatgcatt gaagtgaacc ctgctgatta 32040

caatgacaat gaagaaccca attctctcga ccgtgaatca cttgagaatg aaaaatatct 32100

atagtggcac aacatagaca taaatgcatg catcttctca taatttttaa ctcctcagga 32160

tttagaaaca tatcccaggg aataggaagc tcttgcagaa cagtaaagct ggcagaacaa 32220

ggaagaccac gaacacaact tacactatgc atagtcatag tatcacaatc tggcaacagc 32280

gggtggtctt cagtcataga agctcgggtt tcattttcct cacaacgtgg taactgggct 32340

ctggtgtaag ggtgatgtct ggcgcatgat gtcgagcgtg cgcgcaacct tgtcataatg 32400

gagttgcttc ctgacattct cgtattttgt atagcaaaac gcggccctgg cagaacacac 32460

tcttcttcgc cttctatcct gccgcttagc gtgttccgtg tgatagttca agtacaacca 32520

cactcttaag ttggtcaaaa gaatgctggc ttcagttgta atcaaaactc catcgcatct 32580

aatcgttctg aggaaatcat ccaagcaatg caactggatt gtgtttcaag caggagagga 32640

gagggaagag acggaagaac catgttaatt tttattccaa acgatctcgc agtacttcaa 32700

attgtagatc gcgcagatgg catctctcgc ccccactgtg ttggtgaaaa agcacagcta 32760

gatcaaaaga aatgcgattt tcaaggtgct caacggtggc ttccagcaaa gcctccacgc 32820

gcacatccaa gaacaaaaga ataccaaaag aaggagcatt ttctaactcc tcaatcatca 32880

tattacattc ctgcaccatt cccagataat tttcagcttt ccagccttga attattcgtg 32940

tcagttcttg tggtaaatcc aatccacaca ttacaaacag gtcccggagg gcgccctcca 33000

ccaccattct taaacacacc ctcataatga caaaatatct tgctcctgtg tcacctgtag 33060

cgaattgaga atggcaacat caattgacat gcccttggct ctaagttctt ctttaagttc 33120

tagttgtaaa aactctctca tattatcacc aaactgctta gccagaagcc ccccgggaac 33180

aagagcaggg gacgctacag tgcagtacaa gcgcagacct ccccaattgg ctccagcaaa 33240

aacaagattg gaataagcat attgggaacc gccagtaata tcatcgaagt tgctggaaat 33300

ataatcaggc agagtttctt gtaaaaattg aataaaagaa aaatttgcca aaaaaacatt 33360

caaaacctct gggatgcaaa tgcaataggt taccgcgctg cgctccaaca ttgttagttt 33420

tgaattagtc tgcaaaaata aaaaaaaaaa caagcgtcat atcatagtag cctgacgaac 33480

agatggataa atcagtcttt ccatcacaag acaagccaca gggtctccag ctcgaccctc 33540

gtaaaacctg tcatcatgat taaacaacag caccgaaagt tcctcgcggt gaccagcatg 33600

aataattctt gatgaagcat acaatccaga catgttagca tcagttaacg agaaaaaaca 33660

gccaacatag cctttgggta taattatgct taatcgtaag tatagcaaag ccacccctcg 33720

cggatacaaa gtaaaaggca caggagaata aaaaatataa ttatttctct gctgctgttc 33780

aggcaacgtc gcccccggtc cctctaaata cacatacaaa gcctcatcag ccatggctta 33840

ccagacaaag tacagcgggc acacaaagca caagctctaa agtgactctc caacctctcc 33900

acaatatata tatacacaag ccctaaactg acgtaatggg agtaaagtgt aaaaaatccc 33960

gccaaaccca acacacaccc cgaaactgcg tcaccaggga aaagtacagt ttcacttccg 34020

caatcccaac aggcgtaact tcctctttct cacggtacgt gatatcccac taacttgcaa 34080

cgtcattttc ccacggtcgc accgcccctt ttagccgtta accccacagc caatcaccac 34140

acgatccaca ctttttaaaa tcacctcatt tacatattgg caccattcca tctataaggt 34200

atattatata gataga 34216

<210> 28
<211> 32326
<212> DNA
<213> Artificial Sequence

<220>
<223> EnAd genome

<400> 28
tctatctata taatatacct tatagatgga atggtgccaa tatgtaaatg aggtgatttt 60

aaaaagtgtg gatcgtgtgg tgattggctg tggggttaac ggctaaaagg ggcggtgcga 120

ccgtgggaaa atgacgtttt gtgggggtgg agttttttg caagttgtcg cgggaaatgt 180

gacgcataaa aaggcttttt tctcacggaa ctacttagtt ttcccacggt atttaacagg 240

aaatgaggta gttttgaccg gatgcaagtg aaaattgttg attttcgcgc gaaaactgaa 300

tgaggaagtg tttttctgaa taatgtggta tttatggcag ggtggagtat ttgttcaggg 360

ccaggtagac tttgacccat tacgtggagg tttcgattac cgtgtttttt acctgaattt 420

ccgcgtaccg tgtcaaagtc ttctgttttt acgtaggtgt cagctgatcg ctagggtatt 480

tatacctcag ggtttgtgtc aagaggccac tcttgagtgc cagcgagaag agttttctcc 540

tctgcgccgg cagtttaata ataaaaaaat gagagatttg cgatttctgc ctcaggaaat 600

aatctctgct gagactggaa atgaaatatt ggagcttgtg gtgcacgccc tgatgggaga 660

cgatccggag ccacctgtgc agctttttga gcctcctacg cttcaggaac tgtatgattt 720

agaggtagag ggatcggagg attctaatga ggaagctgta aatggctttt ttaccgattc 780

tatgctttta gctgctaatg aagggttaga attagatccg cctttggaca cttttgatac 840

tccaggggta attgtggaaa gcggtacagg tgtaagaaaa ttacctgatt tgagttccgt 900

ggactgtgat ttgcactgct atgaagacgg gtttcctccg agtgatgagg aggaccatga 960

aaaggagcag tccatgcaga ctgcagcggg tgagggagtg aaggctgcca atgttggttt 1020

tcagttggat tgcccggagc ttcctggaca tggctgtaag tcttgtgaat ttcacaggaa 1080

aaatactgga gtaaaggaac tgttatgttc gctttgttat atgagaacgc actgccactt 1140

tatttacagt aagtgtgttt aagttaaaat ttaaaggaat atgctgtttt tcacatgtat 1200

attgagtgtg agttttgtgc ttcttattat aggtcctgtg tctgatgctg atgaatcacc 1260

atctcctgat tctactacct cacctcctga gattcaagca cctgttcctg tggacgtgcg 1320

caagcccatt cctgtgaagc ttaagcctgg gaaacgtcca gcagtggaaa aacttgagga 1380

cttgttacag ggtggggacg gacctttgga cttgagtaca cggaaacgtc caagacaata 1440

agtgttccat atccgtgttt acttaaggtg acgtcaatat ttgtgtgaca gtgcaatgta 1500

ataaaaatat gttaactgtt cactggtttt tattgctttt tgggcgggga ctcaggtata 1560

taagtagaag cagacctgtg tggttagctc ataggagctg gctttcatcc atggaggttt 1620

gggccatttt ggaagacctt aggaagacta ggcaactgtt agagaacgct tcggacggag 1680

tctccggttt ttggagattc tggttcgcta gtgaattagc tagggtagtt tttaggataa 1740

aacaggacta taaacaagaa tttgaaaagt tgttggtaga ttgcccagga ctttttgaag 1800

ctcttaattt gggccatcag gttcacttta aagaaaaagt tttatcagtt ttagactttt 1860

caaccccagg tagaactgct gctgctgtgg cttttcttac ttttatatta gataaatgga 1920

tcccgcagac tcatttcagc aggggatacg ttttggattt catagccaca gcattgtgga 1980

gaacatggaa ggttcgcaag atgaggacaa tcttaggtta ctggccagtg cagcctttgg 2040

gtgtagcggg aatcctgagg catccaccgg tcatgccagc ggttctggag gaggaacagc 2100

aagaggacaa cccgagagcc ggcctggacc ctccagtgga ggaggcggag tagctgactt 2160

gtctcctgaa ctgcaacggg tgcttactgg atctacgtcc actggacggg ataggggcgt 2220

taagagggag agggcatcta gtggtactga tgctagatct gagttggctt taagtttaat 2280

gagtcgcaga cgtcctgaaa ccatttggtg gcatgaggtt cagaaagagg gaagggatga 2340

agtttctgta ttgcaggaga aatattcact ggaacaggtg aaaacatgtt ggttggagcc 2400

tgaggatgat tgggaggtgg ccattaaaaa ttatgccaag atagctttga ggcctgataa 2460

acagtataag attactagac ggattaatat ccggaatgct tgttacatat ctggaaatgg 2520

ggctgaggtg gtaatagata ctcaagacaa ggcagttatt agatgctgca tgatggatat 2580

gtggcctggg gtagtcggta tggaagcagt aacttttgta aatgttaagt ttaggggaga 2640

tggttataat ggaatagtgt ttatggccaa taccaaactt atattgcatg gttgtagctt 2700

ttttggtttc aacaatacct gtgtagatgc ctggggacag gttagtgtac ggggatgtag 2760

tttctatgcg tgttggattg ccacagctgg cagaaccaag agtcaattgt ctctgaagaa 2820

atgcatattt caaagatgta acctgggcat tctgaatgaa ggcgaagcaa gggtccgcca 2880

ctgcgcttct acagatactg gatgttttat tttgattaag ggaaatgcca gcgtaaagca 2940

taacatgatt tgcggtgctt ccgatgagag gccttatcaa atgctcactt gtgctggtgg 3000

gcattgtaat atgctggcta ctgtgcatat tgtttcccat caacgcaaaa aatggcctgt 3060

ttttgatcac aatgtgatga cgaagtgtac catgcatgca ggtgggcgta gaggaatgtt 3120

tatgccttac cagtgtaaca tgaatcatgt gaaagtgttg ttggaaccag atgccttttc 3180

cagaatgagc ctaacaggaa tttttgacat gaacatgcaa atctggaaga tcctgaggta 3240

tgatgatacg agatcgaggg tacgcgcatg cgaatgcgga ggcaagcatg ccaggttcca 3300

gccggtgtgt gtagatgtga ctgaagatct cagaccggat catttggtta ttgcccgcac 3360

tggagcagag ttcggatcca gtggagaaga aactgactaa ggtgagtatt gggaaaactt 3420

tggggtggga ttttcagatg gacagattga gtaaaaattt gtttttttctg tcttgcagct 3480

gtcatgagtg gaaacgcttc ttttaagggg ggagtcttca gcccttatct gacagggcgt 3540

ctcccatcct gggcaggagt tcgtcagaat gttatgggat ctactgtgga tggaagaccc 3600

gtccaacccg ccaattcttc aacgctgacc tatgctactt taagttcttc acctttggac 3660

gcagctgcag ctgccgccgc cgcttctgtt gccgctaaca ctgtgcttgg aatgggttac 3720

tatggaagca tcatggctaa ttccacttcc tctaataacc cttctaccct gactcaggac 3780

aagttacttg tccttttggc ccagctggag gctttgaccc aacgtctggg tgaactttct 3840

cagcaggtgg tcgagttgcg agtacaaact gagtctgctg tcggcacggc aaagtctaaa 3900

taaaaaaatc ccagaatcaa tgaataaata aacaagcttg ttgttgattt aaaatcaagt 3960

gtttttattt catttttcgc gcacggtatg ccctagacca ccgatctcta tcattgagaa 4020

ctcggtggat tttttccagg atcctataga ggtgggattg aatgtttaga tacatgggca 4080

ttaggccgtc tttggggtgg agatagctcc attgaaggga ttcatgctcc ggggtagtgt 4140

tgtaaatcac ccagtcataa caaggtcgca gtgcatggtg ttgcacaata tcttttagaa 4200

gtaggctgat tgccacagat aagcccttgg tgtaggtgtt tacaaaccgg ttgagctggg 4260

atgggtgcat tcggggtgaa attatgtgca ttttggattg gatttttaag ttggcaatat 4320

tgccgccaag atcccgtctt gggttcatgt tatgaaggac caccaagacg gtgtatccgg 4380

tacatttagg aaatttatcg tgcagcttgg atggaaaagc gtggaaaaat ttggagacac 4440

ccttgtgtcc tccaagattt tccatgcact catccatgat aatagcaatg gggccgtggg 4500

cagcggcgcg ggcaaacacg ttccgtgggt ctgacacatc atagttatgt tcctgagtta 4560

aatcatcata agccatttta atgaatttgg ggcggagagt accagattgg ggtatgaatg 4620

ttccttcggg ccccggagca tagttcccct cacagatttg catttcccaa gctttcagtt 4680

ccgagggtgg aatcatgtcc acctgggggg ctatgaaaaa caccgtttct ggggcggggg 4740

tgattaattg tgatgatagc aaatttctga gcaattgaga tttgccacat ccggtggggc 4800

cataaatgat tccgattacg ggttgcaggt ggtagtttag ggaacggcaa ctgccgtctt 4860

ctcgaagcaa gggggccacc tcgttcatca tttcccttac atgcatattt tcccgcacca 4920

aatccattag gaggcgctct cctcctagtg atagaagttc ttgtagtgag gaaaagtttt 4980

tcagcggttt cagaccgtca gccatgggca ttttggagag agtttgctgc aaaagttcta 5040

gtctgttcca cagttcagtg atgtgttcta tggcatctcg atccagcaga cctcctcgtt 5100

tcgcgggttt ggacggctcc tggaataggg tatgagacga tgggcgtcca gcgctgccag 5160

ggttcggtcc ttccagggtc tcagtgttcg agtcagggtt gtttccgtca cagtgaaggg 5220

gtgtgcgcct gcttgggcgc ttgccagggt gcgcttcaga ctcatcctgc tggtcgaaaa 5280

cttctgtcgc ttggcgccct gtatgtcggc caagtagcag tttaccatga gttcgtagtt 5340

gagcgcctcg gctgcgtggc ctttggcgcg gagcttacct ttggaagttt tcttgcatac 5400

cgggcagtat aggcatttca gcgcatacaa cttgggcgca aggaaaacgg attctgggga 5460

gtatgcatct gcgccgcagg aggcgcaaac agtttcacat tccaccagcc aggttaaatc 5520

cggttcattg gggtcaaaaa caagttttcc gccatatttt ttgatgcgtt tcttaccttt 5580

ggtctccatg agttcgtgtc ctcgttgagt gacaaacagg ctgtccgtgt ccccgtagac 5640

tgattttaca ggcctcttct ccagtggagt gcctcggtct tcttcgtaca ggaactctga 5700

ccactctgat acaaaggcgc gcgtccaggc cagcacaaag gaggctatgt gggaggggta 5760

gcgatcgttg tcaaccaggg ggtccacctt ttccaaagta tgcaaacaca tgtcaccctc 5820

ttcaacatcc aggaatgtga ttggcttgta ggtgtatttc acgtgacctg gggtccccgc 5880

tgggggggta taaaaggggg cggttctttg ctcttcctca ctgtcttccg gatcgctgtc 5940

caggaacgtc agctgttggg gtaggtattc cctctcgaag gcgggcatga cctctgcact 6000

caggttgtca gtttctaaga acgaggagga tttgatattg acagtgccgg ttgagatgcc 6060

tttcatgagg ttttcgtcca tctggtcaga aaacacaatt tttttattgt caagtttggt 6120

ggcaaatgat ccatacaggg cgttggataa aagtttggca atggatcgca tggtttggtt 6180

cttttccttg tccgcgcgct ctttggcggc gatgttgagt tggacatact cgcgtgccag 6240

gcacttccat tcggggaaga tagttgttaa ttcatctggc acgattctca cttgccaccc 6300

tcgattatgc aaggtaatta aatccacact ggtggccacc tcgcctcgaa ggggttcatt 6360

ggtccaacag agcctacctc ctttcctaga acagaaaggg ggaagtgggt ctagcataag 6420

ttcatcggga gggtctgcat ccatggtaaa gattcccgga agtaaatcct tatcaaaata 6480

gctgatggga gtggggtcat ctaaggccat ttgccattct cgagctgcca gtgcgcgctc 6540

atatgggtta aggggactgc cccatggcat gggatgggtg agtgcagagg catacatgcc 6600

acagatgtca tagacgtaga tgggatcctc aaagatgcct atgtaggttg gatagcatcg 6660

ccccccctctg atacttgctc gcacatagtc atatagttca tgtgatggcg ctagcagccc 6720

cggacccaag ttggtgcgat tgggtttttc tgttctgtag acgatctggc gaaagatggc 6780

gtgagaattg gaagagatgg tgggtctttg aaaaatgttg aaatgggcat gaggtagacc 6840

tacagagtct ctgacaaagt gggcataaga ttcttgaagc ttggttacca gttcggcggt 6900

gacaagtacg tctagggcgc agtagtcaag tgtttcttga atgatgtcat aacctggttg 6960

gtttttcttt tcccacagtt cgcggttgag aaggtattct tcgcgatcct tccagtactc 7020

ttctagcgga aacccgtctt tgtctgcacg gtaagatcct agcatgtaga actgattaac 7080

tgccttgtaa gggcagcagc ccttctctac gggtagagag tatgcttgag cagcttttcg 7140

tagcgaagcg tgagtaaggg caaaggtgtc tctgaccatg actttgagga attggtattt 7200

gaagtcgatg tcgtcacagg ctccctgttc ccagagttgg aagtctaccc gtttcttgta 7260

ggcggggttg ggcaaagcga aagtaacatc attgaagaga atcttgccgg ccctgggcat 7320

gaaattgcga gtgatgcgaa aaggctgtgg tacttccgct cggttattga taacctgggc 7380

agctaggacg atctcgtcga aaccgttgat gttgtgtcct acgatgtata attctatgaa 7440

acgcggcgtg cctctgacgt gaggtagctt actgagctca tcaaaggtta ggtctgtggg 7500

gtcagataag gcgtagtgtt cgagagccca ttcgtgcagg tgaggattcg ctttaaggaa 7560

ggaggaccag aggtccactg ccagtgctgt ttgtaactgg tcccggtact gacgaaaatg 7620

ccgtccgact gccatttttt ctggggtgac gcaatagaag gtttgggggt cctgccgcca 7680

gcgatcccac ttgagtttta tggcgaggtc ataggcgatg ttgacgagcc gctggtctcc 7740

agagagtttc atgaccagca tgaaggggat tagctgcttg ccaaaggacc ccatccaggt 7800

gtaggtttcc acatcgtagg tgagaaagag cctttctgtg cgaggatgag agccaatcgg 7860

gaagaactgg atctcctgcc accagttgga ggaatggctg ttgatgtgat ggaagtagaa 7920

ctccctgcga cgcgccgagc attcatgctt gtgcttgtac agacggccgc agtagtcgca 7980

gcgttgcacg ggttgtatct cgtgaatgag ttgtacctgg cttcccttga cgagaaattt 8040

cagtgggaag ccgaggcctg gcgattgtat ctcgtgcttt actatgttgt ctgcatcggc 8100

ctgttcatct tctgtctcga tggtggtcat gctgacgagc cctcgcggga ggcaagtcca 8160

gacctcggcg cggcaggggc ggagctcgag gacgagagcg cgcaggctgg agctgtccag 8220

ggtcctgaga cgctgcggac tcaggttagt aggcagtgtc aggagattaa cttgcatgat 8280

cttttggagg gcgtgcggga ggttcagata gtacttgatc tcaacgggtc cgttggtgga 8340

gatgtcgatg gcttgcaggg ttccgtgtcc cttgggcgct accaccgtgc ccttgttttt 8400

cattttggac ggcggtggct ctgttgcttc ttgcatgttt agaagcggtg tcgagggcgc 8460

gcaccgggcg gcaggggcgg ctcgggaccc ggcggcatgg ctggcagtgg tacgtcggcg 8520

ccgcgcgcgg gtaggttctg gtactgcgcc ctgagaagac tcgcatgcgc gacgacgcgg 8580

cggttgacat cctggatctg acgcctctgg gtgaaagcta ccggccccgt gagcttgaac 8640

ctgaaagaga gttcaacaga atcaatctcg gtatcgttga cggcggcttg cctaaggatt 8700

tcttgcacgt caccagagtt gtcctggtag gcgatctccg ccatgaactg ctcgatctct 8760

tcctcttgaa gatctccgcg gcccgctctc tcgacggtgg ccgcgaggtc gttggagatg 8820

cgcccaatga gttgagagaa tgcattcatg cccgcctcgt tccagacgcg gctgtagacc 8880

acggccccca cgggatctct cgcgcgcatg accacctggg cgaggttgag ctccacgtgg 8940

cgggtgaaga ccgcatagtt gcataggcgc tggaaaaggt agttgagtgt ggtggcgatg 9000

tgctcggtga cgaagaaata catgatccat cgtctcagcg gcatctcgct gacatcgccc 9060

agagcttcca agcgctccat ggcctcgtag aagtccacgg caaaattaaa aaactgggag 9120

tttcgcgcgg acacggtcaa ctcctcttcc agaagacgga taagttcggc gatggtggtg 9180

cgcacctcgc gctcgaaagc ccctgggatt tcttcctcaa tctcttcttc ttccactaac 9240

atctcttcct cttcaggtgg ggctgcagga ggagggggaa cgcggcgacg ccggcggcgc 9300

acgggcagac ggtcgatgaa tctttcaatg acctctccgc ggcggcggcg catggtttca 9360

gtgacggcgc ggccgttctc gcgcggtcgc agagtaaaaa caccgccgcg catctcctta 9420

aagtggtgac tgggaggttc tccgtttggg agggagaggg cgctgattat acattttatt 9480

aattggcccg tagggactgc acgcagagat ctgatcgtgt caagatccac gggatctgaa 9540

aacctttcga cgaaagcgtc taaccagtca cagtcacaag gtaggctgag tacggcttct 9600

tgtgggcggg ggtggttatg tgttcggtct gggtcttctg tttcttcttc atctcgggaa 9660

ggtgagacga tgctgctggt gatgaaatta aagtaggcag ttctaagacg gcggatggtg 9720

gcgaggagca ccaggtcttt gggtccggct tgctggatac gcaggcgatt ggccattccc 9780

caagcattat cctgacatct agcaagatct ttgtagtagt cttgcatgag ccgttctacg 9840

ggcacttctt cctcacccgt tctgccatgc atacgtgtga gtccaaatcc gcgcattggt 9900

tgtaccagtg ccaagtcagc tacgactctt tcggcgagga tggcttgctg tacttgggta 9960

agggtggctt gaaagtcatc aaaatccaca aagcggtggt aagctcctgt attaatggtg 10020

taagcacagt tggccatgac tgaccagtta actgtctggt gaccagggcg cacgagctcg 10080

gtgtatttaa ggcgcgaata ggcgcgggtg tcaaagatgt aatcgttgca ggtgcgcacc 10140

agatactggt accctataag aaaatgcggc ggtggttggc ggtagagagg ccatcgttct 10200

gtagctggag cgccaggggc gaggtcttcc aacataaggc ggtgatagcc gtagatgtac 10260

ctggacatcc aggtgattcc tgcggcggta gtagaagccc gaggaaactc gcgtacgcgg 10320

ttccaaatgt tgcgtagcgg catgaagtag ttcattgtag gcacggtttg accagtgagg 10380

cgcgcgcagt cattgatgct ctatagacac ggagaaaatg aaagcgttca gcgactcgac 10440

tccgtagcct ggaggaacgt gaacgggttg ggtcgcggtg taccccggtt cgagacttgt 10500

actcgagccg gccggagccg cggctaacgt ggtattggca ctcccgtctc gacccagcct 10560

acaaaaatcc aggatacgga atcgagtcgt tttgctggtt tccgaatggc agggaagtga 10620

gtcctatttt tttttttgc cgctcagatg catcccgtgc tgcgacagat gcgcccccaa 10680

caacagcccc cctcgcagca gcagcagcag caatcacaaa aggctgtccc tgcaactact 10740

gcaactgccg ccgtgagcgg tgcgggacag cccgcctatg atctggactt ggaagagggc 10800

gaaggactgg cacgtctagg tgcgccttca cccgagcggc atccgcgagt tcaactgaaa 10860

aaagattctc gcgaggcgta tgtgccccaa cagaacctat ttagagacag aagcggcgag 10920

gagccggagg agatgcgagc ttcccgcttt aacgcgggtc gtgagctgcg tcacggtttg 10980

gaccgaagac gagtgttgcg ggacgaggat ttcgaagttg atgaaatgac agggatcagt 11040

cctgccaggg cacacgtggc tgcagccaac cttgtatcgg cttacgagca gacagtaaag 11100

gaagagcgta acttccaaaa gtcttttaat aatcatgtgc gaaccctgat tgcccgcgaa 11160

gaagttaccc ttggtttgat gcatttgtgg gatttgatgg aagctatcat tcagaaccct 11220

actagcaaac ctctgaccgc ccagctgttt ctggtggtgc aacacagcag agacaatgag 11280

gctttcagag aggcgctgct gaacatcacc gaacccgagg ggagatggtt gtatgatctt 11340

atcaacattc tacagagtat catagtgcag gagcggagcc tgggcctggc cgagaaggtg 11400

gctgccatca attactcggt tttgagcttg ggaaaatatt acgctcgcaa aatctacaag 11460

actccatacg ttcccataga caaggaggtg aagatagatg ggttctacat gcgcatgacg 11520

ctcaaggtct tgaccctgag cgatgatctt ggggtgtatc gcaatgacag aatgcatcgc 11580

gcggttagcg ccagcaggag gcgcgagtta agcgacaggg aactgatgca cagtttgcaa 11640

agagctctga ctggagctgg aaccgagggt gagaattact tcgacatggg agctgacttg 11700

cagtggcagc ctagtcgcag ggctctgagc gccgcgacgg caggatgtga gcttccttac 11760

atagaagagg cggatgaagg cgaggaggaa gagggcgagt acttggaaga ctgatggcac 11820

aacccgtgtt ttttgctaga tggaacagca agcaccggat cccgcaatgc gggcggcgct 11880

gcagagccag ccgtccggca ttaactcctc ggacgattgg acccaggcca tgcaacgtat 11940

catggcgttg acgactcgca accccgaagc ctttagacag caaccccagg ccaaccgtct 12000

atcggccatc atggaagctg tagtgccttc ccgctctaat cccactcatg agaaggtcct 12060

ggccatcgtg aacgcgttgg tggagaacaa agctattcgt ccagatgagg ccggactggt 12120

atacaacgct ctcttagaac gcgtggctcg ctacaacagt agcaatgtgc aaaccaattt 12180

ggaccgtatg ataacagatg tacgcgaagc cgtgtctcag cgcgaaaggt tccagcgtga 12240

tgccaacctg ggttcgctgg tggcgttaaa tgctttcttg agtactcagc ctgctaatgt 12300

gccgcgtggt caacaggatt atactaactt tttaagtgct ttgagactga tggtatcaga 12360

agtacctcag agcgaagtgt atcagtccgg tcctgattac ttctttcaga ctagcagaca 12420

gggcttgcag acggtaaatc tgagccaagc ttttaaaaac cttaaaggtt tgtggggagt 12480

gcatgccccg gtaggagaaa gagcaaccgt gtctagcttg ttaactccga actcccgcct 12540

attattactg ttggtagctc ctttcaccga cagcggtagc atcgaccgta attcctattt 12600

gggttaccta ctaaacctgt atcgcgaagc catagggcaa agtcaggtgg acgagcagac 12660

ctatcaagaa attacccaag tcagtcgcgc tttgggacag gaagacactg gcagtttgga 12720

agccactctg aacttcttgc ttaccaatcg gtctcaaaag atccctcctc aatatgctct 12780

tactgcggag gaggagagga tccttagata tgtgcagcag agcgtgggat tgtttctgat 12840

gcaagagggg gcaactccga ctgcagcact ggacatgaca gcgcgaaata tggagcccag 12900

catgtatgcc agtaaccgac ctttcattaa caaactgctg gactacttgc acagagctgc 12960

cgctatgaac tctgattatt tcaccaatgc catcttaaac ccgcactggc tgcccccacc 13020

tggtttctac acgggcgaat atgacatgcc cgaccctaat gacggatttc tgtgggacga 13080

cgtggacagc gatgtttttt cacctctttc tgatcatcgc acgtggaaaa aggaaggcgg 13140

cgatagaatg cattcttctg catcgctgtc cggggtcatg ggtgctaccg cggctgagcc 13200

cgagtctgca agtccttttc ctagtctacc cttttctcta cacagtgtac gtagcagcga 13260

agtgggtaga ataagtcgcc cgagtttaat gggcgaagag gagtatctaa acgattcctt 13320

gctcagaccg gcaagagaaa aaaatttccc aaacaatgga atagaaagtt tggtggataa 13380

aatgagtaga tggaagactt atgctcagga tcacagagac gagcctggga tcatggggat 13440

tacaagtaga gcgagccgta gacgccagcg ccatgacaga cagaggggtc ttgtgtggga 13500

cgatgaggat tcggccgatg atagcagcgt gctggacttg ggtgggagag gaaggggcaa 13560

cccgtttgct catttgcgcc ctcgcttggg tggtatgttg taaaaaaaaa taaaaaaaaa 13620

actcaccaag gccatggcga cgagcgtacg ttcgttcttc tttattatct gtgtctagta 13680

taatgaggcg agtcgtgcta ggcggagcgg tggtgtatcc ggagggtcct cctccttcgt 13740

acgagagcgt gatgcagcag cagcaggcga cggcggtgat gcaatcccca ctggaggctc 13800

cctttgtgcc tccgcgatac ctggcaccta cggagggcag aaacagcatt cgttattcgg 13860

aactggcacc tcagtacgat accaccaggt tgtatctggt ggacaacaag tcggcggaca 13920

ttgcttctct gaactatcag aatgaccaca gcaacttctt gaccacggtg gtgcaaaaca 13980

atgactttac ccctacggaa gccagcaccc agaccattaa ctttgatgaa cgatcgcggt 14040

ggggcggtca gctaaagacc atcatgcata ctaacatgcc aaacgtgaac gagtatatgt 14100

ttagtaacaa gttcaaagcg cgtgtgatgg tgtccagaaa acctcccgac ggtgctgcag 14160

ttggggatac ttatgatcac aagcaggata ttttgaaata tgagtggttc gagtttactt 14220

tgccagaagg caacttttca gttactatga ctattgattt gatgaacaat gccatcatag 14280

ataattactt gaaagtgggt agacagaatg gagtgcttga aagtgacatt ggtgttaagt 14340

tcgacaccag gaacttcaag ctgggatggg atcccgaaac caagttgatc atgcctggag 14400

tgtatacgta tgaagccttc catcctgaca ttgtcttact gcctggctgc ggagtggatt 14460

ttaccgagag tcgtttgagc aaccttcttg gtatcagaaa aaaacagcca tttcaagagg 14520

gttttaagat tttgtatgaa gatttagaag gtggtaatat tccggccctc ttggatgtag 14580

atgcctatga gaacagtaag aaagaacaaa aagccaaaat agaagctgct acagctgctg 14640

cagaagctaa ggcaaacata gttgccagcg actctacaag ggttgctaac gctggagagg 14700

tcagaggaga caattttgcg ccaacacctg ttccgactgc agaatcatta ttggccgatg 14760

tgtctgaagg aacggacgtg aaactcacta ttcaacctgt agaaaaagat agtaagaata 14820

gaagctataa tgtgttggaa gacaaaatca acacagccta tcgcagttgg tatctttcgt 14880

acaattatgg cgatcccgaa aaaggagtgc gttcctggac attgctcacc acctcagatg 14940

tcacctgcgg agcagagcag gtctactggt cgcttccaga catgatgaag gatcctgtca 15000

ctttccgctc cactagacaa gtcagtaact accctgtggt gggtgcagag cttatgcccg 15060

tcttctcaaa gagcttctac aacgaacaag ctgtgtactc ccagcagctc cgccagtcca 15120

cctcgcttac gcacgtcttc aaccgctttc ctgagaacca gattttaatc cgtccgccgg 15180

cgcccaccat taccaccgtc agtgaaaacg ttcctgctct cacagatcac gggaccctgc 15240

cgttgcgcag cagtatccgg ggagtccaac gtgtgaccgt tactgacgcc agacgccgca 15300

cctgtcccta cgtgtacaag gcactgggca tagtcgcacc gcgcgtcctt tcaagccgca 15360

ctttctaaaa aaaaaaaaaa tgtccattct tatctcgccc agtaataaca ccggttgggg 15420

tctgcgcgct ccaagcaaga tgtacggagg cgcacgcaaa cgttctaccc aacatcctgt 15480

ccgtgttcgc ggacattttc gcgctccatg gggcgccctc aagggccgca ctcgcgttcg 15540

aaccaccgtc gatgatgtaa tcgatcaggt ggttgccgac gcccgtaatt atactcctac 15600

tgcgcctaca tctactgtgg atgcagttat tgacagtgta gtggctgacg ctcgcaacta 15660

tgctcgacgt aagagccggc gaaggcgcat tgccagacgc caccgagcta ccactgccat 15720

gcgagccgca agagctctgc tacgaagagc tagacgcgtg gggcgaagag ccatgcttag 15780

ggcggccaga cgtgcagctt cgggcgccag cgccggcagg tcccgcaggc aagcagccgc 15840

tgtcgcagcg gcgactattg ccgacatggc ccaatcgcga agaggcaatg tatactgggt 15900

gcgtgacgct gccaccggtc aacgtgtacc cgtgcgcacc cgtccccctc gcacttagaa 15960

gatactgagc agtctccgat gttgtgtccc agcggcgagg atgtccaagc gcaaatacaa 16020

ggaagaaatg ctgcaggtta tcgcacctga agtctacggc caaccgttga aggatgaaaa 16080

aaaaccccgc aaaatcaagc gggttaaaaa ggacaaaaaa gaagaggaag atggcgatga 16140

tgggctggcg gagtttgtgc gcgagtttgc cccacggcga cgcgtgcaat ggcgtgggcg 16200

caaagttcga catgtgttga gacctggaac ttcggtggtc tttacacccg gcgagcgttc 16260

aagcgctact tttaagcgtt cctatgatga ggtgtacggg gatgatgata ttcttgagca 16320

ggcggctgac cgattaggcg agtttgctta tggcaagcgt agtagaataa cttccaagga 16380

tgagacagtg tcgataccct tggatcatgg aaatcccacc cctagtctta aaccggtcac 16440

tttgcagcaa gtgttacccg taactccgcg aacaggtgtt aaacgcgaag gtgaagattt 16500

gtatcccact atgcaactga tggtacccaa acgccagaag ttggaggacg ttttggagaa 16560

agtaaaagtg gatccagata ttcaacctga ggttaaagtg agacccatta agcaggtagc 16620

gcctggtctg ggggtacaaa ctgtagacat taagattccc actgaaagta tggaagtgca 16680

aactgaaccc gcaaagccta ctgccacctc cactgaagtg caaacggatc catggatgcc 16740

catgcctatt acaactgacg ccgccggtcc cactcgaaga tcccgacgaa agtacggtcc 16800

agcaagtctg ttgatgccca attatgttgt acacccatct attattccta ctcctggtta 16860

ccgaggcact cgctactatc gcagccgaaa cagtacctcc cgccgtcgcc gcaagacacc 16920

tgcaaatcgc agtcgtcgcc gtagacgcac aagcaaaccg actcccggcg ccctggtgcg 16980

gcaagtgtac cgcaatggta gtgcggaacc tttgacactg ccgcgtgcgc gttaccatcc 17040

gagtatcatc acttaatcaa tgttgccgct gcctccttgc agatatggcc ctcacttgtc 17100

gccttcgcgt tcccatcact ggttaccgag gaagaaactc gcgccgtaga agagggatgt 17160

tgggacgcgg aatgcgacgc tacaggcgac ggcgtgctat ccgcaagcaa ttgcggggtg 17220

gtttttacc agccttaatt ccaattatcg ctgctgcaat tggcgcgata ccaggcatag 17280

cttccgtggc ggttcaggcc tcgcaacgac attgacattg gaaaaaaacg tataaataaa 17340

aaaaaaaaaa tacaatggac tctgacactc ctggtcctgt gactatgttt tcttagagat 17400

ggaagacatc aatttttcat ccttggctcc gcgacacggc acgaagccgt acatgggcac 17460

ctggagcgac atcggcacga gccaactgaa cgggggcgcc ttcaattgga gcagtatctg 17520

gagcgggctt aaaaattttg gctcaaccat aaaaacatac gggaacaaag cttggaacag 17580

cagtacagga caggcgctta gaaataaact taaagaccag aacttccaac aaaaagtagt 17640

cgatgggata gcttccggca tcaatggagt ggtagatttg gctaaccagg ctgtgcagaa 17700

aaagataaac agtcgtttgg acccgccgcc agcaacccca ggtgaaatgc aagtggagga 17760

agaaattcct ccgccagaaa aacgaggcga caagcgtccg cgtcccgatt tggaagagac 17820

gctggtgacg cgcgtagatg aaccgccttc ttatgaggaa gcaacgaagc ttggaatgcc 17880

caccactaga ccgatagccc caatggccac cggggtgatg aaaccttctc agttgcatcg 17940

acccgtcacc ttggatttgc cccctccccc tgctgctact gctgtacccg cttctaagcc 18000

tgtcgctgcc ccgaaaccag tcgccgtagc caggtcacgt cccgggggcg ctcctcgtcc 18060

aaatgcgcac tggcaaaata ctctgaacag catcgtgggt ctaggcgtgc aaagtgtaaa 18120

acgccgtcgc tgcttttaat taaatatgga gtagcgctta acttgcctat ctgtgtatat 18180

gtgtcattac acgccgtcac agcagcagag gaaaaaagga agaggtcgtg cgtcgacgct 18240

gagttacttt caagatggcc accccatcga tgctgcccca atgggcatac atgcacatcg 18300

ccggacagga tgcttcggag tacctgagtc cgggtctggt gcagttcgcc cgcgccacag 18360

acacctactt caatctggga aataagttta gaaatcccac cgtagcgccg acccacgatg 18420

tgaccaccga ccgtagccag cggctcatgt tgcgcttcgt gcccgttgac cgggaggaca 18480

atacatactc ttacaaagtg cggtacaccc tggccgtggg cgacaacaga gtgctggata 18540

tggccagcac gttctttgac attaggggtg tgttggacag aggtcccagt ttcaaaccct 18600

attctggtac ggcttacaac tccctggctc ctaaaggcgc tccaaataca tctcagtgga 18660

ttgcagaagg tgtaaaaaat acaactggtg aggaacacgt aacagaagag gaaaccaata 18720

ctactactta cacttttggc aatgctcctg taaaagctga agctgaaatt acaaaagaag 18780

gactcccagt aggtttggaa gtttcagatg aagaaagtaa accgatttat gctgataaaa 18840

catatcagcc agaacctcag ctgggagatg aaacttggac tgaccttgat ggaaaaaccg 18900

aaaagtatgg aggcagggct ctcaaacccg atactaagat gaaaccatgc tacgggtcct 18960

ttgccaaacc tactaatgtg aaaggcggtc aggcaaaaca aaaaacaacg gagcagccaa 19020

atcagaaagt cgaatatgat atcgacatgg agtttttga tgcggcatcg cagaaaacaa 19080

acttaagtcc taaaattgtc atgtatgcag aaaatgtaaa tttggaaact ccagacactc 19140

atgtagtgta caaacctgga acagaagaca caagttccga agctaatttg ggacaacaat 19200

ctatgcccaa cagacccaac tacattggct tcagagataa ctttattgga cttatgtact 19260

ataacagtac tggtaacatg ggggtgctgg ctggtcaagc gtctcagtta aatgcagtgg 19320

ttgacttgca ggacagaaac acagaacttt cttaccaact cttgcttgac tctctgggcg 19380

acagaaccag atactttagc atgtggaatc aggctgtgga cagttatgat cctgatgtac 19440

gtgttattga aaatcatggt gtggaagatg aacttcccaa ctactgtttt ccactggacg 19500

gcataggtgt tccaacaacc agttacaaat caatagttcc aaatggagac aatgcgccta 19560

attggaagga acctgaagta aatggaacaa gtgagatcgg acagggtaat ttgtttgcca 19620

tggaaattaa ccttcaagcc aatctatggc gaagtttcct ttattccaat gtggctctat 19680

atctcccaga ctcgtacaaa tacaccccgt ccaatgtcac tcttccagaa aacaaaaaca 19740

cctacgacta catgaacggg cgggtggtgc cgccatctct agtagacacc tatgtgaaca 19800

ttggtgccag gtggtctctg gatgccatgg acaatgtcaa cccattcaac caccaccgta 19860

acgctggctt gcgttaccga tccatgcttc tgggtaacgg acgttatgtg cctttccaca 19920

tacaagtgcc tcaaaaattc ttcgctgtta aaaacctgct gcttctccca ggctcctaca 19980

cttatgagtg gaactttagg aaggatgtga acatggttct acagagttcc ctcggtaacg 20040

acctgcgggt agatggcgcc agcatcagtt tcacgagcat caacctctat gctacttttt 20100

tccccatggc tcacaacacc gcttccaccc ttgaagccat gctgcggaat gacaccaatg 20160

atcagtcatt caacgactac ctatctgcag ctaacatgct ctaccccatt cctgccaatg 20220

caaccaatat tcccatttcc attccttctc gcaactgggc ggctttcaga ggctggtcat 20280

ttaccagact gaaaaccaaa gaaactccct ctttggggtc tggatttgac ccctactttg 20340

tctattctgg ttctattccc tacctggatg gtaccttcta cctgaaccac acttttaaga 20400

aggtttccat catgtttgac tcttcagtga gctggcctgg aaatgacagg ttactatctc 20460

ctaacgaatt tgaaataaag cgcactgtgg atggcgaagg ctacaacgta gcccaatgca 20520

acatgaccaa agactggttc ttggtacaga tgctcgccaa ctacaacatc ggctatcagg 20580

gcttctacat tccagaagga tacaaagatc gcatgtattc atttttcaga aacttccagc 20640

ccatgagcag gcaggtggtt gatgaggtca attacaaaga cttcaaggcc gtcgccatac 20700

cctaccaaca caacaactct ggctttgtgg gttacatggc tccgaccatg cgccaaggtc 20760

aaccctatcc cgctaactat ccctatccac tcattggaac aactgccgta aatagtgtta 20820

cgcagaaaaa gttcttgtgt gacagaacca tgtggcgcat accgttctcg agcaacttca 20880

tgtctatggg ggcccttaca gacttgggac agaatatgct ctatgccaac tcagctcatg 20940

ctctggacat gacctttgag gtggatccca tggatgagcc caccctgctt tatcttctct 21000

tcgaagtttt cgacgtggtc agagtgcatc agccacaccg cggcatcatc gaggcagtct 21060

acctgcgtac accgttctcg gccggtaacg ctaccacgta agaagcttct tgcttcttgc 21120

aaatagcagc tgcaaccatg gcctgcggat cccaaaacgg ctccagcgag caagagctca 21180

gagccattgt ccaagacctg ggttgcggac cctatttttt gggaacctac gataagcgct 21240

tcccggggtt catggccccc gataagctcg cctgtgccat tgtaaatacg gccggacgtg 21300

agacgggggg agagcactgg ttggctttcg gttggaaccc acgttctaac acctgctacc 21360

tttttgatcc ttttggattc tcggatgatc gtctcaaaca gatttaccag tttgaatatg 21420

agggtctcct gcgccgcagc gctcttgcta ccaaggaccg ctgtattacg ctggaaaaat 21480

ctacccagac cgtgcagggt ccccgttctg ccgcctgcgg acttttctgc tgcatgttcc 21540

ttcacgcctt tgtgcactgg cctgaccgtc ccatggacgg aaaccccacc atgaaattgc 21600

taactggagt gccaaacaac atgcttcatt ctcctaaagt ccagcccacc ctgtgtgaca 21660

atcaaaaagc actctaccat tttcttaata cccattcgcc ttattttcgc tcccatcgta 21720

cacacatcga aagggccact gcgttcgacc gtatggatgt tcaataatga ctcatgtaaa 21780

caacgtgttc aataaacatc actttatttt tttacatgta tcaaggctct gcattactta 21840

tttatttaca agtcgaatgg gttctgacga gaatcagaat gacccgcagg cagtgatacg 21900

ttgcggaact gatacttggg ttgccacttg aattcgggaa tcaccaactt gggaaccggt 21960

atatcgggca ggatgtcact ccacagcttt ctggtcagct gcaaagctcc aagcaggtca 22020

ggagccgaaa tcttgaaatc acaattagga ccagtgcttt gagcgcgaga gttgcggtac 22080

accggattgc agcactgaaa caccatcagc gacggatgtc tcacgcttgc cagcacggtg 22140

ggatctgcaa tcatgcccac atccagatct tcagcattgg caatgctgaa cggggtcatc 22200

ttgcaggtct gcctacccat ggcgggcacc caattaggct tgtggttgca atcgcagtgc 22260

agggggatca gtatcatctt ggcctgatcc tgtctgattc ctggatacac ggctctcatg 22320

aaagcatcat attgcttgaa agcctgctgg gctttactac cctcggtata aaacatcccg 22380

caggacctgc tcgaaaactg gttagctgca cagccggcat cattcacaca gcagcgggcg 22440

tcattgttag ctatttgcac cacacttctg ccccagcggt tttgggtgat tttggttcgc 22500

tcgggattct cctttaaggc tcgttgtccg ttctcgctgg ccacatccat ctcgataatc 22560

tgctccttct gaatcataat attgccatgc aggcacttca gcttgccctc ataatcattg 22620

cagccatgag gccacaacgc acagcctgta cattcccaat tatggtgggc gatctgagaa 22680

aaagaatgta tcattccctg cagaaatctt cccatcatcg tgctcagtgt cttgtgacta 22740

gtgaaagtta actggatgcc tcggtgctcc tcgtttacgt actggtgaca gatgcgcttg 22800

tattgttcgt gttgctcagg cattagttta aaagaggttc taagttcgtt atccagcctg 22860

tacttctcca tcagcagaca catcacttcc atgcctttct cccaagcaga caccaggggc 22920

aagctaatcg gattcttaac agtgcaggca gcagctcctt tagccagagg gtcatcttta 22980

gcgatcttct caatgcttct tttgccatcc ttctcaacga tgcgcacggg cgggtagctg 23040

aaacccactg ctacaagttg cgcctcttct ctttcttctt cgctgtcttg actgatgtct 23100

tgcatgggga tatgtttggt cttccttggc ttctttttgg ggggtatcgg aggaggagga 23160

ctgtcgctcc gttccggaga cagggaggat tgtgacgttt cgctcaccat taccaactga 23220

ctgtcggtag aagaacctga ccccacacgg cgacaggtgt ttctcttcgg gggcagaggt 23280

ggaggcgatt gcgaagggct gcggtccgac ctggaaggcg gatgactggc agaacccctt 23340

ccgcgttcgg gggtgtgctc cctgtggcgg tcgcttaact gatttccttc gcggctggcc 23400

attgtgttct cctaggcaga gaaacaacag acatggaaac tcagccattg ctgtcaacat 23460

cgccacgagt gccatcacat ctcgtcctca gcgacgagga aaaggagcag agcttaagca 23520

ttccaccgcc cagtcctgcc accacctcta ccctagaaga taaggaggtc gacgcatctc 23580

atgacatgca gaataaaaaa gcgaaagagt ctgagacaga catcgagcaa gacccgggct 23640

atgtgacacc ggtggaacac gaggaagagt tgaaacgctt tctagagaga gaggatgaaa 23700

actgcccaaa acaacgagca gataactatc accaagatgc tggaaatagg gatcagaaca 23760

ccgactacct catagggctt gacggggaag acgcgctcct taaacatcta gcaagacagt 23820

cgctcatagt caaggatgca ttattggaca gaactgaagt gcccatcagt gtggaagagc 23880

tcagccgcgc ctacgagctt aacctctttt cacctcgtac tccccccaaa cgtcagccaa 23940

acggcacctg cgagccaaat cctcgcttaa acttttatcc agcttttgct gtgccagaag 24000

tactggctac ctatcacatc ttttttaaaa atcaaaaaat tccagtctcc tgccgcgcta 24060

atcgcacccg cgccgatgcc ctactcaatc tgggacctgg ttcacgctta cctgatatag 24120

cttccttgga agaggttcca aagatcttcg agggtctggg caataatgag actcgggccg 24180

caaatgctct gcaaaaggga gaaaatggca tggatgagca tcacagcgtt ctggtggaat 24240

tggaaggcga taatgccaga ctcgcagtac tcaagcgaag catcgaggtc acacacttcg 24300

catatcccgc tgtcaacctg ccccctaaag tcatgacggc ggtcatggac cagttactca 24360

ttaagcgcgc aagtcccctt tcagaagaca tgcatgaccc agatgcctgt gatgagggta 24420

aaccagtggt cagtgatgag cagctaaccc gatggctggg caccgactct cccagggatt 24480

tggaagagcg tcgcaagctt atgatggccg tggtgctggt taccgtagaa ctagagtgtc 24540

tccgacgttt ctttaccgat tcagaaacct tgcgcaaact cgaagagaat ctgcactaca 24600

cttttagaca cggctttgtg cggcaggcat gcaagatatc taacgtggaa ctcaccaacc 24660

tggtttccta catgggtatt ctgcatgaga atcgcctagg acaaagcgtg ctgcacagca 24720

ccctgaaggg ggaagcccgc cgtgattaca tccgcgattg tgtctatctg tacctgtgcc 24780

acacgtggca aaccggcatg ggtgtatggc agcaatgttt agaagaacag aacttgaaag 24840

agcttgacaa gctcttacag aaatctctta aggttctgtg gacagggttc gacgagcgca 24900

ccgtcgcttc cgacctggca gacctcatct tcccagagcg tctcagggtt actttgcgaa 24960

acggattgcc tgactttatg agccagagca tgcttaacaa ttttcgctct ttcatcctgg 25020

aacgctccgg tatcctgccc gccacctgct gcgcactgcc ctccgacttt gtgcctctca 25080

cctaccgcga gtgcccccg ccgctatgga gtcactgcta cctgttccgt ctggccaact 25140

atctctccta ccactcggat gtgatcgagg atgtgagcgg agacggcttg ctggagtgtc 25200

actgccgctg caatctgtgc acgccccacc ggtccctagc ttgcaacccc cagttgatga 25260

gcgaaaccca gataataggc acctttgaat tgcaaggccc cagcagccaa ggcgatgggt 25320

cttctcctgg gcaaagttta aaactgaccc cgggactgtg gacctccgcc tacttgcgca 25380

agtttgctcc ggaagattac cacccctatg aaatcaagtt ctatgaggac caatcacagc 25440

ctccaaaggc cgaactttcg gcctgcgtca tcacccaggg ggcaattctg gcccaattgc 25500

aagccatcca aaaatcccgc caagaatttc tactgaaaaa gggtaagggg gtctaccttg 25560

acccccagac cggcgaggaa ctcaacacaa ggttccctca ggatgtccca acgacgagaa 25620

aacaagaagt tgaaggtgca gccgccgccc ccagaagata tggaggaaga ttgggacagt 25680

caggcagagg aggcggagga ggacagtctg gaggacagtc tggaggaaga cagtttggag 25740

gaggaaaacg aggaggcaga ggaggtggaa gaagtaaccg ccgacaaaca gttatcctcg 25800

gctgcggaga caagcaacag cgctaccatc tccgctccga gtcgaggaac ccggcggcgt 25860

cccagcagta gatgggacga gaccggacgc ttcccgaacc caaccagcgc ttccaagacc 25920

ggtaagaagg atcggcaggg atacaagtcc tggcgggggc ataagaatgc catcatctcc 25980

tgcttgcatg agtgcggggg caacatatcc ttcacgcggc gctacttgct attccaccat 26040

ggggtgaact ttccgcgcaa tgttttgcat tactaccgtc acctccacag cccctactat 26100

agccagcaaa tcccggcagt ctcgacagat aaagacagcg gcggcgacct ccaacagaaa 26160

accagcagcg gcagttagaa aatacacaac aagtgcagca acaggaggat taaagattac 26220

agccaacgag ccagcgcaaa cccgagagtt aagaaatcgg atctttccaa ccctgtatgc 26280

catcttccag cagagtcggg gtcaagagca ggaactgaaa ataaaaaacc gatctctgcg 26340

ttcgctcacc agaagttgtt tgtatcacaa gagcgaagat caacttcagc gcactctcga 26400

ggacgccgag gctctcttca acaagtactg cgcgctgact cttaaagagt aggcagcgac 26460

cgcgcttatt caaaaaaggc gggaattaca tcatcctcga catgagtaaa gaaattccca 26520

cgccttacat gtggagttat caaccccaaa tgggattggc ggcaggcgcc tcccaggact 26580

actccacccg catgaattgg ctcagcgccg ggccttctat gatttctcga gttaatgata 26640

tacgcgccta ccgaaaccaa atacttttgg aacagtcagc tcttaccacc acgccccgcc 26700

aacaccttaa tcccagaaat tggcccgccg ccctagtgta ccaggaaagt cccgctccca 26760

ccactgtatt acttcctcga gacgcccagg ccgaagtcca aatgactaat gcaggtgcgc 26820

agttagctgg cggctccacc ctatgtcgtc acaggcctcg gcataatata aaacgcctga 26880

tgatcagagg ccgaggtatc cagctcaacg acgagtcggt gagctctccg cttggtctac 26940

gaccagacgg aatctttcag attgccggct gcgggagatc ttccttcacc cctcgtcagg 27000

ctgttctgac tttggaaagt tcgtcttcgc aaccccgctc gggcggaatc gggaccgttc 27060

aatttgtgga ggagtttact ccctctgtct acttcaaccc cttctccgga tctcctgggc 27120

attacccgga cgagttcata ccgaacttcg acgcgattag cgagtcagtg gacggctacg 27180

attgatgtct ggtgacgcgg ctgagctatc tcggctgcga catctagacc actgccgccg 27240

ctttcgctgc tttgcccggg aactcattga gttcatctac ttcgaactcc ccaaggatca 27300

ccctcaaggt ccggcccacg gagtgcggat ttctatcgaa ggcaaaatag actctcgcct 27360

gcaacgaatt ttctcccagc ggcccgtgct gatcgagcga gaccagggaa acaccacggt 27420

ttccatctac tgcatttgta atcaccccgg attgcatgaa agcctttgct gtcttatgtg 27480

tactgagttt aataaaaact gaattaagac tctcctacgg actgccgctt cttcaacccg 27540

gattttacaa ccagaagaac gaaacttttc ctgtcgtcca ggactctgtt aacttcacct 27600

ttcctactca caaactagaa gctcaacgac tacaccgctt ttccagaagc attttcccta 27660

ctaatactac tttcaaaacc ggaggtgagc tccaaggtct tcctacagaa aacccttggg 27720

tggaagcggg ccttgtagtg ctaggaattc ttgcgggtgg gcttgtgatt attctttgct 27780

acctatacac accttgcttc actttcttag tggtgttgtg gtattggttt aaaaaatggg 27840

gcccatacta gtcttgcttg ttttactttc gcttttggaa ccgggttctg ccaattacga 27900

tccatgtcta gacttcgacc cagaaaactg cacacttact tttgcacccg acacaagccg 27960

catctgtgga gttcatcgcc tctcttacga acttggcccc caacgacaaa aatttacctg 28020

catggtggga atcaacccca tagttatcac ccagcaaagt ggagatacta agggttgcat 28080

tcactgctcc tgcgattcca tcgagtgcac ctacaccctg ctgaagaccc tatgcggcct 28140

aagagacctg ctaccaatga attaaaaaat gattaataaa aaatcactta cttgaaatca 28200

gcaataaggt ctctgttgaa attttctccc agcagcacct cacttccctc ttcccaactc 28260

tggtattcta aaccccgttc agcggcatac tttctccata ctttaaaggg gatgtcaaat 28320

tttagctcct ctcctgtacc cacaatcttc atgtctttct tcccagatga ccaagagagt 28380

ccggctcagt gactccttca accctgtcta cccctatgaa gatgaaagca cctcccaaca 28440

ccccttttata aacccagggt ttatttcccc aaatggcttc acacaaagcc caaacggagt 28500

tcttacttta aaatgtttaa ccccactaac aaccacaggc ggatctctac agctaaaagt 28560

gggaggggga cttacagtgg atgacaccaa cggttttttg aaagaaaaca taagtgccac 28620

cacaccactc gttaagactg gtcactctat aggtttacca ctaggagccg gattgggaac 28680

gaatgaaaat aaactttgta tcaaattagg acaaggactt acattcaatt caaacaacat 28740

ttgcattgat gacaatatta acaccttatg gacaggagtc aaccccaccg aagccaactg 28800

tcaaatcatg aactccagtg aatctaatga ttgcaaatta attctaacac tagttaaaac 28860

tggagcacta gtcactgcat ttgtttatgt tataggagta tctaacaatt ttaatatgct 28920

aactacacac agaaatataa attttactgc agagctgttt ttcgattcta ctggtaattt 28980

actaactaga ctctcatccc tcaaaactcc acttaatcat aaatcaggac aaaacatggc 29040

tactggtgcc attactaatg ctaaaggttt catgcccagc acgactgcct atcctttcaa 29100

tgataattct agagaaaaag aaaactacat ttacggaact tgttactaca cagctagtga 29160

tcgcactgct tttcccattg acatatctgt catgcttaac cgaagagcaa taaatgacga 29220

gacatcatat tgtattcgta taacttggtc ctggaacaca ggagatgccc cagaggtgca 29280

aacctctgct acaaccctag tcacctcccc atttaccttt tactacatca gagaagacga 29340

ctgacaaata aagtttaact tgtttatttg aaaatcaatt cacaaaatcc gagtagttat 29400

tttgcctccc ccttcccatt taacagaata caccaatctc tccccacgca cagctttaaa 29460

catttggata ccattagata tagacatggt tttagattcc acattccaaa cagtttcaga 29520

gcgagccaat ctggggtcag tgatagataa aaatccatcg ggatagtctt ttaaagcgct 29580

ttcacagtcc aactgctgcg gatgcgactc cggagtctgg atcacggtca tctggaagaa 29640

gaacgatggg aatcataatc cgaaaacggt atcggacgat tgtgtctcat caaacccaca 29700

agcagccgct gtctgcgtcg ctccgtgcga ctgctgttta tgggatcagg gtccacagtg 29760

tcctgaagca tgattttaat agcccttaac atcaactttc tggtgcgatg cgcgcagcaa 29820

cgcattctga tttcactcaa atctttgcag taggtacaac acattattac aatattgttt 29880

aataaaccat aattaaaagc gctccagcca aaactcatat ctgatataat cgcccctgca 29940

tgaccatcat accaaagttt aatataaatt aaatgacgtt ccctcaaaaa cacactaccc 30000

acatacatga tctcttttgg catgtgcata ttaacaatct gtctgtacca tggacaacgt 30060

tggttaatca tgcaacccaa tataaccttc cggaaccaca ctgccaacac cgctccccca 30120

gccatgcatt gaagtgaacc ctgctgatta caatgacaat gaagaaccca attctctcga 30180

ccgtgaatca cttgagaatg aaaaatatct atagtggcac aacatagaca taaatgcatg 30240

catcttctca taatttttaa ctcctcagga tttagaaaca tatcccaggg aataggaagc 30300

tcttgcagaa cagtaaagct ggcagaacaa ggaagaccac gaacacaact tacactatgc 30360

atagtcatag tatcacaatc tggcaacagc gggtggtctt cagtcataga agctcgggtt 30420

tcattttcct cacaacgtgg taactgggct ctggtgtaag ggtgatgtct ggcgcatgat 30480

gtcgagcgtg cgcgcaacct tgtcataatg gagttgcttc ctgacattct cgtattttgt 30540

atagcaaaac gcggccctgg cagaacacac tcttcttcgc cttctatcct gccgcttagc 30600

gtgttccgtg tgatagttca agtacaacca cactcttaag ttggtcaaaa gaatgctggc 30660

ttcagttgta atcaaaactc catcgcatct aatcgttctg aggaaatcat ccaagcaatg 30720

caactggatt gtgtttcaag caggagagga gagggaagag acggaagaac catgttaatt 30780

tttattccaa acgatctcgc agtacttcaa attgtagatc gcgcagatgg catctctcgc 30840

ccccactgtg ttggtgaaaa agcacagcta gatcaaaaga aatgcgattt tcaaggtgct 30900

caacggtggc ttccagcaaa gcctccacgc gcacatccaa gaacaaaaga ataccaaaag 30960

aaggagcatt ttctaactcc tcaatcatca tattacattc ctgcaccatt cccagataat 31020

tttcagcttt ccagccttga attattcgtg tcagttcttg tggtaaatcc aatccacaca 31080

ttacaaacag gtcccggagg gcgccctcca ccaccattct taaacacacc ctcataatga 31140

caaaatatct tgctcctgtg tcacctgtag cgaattgaga atggcaacat caattgacat 31200

gcccttggct ctaagttctt ctttaagttc tagttgtaaa aactctctca tattatcacc 31260

aaactgctta gccagaagcc ccccgggaac aagagcaggg gacgctacag tgcagtacaa 31320

gcgcagacct ccccaattgg ctccagcaaa aacaagattg gaataagcat attgggaacc 31380

gccagtaata tcatcgaagt tgctggaaat ataatcaggc agagtttctt gtaaaaattg 31440

aataaaagaa aaatttgcca aaaaaacatt caaaacctct gggatgcaaa tgcaataggt 31500

taccgcgctg cgctccaaca ttgttagttt tgaattagtc tgcaaaaata aaaaaaaaaa 31560

caagcgtcat atcatagtag cctgacgaac agatggataa atcagtcttt ccatcacaag 31620

acaagccaca gggtctccag ctcgaccctc gtaaaacctg tcatcatgat taaacaacag 31680

caccgaaagt tcctcgcggt gaccagcatg aataattctt gatgaagcat acaatccaga 31740

catgttagca tcagttaacg agaaaaaaca gccaacatag cctttgggta taattatgct 31800

taatcgtaag tatagcaaag ccacccctcg cggatacaaa gtaaaaggca caggagaata 31860

aaaaatataa ttatttctct gctgctgttc aggcaacgtc gcccccggtc cctctaaata 31920

cacatacaaa gcctcatcag ccatggctta ccagacaaag tacagcgggc acacaaagca 31980

caagctctaa agtgactctc caacctctcc acaatatata tatacacaag ccctaaactg 32040

acgtaatggg agtaaagtgt aaaaaatccc gccaaaccca acacacaccc cgaaactgcg 32100

tcaccaggga aaagtacagt ttcacttccg caatcccaac aggcgtaact tcctctttct 32160

cacggtacgt gatatcccac taacttgcaa cgtcattttc ccacggtcgc accgcccctt 32220

ttagccgtta accccacagc caatcaccac acgatccaca ctttttaaaa tcacctcatt 32280

tacatattgg caccattcca tctataaggt atattatata gataga 32326

<210> 29
<211> 200
<212> DNA
<213> Artificial Sequence

<220>
<223> B chi DNA sequence corresponding to and including bp 28166-28366 of the EnAd genome

<400> 29
aaatgattaa taaaaaatca cttacttgaa atcagcaata aggtctctgt tgaaattttc 60

tcccagcagc acctcacttc cctcttccca actctggtat tctaaacccc gttcagcggc 120

atactttctc catactttaa aggggatgtc aaattttagc tcctctcctg tacccacaat 180

cttcatgtct ttcttcccag 200

<210> 30
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> B gamma DNA sequence corresponding to and including bp 29345-29379 of the EnAd genome

<400> 30

caaataaagt ttaacttgtt tatttgaaaa tcaat 35

<210> 31
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> His Tag

<400> 31

His His His His His His
1 5

<210> 32
<211> 14
<212> DNA
<213> Artificial Sequence

<220>
<223> Splice acceptor

<400> 32
tttctctctt cagg 14

<210> 33
<211> 192
<212> DNA
<213> Artificial Sequence

<220>
<223> SV40 poly Adenylation sequence

<400> 33
cagacatgat aagatacatt gatgagtttg gacaaaccac aactagaatg cagtgaaaaa 60

aatgctttat ttgtgaaatt tgtgatgcta ttgctttatt tgtaaccatt ataagctgca 120

ataaacaagt taacaacaac aattgcattc attttatgtt tcaggttcag ggggaggtgt 180

gggaggtttt tt 192

<210> 34
<211> 1551
<212> DNA
<213> Artificial Sequence

<220>
<223> FAP BiTE nucleic acid sequence (OKT3)

<400> 34
atgggctgga gctgcatcat cttgttcctg gtcgcaactg ctaccggagt ccattcggac 60

atcgtcatga cccaaagccc tgactcgctc gctgtgtcac tgggagagcg ggcgactatc 120

aactgcaaat catcccagag cctgctgtat tcacgcaatc agaaaaacta cctggcctgg 180

tatcagcaga agccgggcca gcctcccaag ctgctgatct tctgggcctc cacccgcgaa 240

agcggcgtgc cggaccgctt cagcggaagc ggattcggaa ctgactttac tctgaccatt 300

agctccttgc aggcggagga cgtggccgtc tactactgcc agcagtattt ctcctatccg 360

ctcacctttg ggcaaggcac caaggtggag attaagggag ggggcggcag cgggggaggc 420

ggcagcggcg gcgggggatc gcaggtccag ctcgtccaat ccggagccga agtcaagaag 480

ccgggagcgt cggtcaaggt cagctgcaaa acttcgcgct acaccttcac tgagtacacg 540

atccactggg tccgccaggc gcccggccag cggctggagt ggatcggcgg gatcaaccca 600

aacaacggaa tcccaaatta caatcagaaa tttaaagggc gggtgactat caccgtggat 660

acctcggcct ccacggcgta catggagctc tcatcactca gatcggagga caccgcggtc 720

tattactgcg cccgccgccg gatcgcttat ggatacgatg aaggacatgc gatggattac 780

tggggccagg gcaccctcgt cacggtgtcg tcaggaggcg gcggttcaca ggtgcagctg 840

cagcagtctg gggctgaact ggcaagacct ggggcctcag tgaagatgtc ctgcaaggct 900

tctggctaca cctttactag gtacacgatg cactgggtaa aacagaggcc tggacagggt 960

ctggaatgga ttggatacat taatcctagc cgtggttata ctaattacaa tcagaagttc 1020

aaggacaagg ccacattgac tacagacaaa tcctccagca cagcctacat gcaactgagc 1080

agcctgacat ctgaggactc tgcagtctat tactgtgcaa gatattatga tgatcattac 1140

tgccttgact actggggcca aggcaccact ctcacagtct cctcaggtgg cggtggctcg 1200

ggcggtggtg gatctggtgg cggcggatct gatatcgtgc tcactcagtc tccagcaatc 1260

atgtctgcat ctccagggga gaaggtcacc atgacctgca gtgccagctc aagtgtaagt 1320

tacatgaact ggtaccagca gaagtcaggc acctccccca aaagatggat ttatgacaca 1380

tccaaactgg cttctggagt ccctgctcac ttcaggggca gtgggtctgg gacctcttac 1440

tctctcacaa tcagcggcat ggaggctgaa gatgctgcca cttattactg ccagcagtgg 1500

agtagtaacc cattcacgtt cggctcgggg acaaagttgg aaataaaccg g 1551

<210> 35
<211> 1557
<212> DNA
<213> Artificial Sequence

<220>
<223> FAP BiTE nucleic acid sequence (aCD3)

<400> 35
atgggctgga gctgcatcat cttgttcctg gtcgcaactg ctaccggagt ccattcggac 60

atcgtcatga cccaaagccc tgactcgctc gctgtgtcac tgggagagcg ggcgactatc 120

aactgcaaat catcccagag cctgctgtat tcacgcaatc agaaaaacta cctggcctgg 180

tatcagcaga agccgggcca gcctcccaag ctgctgatct tctgggcctc cacccgcgaa 240

agcggcgtgc cggaccgctt cagcggaagc ggattcggaa ctgactttac tctgaccatt 300

agctccttgc aggcggagga cgtggccgtc tactactgcc agcagtattt ctcctatccg 360

ctcacctttg ggcaaggcac caaggtggag attaagggag ggggcggcag cgggggaggc 420

ggcagcggcg gcgggggatc gcaggtccag ctcgtccaat ccggagccga agtcaagaag 480

ccgggagcgt cggtcaaggt cagctgcaaa acttcgcgct acaccttcac tgagtacacg 540

atccactggg tccgccaggc gcccggccag cggctggagt ggatcggcgg gatcaaccca 600

aacaacggaa tcccaaatta caatcagaaa tttaaagggc gggtgactat caccgtggat 660

acctcggcct ccacggcgta catggagctc tcatcactca gatcggagga caccgcggtc 720

tattactgcg cccgccgccg gatcgcttat ggatacgatg aaggacatgc gatggattac 780

tggggccagg gcaccctcgt cacggtgtcg tcaggaggcg gcggttcaga tgtgcaactc 840

gtgcagtccg gtgcggaagt gaaaaagccg ggcgcgagcg tcaaagtgtc atgcaaggcg 900

tcaggatata cgtttactag atacactatg cactgggtgc gccaggcacc tggtcagggc 960

cttgaatgga tcggctacat caatccgtcg agaggctaca ctaattacgc ggactcagtc 1020

aaagggcgct tcacgattac gaccgacaag tccacctcga ctgcatacat ggaactgtcc 1080

tcgctgagaa gcgaggacac cgctacttac tactgcgcta gatactacga tgatcactac 1140

tgcctcgatt actggggcca gggaaccact gtcacggtgt catcgggaga gggcacctca 1200

accggatcag ggggatcggg aggctcgggc ggcgcagacg acatcgtcct gacccagtcg 1260

cccgccacct tgtcgctgtc cccaggagaa agagcgaccc tgtcatgccg ggcgtcgcaa 1320

agcgtgagct atatgaattg gtatcagcag aagccaggaa aggcgccgaa gagatggatc 1380

tacgacacct ccaaggtcgc ttcaggtgtc ccggctagat tctcaggatc gggatcagga 1440

acggactact ccctgaccat caattcactg gaagcagaag atgcggccac ctactactgt 1500

cagcagtggt cctccaaccc gctgactttc ggaggcggaa ctaaggtcga gatcaag 1557

<210> 36
<211> 1856
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-611 Transgene cassette

<400> 36
caggcccacc atgggatgga gctgcatcat cctattcctc gtggcgacgg ccactggagt 60

gcatagcgaa ctggtgatga ctcagtcccc gtcatccctg acggtgaccg ccggcgagaa 120

ggtcaccatg tcgtgcaagt cctcgcaaag cctgcttaac agcggcaacc agaaaaacta 180

cctcacgtgg tatcagcaaa agccaggtca acccccaaaa ctgctcatct actgggcgag 240

cacccgcgag tcgggggtgc cagaccggtt caccggctcc gggtcaggaa ctgatttcac 300

cctaaccatc agctcggtgc aagcggagga cctggccgtg tactactgcc aaaatgatta 360

ctcgtaccct ctgacctttg gagcgggcac caagctcgaa atcaagggcg gtggaggaag 420

cggcgggga ggctcaggtg ggggaggatc agaagtccaa ctgctggagc agtcaggagc 480

cgaactggtc cgcccgggaa cctccgtcaa gatttcctgt aaggcttccg gctacgcttt 540

taccaattac tggctgggct gggtcaagca aagaccgggg catggcctgg agtggatcgg 600

cgacatcttc ccagggagcg gcaacatcca ctacaacgag aagttcaagg ggaaagcgac 660

tctgactgcc gacaaatcat ccagcaccgc ctacatgcag ctgtcgtcgc tcactttcga 720

agacagcgcg gtgtactttt gtgctcggct ccggaactgg gatgaaccaa tggactactg 780

gggacaagga actaccgtga ccgtctcctc cggcggcggt ggaagccagg tgcagctgca 840

gcagtctggg gctgaactgg caagacctgg ggcctcagtg aagatgtcct gcaaggcttc 900

tggctacacc tttactaggt acacgatgca ctgggtaaaa cagaggcctg gacagggtct 960

ggaatggatt ggatacatta atcctagccg tggttatact aattacaatc agaagttcaa 1020

ggacaaggcc acattgacta cagacaaatc ctccagcaca gcctacatgc aactgagcag 1080

cctgacatct gaggactctg cagtctatta ctgtgcaaga tattatgatg atcattactg 1140

ccttgactac tggggccaag gcaccactct cacagtctcc tcaggtggcg gtggctcggg 1200

cggtggtgga tctggtggcg gcggatctga tatcgtgctc actcagtctc cagcaatcat 1260

gtctgcatct ccaggggaga aggtcaccat gacctgcagt gccagctcaa gtgtaagtta 1320

catgaactgg taccagcaga agtcaggcac ctcccccaaa agatggattt atgacacatc 1380

caaactggct tctggagtcc ctgctcactt caggggcagt gggtctggga cctcttactc 1440

tctcacaatc agcggcatgg aggctgaaga tgctgccact tattactgcc agcagtggag 1500

tagtaaccca ttcacgttcg gctcggggac aaagttggaa ataaaccggc atcaccatca 1560

ccatcaccac catcaccatt aggctagctt gactgactga gatacagcgt accttcagct 1620

cacagacatg ataagataca ttgatgagtt tggacaaacc acaactagaa tgcagtgaaa 1680

aaaatgcttt atttgtgaaa tttgtgatgc tattgcttta tttgtaacca ttataagctg 1740

caataaacaa gttaacaaca acaattgcat tcattttatg tttcaggttc agggggaggt 1800

gtgggaggtt ttttaaagca agtaaaacct ctacaaatgt ggtagtcgtc agctat 1856

<210> 37
<211> 1868
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-612 Transgene cassette

<400> 37
caggcccacc atgggctgga gctgcatcat cttgttcctg gtcgcaactg ctaccggagt 60

ccattcggac atcgtcatga cccaaagccc tgactcgctc gctgtgtcac tgggagagcg 120

ggcgactatc aactgcaaat catcccagag cctgctgtat tcacgcaatc agaaaaacta 180

cctggcctgg tatcagcaga agccgggcca gcctcccaag ctgctgatct tctgggcctc 240

cacccgcgaa agcggcgtgc cggaccgctt cagcggaagc ggattcggaa ctgactttac 300

tctgaccatt agctccttgc aggcggagga cgtggccgtc tactactgcc agcagtattt 360

ctcctatccg ctcacctttg ggcaaggcac caaggtggag attaagggag ggggcggcag 420

cgggggaggc ggcagcggcg gcgggggatc gcaggtccag ctcgtccaat ccggagccga 480

agtcaagaag ccgggagcgt cggtcaaggt cagctgcaaa acttcgcgct acaccttcac 540

tgagtacacg atccactggg tccgccaggc gcccggccag cggctggagt ggatcggcgg 600

gatcaaccca aacaacggaa tcccaaatta caatcagaaa tttaaagggc gggtgactat 660

caccgtggat acctcggcct ccacggcgta catggagctc tcatcactca gatcggagga 720

caccgcggtc tattactgcg cccgccgccg gatcgcttat ggatacgatg aaggacatgc 780

gatggattac tggggccagg gcaccctcgt cacggtgtcg tcaggaggcg gcggttcaca 840

ggtgcagctg cagcagtctg gggctgaact ggcaagacct ggggcctcag tgaagatgtc 900

ctgcaaggct tctggctaca cctttactag gtacacgatg cactgggtaa aacagaggcc 960

tggacagggt ctggaatgga ttggatacat taatcctagc cgtggttata ctaattacaa 1020

tcagaagttc aaggacaagg ccacattgac tacagacaaa tcctccagca cagcctacat 1080

gcaactgagc agcctgacat ctgaggactc tgcagtctat tactgtgcaa gatattatga 1140

tgatcattac tgccttgact actggggcca aggcaccact ctcacagtct cctcaggtgg 1200

cggtggctcg ggcggtggtg gatctggtgg cggcggatct gatatcgtgc tcactcagtc 1260

tccagcaatc atgtctgcat ctccagggga gaaggtcacc atgacctgca gtgccagctc 1320

aagtgtaagt tacatgaact ggtaccagca gaagtcaggc acctccccca aaagatggat 1380

ttatgacaca tccaaactgg cttctggagt ccctgctcac ttcaggggca gtgggtctgg 1440

gacctcttac tctctcacaa tcagcggcat ggaggctgaa gatgctgcca cttattactg 1500

ccagcagtgg agtagtaacc cattcacgtt cggctcgggg acaaagttgg aaataaaccg 1560

gcatcaccat caccatcacc accatcacca ttaggctagc ttgactgact gagatacagc 1620

gtaccttcag ctcacagaca tgataagata cattgatgag tttggacaaa ccacaactag 1680

aatgcagtga aaaaaatgct ttatttgtga aatttgtgat gctattgctt tatttgtaac 1740

cattataagc tgcaataaac aagttaacaa caacaattgc attcatttta tgtttcaggt 1800

tcaggggggag gtgtgggagg ttttttaaag caagtaaaac ctctacaaat gtggtagtcg 1860

tcagctat 1868

<210> 38
<211> 1878
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-613 Transgene cassette

<400> 38
tttctctctt caggcccacc atgggctgga gctgcatcat cttgttcctg gtcgcaactg 60

ctaccggagt ccattcggac atcgtcatga cccaaagccc tgactcgctc gctgtgtcac 120

tgggagagcg ggcgactatc aactgcaaat catcccagag cctgctgtat tcacgcaatc 180

agaaaaacta cctggcctgg tatcagcaga agccgggcca gcctcccaag ctgctgatct 240

tctgggcctc cacccgcgaa agcggcgtgc cggaccgctt cagcggaagc ggattcggaa 300

ctgactttac tctgaccatt agctccttgc aggcggagga cgtggccgtc tactactgcc 360

agcagtattt ctcctatccg ctcacctttg ggcaaggcac caaggtggag attaagggag 420

ggggcggcag cgggggaggc ggcagcggcg gcgggggatc gcaggtccag ctcgtccaat 480

ccggagccga agtcaagaag ccgggagcgt cggtcaaggt cagctgcaaa acttcgcgct 540

acaccttcac tgagtacacg atccactggg tccgccaggc gcccggccag cggctggagt 600

ggatcggcgg gatcaaccca aacaacggaa tcccaaatta caatcagaaa tttaaagggc 660

gggtgactat caccgtggat acctcggcct ccacggcgta catggagctc tcatcactca 720

gatcggagga caccgcggtc tattactgcg cccgccgccg gatcgcttat ggatacgatg 780

aaggacatgc gatggattac tggggccagg gcaccctcgt cacggtgtcg tcaggaggcg 840

gcggttcaca ggtgcagctg cagcagtctg gggctgaact ggcaagacct ggggcctcag 900

tgaagatgtc ctgcaaggct tctggctaca cctttactag gtacacgatg cactgggtaa 960

aacagaggcc tggacagggt ctggaatgga ttggatacat taatcctagc cgtggttata 1020

ctaattacaa tcagaagttc aaggacaagg ccacattgac tacagacaaa tcctccagca 1080

cagcctacat gcaactgagc agcctgacat ctgaggactc tgcagtctat tactgtgcaa 1140

gatattatga tgatcattac tgccttgact actggggcca aggcaccact ctcacagtct 1200

cctcaggtgg cggtggctcg ggcggtggtg gatctggtgg cggcggatct gatatcgtgc 1260

tcactcagtc tccagcaatc atgtctgcat ctccagggga gaaggtcacc atgacctgca 1320

gtgccagctc aagtgtaagt tacatgaact ggtaccagca gaagtcaggc acctccccca 1380

aaagatggat ttatgacaca tccaaactgg cttctggagt ccctgctcac ttcaggggca 1440

gtgggtctgg gacctcttac tctctcacaa tcagcggcat ggaggctgaa gatgctgcca 1500

cttattactg ccagcagtgg agtagtaacc cattcacgtt cggctcgggg acaaagttgg 1560

aaataaaccg gcatcaccat caccatcacc accatcacca ttaggctagc ttgactgact 1620

gagatacagc gtaccttcag ctcacagaca tgataagata cattgatgag tttggacaaa 1680

ccacaactag aatgcagtga aaaaaatgct ttatttgtga aatttgtgat gctattgctt 1740

tatttgtaac cattataagc tgcaataaac aagttaacaa caacaattgc attcatttta 1800

tgtttcaggt tcaggggggag gtgtgggagg ttttttaaag caagtaaaac ctctacaaat 1860

gtggtagtcg tcagctat 1878

<210> 39
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Restriction site insert (B chi)

<400> 39
gcggccgcta tggccggcc 19

<210> 40
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Restriction site insert (B gamma)

<400> 40
gcgatcgcta ccctgcagg 19

<210> 41
<211> 572
<212> DNA
<213> Artificial Sequence

<220>
<223> CMV promoter sequence

<400> 41
agtaatcaat tacggggtca ttagttcata gcccatatat ggagttccgc gttacataac 60

ttacggtaaa tggcccgcct ggctgaccgc ccaacgaccc ccgcccattg acgtcaataa 120

tgacgtatgt tcccatagta acgccaatag ggactttcca ttgacgtcaa tgggtggagt 180

atttacggta aactgcccac ttggcagtac atcaagtgta tcatatgcca agtacgcccc 240

ctattgacgt caatgacggt aaatggcccg cctggcatta tgcccagtac atgaccttat 300

gggactttcc tacttggcag tacatctacg tattagtcat cgctattacc atgctgatgc 360

ggttttggca gtacatcaat gggcgtggat agcggtttga ctcacgggga tttccaagtc 420

tccaccccat tgacgtcaat gggagtttgt tttggcacca aaatcaacgg gactttccaa 480

aatgtcgtaa caactccgcc ccattgacgc aaatgggcgg taggcgtgta cggtgggagg 540

tctatataag cagagctggt ttagtgaacc gt 572

<210> 42
<211> 505
<212> DNA
<213> Artificial Sequence

<220>
<223> PGK promoter sequence

<400> 42
ctaccgggta ggggaggcgc ttttcccaag gcagtctgga gcatgcgctt tagcagcccc 60

gctgggcact tggcgctaca caagtggcct ctggcctcgc acacattcca catccaccgg 120

taggcgccaa ccggctccgt tctttggtgg ccccttcgcg ccaccttcta cccctccct 180

agtcaggaag ttcccccccg ccccgcagct cgcgtcatgc aggacgtgac aaatggaagt 240

agcacgtctc actagtctcg tgcaaatgga cagcaccgct gagcaatgga agcgggtagg 300

cccttggggc agcggccaat agcagctttg ctccttcgct ttctgggctc agaggctggg 360

aaggggtggg tccgggggcg ggctcagggg cgggctcagg ggcggggcgg gcgcccgaag 420

gtcctccgga ggcccggcat tccgcacgct tcaaaagcgc acgtctgccg cgctgttctc 480

ttcttcctca tctccgggcc tttcg 505

<210> 43
<211> 367
<212> DNA
<213> Artificial Sequence

<220>
<223> CBA promoter sequence

<400> 43
gtcgaggtga gccccacgtt ctgcttcact ctccccatct ccccccccctc cccaccccca 60

attttgtatt tatttatttt ttaattattt tatgcagcga tgggggcggg gggggggggg 120

gcgcgcgcca ggcggggcgg ggcggggcga ggggcggggc ggggcgaggc ggagaggtgc 180

ggcggcagcc aatcagagcg gcgcgctccg aaagtttcct tttatggcga ggcggcggcg 240

gcggcggccc tataaaaagc gaagcgcgcg gcgggcggga gtcgctgcgt tgccttcgcc 300

ccgtgccccg ctccgcgccg cctcgcgccg cccgccccgg ctctgactga ccgcgttact 360

cccacag 367

<210> 44

<400> 44
000

<210> 45
<211> 16
<212> DNA
<213> Artificial Sequence

<220>
<223> splice acceptor (SA) DNA sequence

<400> 45
cctttctctc ttcagg 16

<210> 46
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> branched splice acceptor (bSA) DNA sequence

<400> 46
tgctaatcct ttctctcttc agg 23

<210> 47

<400> 47
000

<210> 48
<211> 13
<212> RNA
<213> Artificial Sequence

<220>
<223> Example of start codon

<220>
<221> misc_feature
<222> (11)..(11)
<223> R is adenine or guanine

<400> 48
gccgccrcca ugg 13

<210> 49
<211> 551
<212> DNA
<213> Artificial Sequence

<220>
<223> Internal Ribosome Entry Sequence (IRES)

<400> 49
cgttactggc cgaagccgct tggaataagg ccggtgtgcg tttgtctata tgttattttc 60

caccatattg ccgtcttttg gcaatgtgag ggcccggaaa cctggccctg tcttcttgac 120

gagcattcct aggggtcttt cccctctcgc caaaggaatg caaggtctgt tgaatgtcgt 180

gaaggaagca gttcctctgg aagcttcttg aagacaaaca acgtctgtag cgacccttg 240

caggcagcgg aacccccccac ctggcgacag gtgcctctgc ggccaaaagc cacgtgtata 300

agatacacct gcaaaggcgg cacaacccca gtgccacgtt gtgagttgga tagttgtgga 360

aagagtcaaa tggctcccct caagcgtatt caacaagggg ctgaaggatg cccagaaggt 420

accccattgt atgggatctg atctggggcc tcggtgcaca tgcttttcat gtgtttagtc 480

gaggttaaaa aacgtctagg ccccccgaac cacggggacg tggttttcct ttgaaaaaca 540

cgatgataat a 551

<210> 50
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> P2A peptide

<400> 50

Gly Ser Gly Ala Thr Asn Phe Ser Leu Leu Lys Gln Ala Gly Asp Val
1 5 10 15

Glu Glu Asn Pro Gly Pro

20

<210> 51
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> F2A peptide

<400> 51

Gly Ser Gly Glu Gly Arg Gly Ser Leu Leu Thr Cys Gly Asp Val Glu
1 5 10 15

Glu Asn Pro Gly Pro
20

<210> 52
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
<223> E2A peptide

<400> 52

Gly Ser Gly Gln Cys Thr Asn Tyr Ala Leu Leu Lys Leu Ala Gly Asp
1 5 10 15

Val Glu Ser Asn Pro Gly Pro
20

<210> 53
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> T2A peptide

<400> 53

Gly Ser Gly Val Lys Gln Thr Leu Asn Phe Asp Leu Leu Lys Leu Ala
1 5 10 15

Gly Asp Val Glu Ser Asn Pro Gly Pro

20 25

<210> 54
<211> 192
<212> DNA
<213> Artificial Sequence

<220>
<223> Polyadenylation (polyA) sequence

<400> 54
cagacatgat aagatacatt gatgagtttg gacaaaccac aactagaatg cagtgaaaaa 60

aatgctttat ttgtgaaatt tgtgatgcta ttgctttatt tgtaaccatt ataagctgca 120

ataaacaagt taacaacaac aattgcattc attttatgtt tcaggttcag ggggaggtgt 180

gggaggtttt tt 192

<210> 55
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Leader sequence

<400> 55

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
1 5 10 15

Val His Ser

<210> 56
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Leader sequence

<400> 56

Met Asp Trp Thr Trp Arg Val Phe Cys Leu Leu Ala Val Ala Pro Gly
1 5 10 15

Ala His Ser

<210> 57
<211> 166
<212> PRT
<213> Artificial Sequence

<220>
<223> IFN gamma amino acid sequence

<400> 57

Met Lys Tyr Thr Ser Tyr Ile Leu Ala Phe Gln Leu Cys Ile Val Leu
1   5   10   15

Gly Ser Leu Gly Cys Tyr Cys Gln Asp Pro Tyr Val Lys Glu Ala Glu
            20   25   30

Asn Leu Lys Lys Tyr Phe Asn Ala Gly His Ser Asp Val Ala Asp Asn
        35   40   45

Gly Thr Leu Phe Leu Gly Ile Leu Lys Asn Trp Lys Glu Glu Ser Asp
    50   55   60

Arg Lys Ile Met Gln Ser Gln Ile Val Ser Phe Tyr Phe Lys Leu Phe
65   70   75   80

Lys Asn Phe Lys Asp Asp Gln Ser Ile Gln Lys Ser Val Glu Thr Ile
                85   90   95

Lys Glu Asp Met Asn Val Lys Phe Phe Asn Ser Asn Lys Lys Lys Arg
            100   105   110

Asp Asp Phe Glu Lys Leu Thr Asn Tyr Ser Val Thr Asp Leu Asn Val
        115   120   125

Gln Arg Lys Ala Ile His Glu Leu Ile Gln Val Met Ala Glu Leu Ser
    130   135   140

Pro Ala Ala Lys Thr Gly Lys Arg Lys Arg Ser Gln Met Leu Phe Arg
145   150   155   160

Gly Arg Arg Ala Ser Gln

165

<210> 58
<211> 188
<212> PRT
<213> Artificial Sequence

<220>
<223> IFN alpha amino acid sequence

<400> 58

Met Ala Leu Thr Phe Ala Leu Leu Val Ala Leu Leu Val Leu Ser Cys
1 5 10 15

Lys Ser Ser Cys Ser Val Gly Cys Asp Leu Pro Gln Thr His Ser Leu
20 25 30

Gly Ser Arg Arg Thr Leu Met Leu Leu Ala Gln Met Arg Arg Ile Ser
35 40 45

Leu Phe Ser Cys Leu Lys Asp Arg His Asp Phe Gly Phe Pro Gln Glu
50 55 60

Glu Phe Gly Asn Gln Phe Gln Lys Ala Glu Thr Ile Pro Val Leu His
65 70 75 80

Glu Met Ile Gln Gln Ile Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser
85 90 95

Ala Ala Trp Asp Glu Thr Leu Leu Asp Lys Phe Tyr Thr Glu Leu Tyr
100 105 110

Gln Gln Leu Asn Asp Leu Glu Ala Cys Val Ile Gln Gly Val Gly Val
115 120 125

Thr Glu Thr Pro Leu Met Lys Glu Asp Ser Ile Leu Ala Val Arg Lys
130 135 140

Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Lys Glu Lys Lys Tyr Ser Pro
145 150 155 160

Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Phe Ser Leu

```
                165                 170                 175

Ser Thr Asn Leu Gln Glu Ser Leu Arg Ser Lys Glu
            180                 185


<210>  59
<211>  233
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  TNF alpha amino acid sequence

<400>  59

Met Ser Thr Glu Ser Met Ile Arg Asp Val Glu Leu Ala Glu Glu Ala
1               5                   10                  15


Leu Pro Lys Lys Thr Gly Gly Pro Gln Gly Ser Arg Arg Cys Leu Phe
            20                  25                  30


Leu Ser Leu Phe Ser Phe Leu Ile Val Ala Gly Ala Thr Thr Leu Phe
        35                  40                  45


Cys Leu Leu His Phe Gly Val Ile Gly Pro Gln Arg Glu Glu Phe Pro
    50                  55                  60


Arg Asp Leu Ser Leu Ile Ser Pro Leu Ala Gln Ala Val Arg Ser Ser
65                  70                  75                  80


Ser Arg Thr Pro Ser Asp Lys Pro Val Ala His Val Val Ala Asn Pro
                85                  90                  95


Gln Ala Glu Gly Gln Leu Gln Trp Leu Asn Arg Arg Ala Asn Ala Leu
            100                 105                 110


Leu Ala Asn Gly Val Glu Leu Arg Asp Asn Gln Leu Val Val Pro Ser
        115                 120                 125


Glu Gly Leu Tyr Leu Ile Tyr Ser Gln Val Leu Phe Lys Gly Gln Gly
    130                 135                 140


Cys Pro Ser Thr His Val Leu Leu Thr His Thr Ile Ser Arg Ile Ala
```

145 150 155 160

Val Ser Tyr Gln Thr Lys Val Asn Leu Leu Ser Ala Ile Lys Ser Pro
165 170 175

Cys Gln Arg Glu Thr Pro Glu Gly Ala Glu Ala Lys Pro Trp Tyr Glu
180 185 190

Pro Ile Tyr Leu Gly Gly Val Phe Gln Leu Glu Lys Gly Asp Arg Leu
195 200 205

Ser Ala Glu Ile Asn Arg Pro Asp Tyr Leu Asp Phe Ala Glu Ser Gly
210 215 220

Gln Val Tyr Phe Gly Ile Ile Ala Leu
225 230

<210> 60
<211> 5288
<212> DNA
<213> Artificial Sequence

<220>
<223> DNA sequence corresponding to E2B region of the EnAd genome (bp 10355-5068)

<400> 60
ctatggcatc tcgatccagc agacctcctc gtttcgcggg tttggacggc tcctggaata 60

gggtatgaga cgatgggcgt ccagcgctgc cagggttcgg tccttccagg gtctcagtgt 120

tcgagtcagg gttgtttccg tcacagtgaa ggggtgtgcg cctgcttggg cgcttgccag 180

ggtgcgcttc agactcatcc tgctggtcga aaacttctgt cgcttggcgc cctgtatgtc 240

ggccaagtag cagtttacca tgagttcgta gttgagcgcc tcggctgcgt ggcctttggc 300

gcggagctta cctttggaag ttttcttgca taccgggcag tataggcatt tcagcgcata 360

caacttgggc gcaaggaaaa cggattctgg ggagtatgca tctgcgccgc aggaggcgca 420

aacagtttca cattccacca gccaggttaa atccggttca ttggggtcaa aaacaagttt 480

tccgccatat tttttgatgc gtttcttacc tttggtctcc atgagttcgt gtcctcgttg 540

agtgacaaac aggctgtccg tgtccccgta gactgatttt acaggcctct tctccagtgg 600

agtgcctcgg tcttcttcgt acaggaactc tgaccactct gatacaaagg cgcgcgtcca 660

ggccagcaca aaggaggcta tgtgggaggg gtagcgatcg ttgtcaacca gggggtccac 720

cttttccaaa gtatgcaaac acatgtcacc ctcttcaaca tccaggaatg tgattggctt 780

gtaggtgtat ttcacgtgac ctggggtccc cgctgggggg gtataaaagg gggcggttct 840

ttgctcttcc tcactgtctt ccggatcgct gtccaggaac gtcagctgtt ggggtaggta 900

ttccctctcg aaggcgggca tgacctctgc actcaggttg tcagtttcta agaacgagga 960

ggatttgata ttgacagtgc cggttgagat gcctttcatg aggttttcgt ccatctggtc 1020

agaaaacaca atttttttat tgtcaagttt ggtggcaaat gatccataca gggcgttgga 1080

taaaagtttg gcaatggatc gcatggtttg gttcttttcc ttgtccgcgc gctctttggc 1140

ggcgatgttg agttggacat actcgcgtgc caggcacttc cattcgggga agatagttgt 1200

taattcatct ggcacgattc tcacttgcca ccctcgatta tgcaaggtaa ttaaatccac 1260

actggtggcc acctcgcctc gaaggggttc attggtccaa cagagcctac ctcctttcct 1320

agaacagaaa gggggaagtg ggtctagcat aagttcatcg ggagggtctg catccatggt 1380

aaagattccc ggaagtaaat ccttatcaaa atagctgatg ggagtggggt catctaaggc 1440

catttgccat tctcgagctg ccagtgcgcg ctcatatggg ttaaggggac tgccccatgg 1500

catgggatgg gtgagtgcag aggcatacat gccacagatg tcatagacgt agatgggatc 1560

ctcaaagatg cctatgtagg ttggatagca tcgccccccc ctgatacttg ctcgcacata 1620

gtcatatagt tcatgtgatg gcgctagcag ccccggaccc aagttggtgc gattgggttt 1680

ttctgttctg tagacgatct ggcgaaagat ggcgtgagaa ttggaagaga tggtgggtct 1740

ttgaaaaatg ttgaaatggg catgaggtag acctacagag tctctgacaa agtgggcata 1800

agattcttga agcttggtta ccagttcggc ggtgacaagt acgtctaggg cgcagtagtc 1860

aagtgtttct tgaatgatgt cataacctgg ttggtttttc ttttcccaca gttcgcggtt 1920

gagaaggtat tcttcgcgat ccttccagta ctcttctagc ggaaacccgt ctttgtctgc 1980

acggtaagat cctagcatgt agaactgatt aactgccttg taagggcagc agcccttctc 2040

tacgggtaga gagtatgctt gagcagcttt tcgtagcgaa gcgtgagtaa gggcaaaggt 2100

gtctctgacc atgactttga ggaattggta tttgaagtcg atgtcgtcac aggctccctg 2160

ttcccagagt tggaagtcta cccgtttctt gtaggcgggg ttgggcaaag cgaaagtaac 2220

atcattgaag agaatcttgc cggccctggg catgaaattg cgagtgatgc gaaaaggctg 2280

tggtacttcc gctcggttat tgataacctg ggcagctagg acgatctcgt cgaaaccgtt 2340

gatgttgtgt cctacgatgt ataattctat gaaacgcggc gtgcctctga cgtgaggtag 2400

cttactgagc tcatcaaagg ttaggtctgt ggggtcagat aaggcgtagt gttcgagagc 2460

ccattcgtgc aggtgaggat tcgctttaag gaaggaggac cagaggtcca ctgccagtgc 2520

tgtttgtaac tggtcccggt actgacgaaa atgccgtccg actgccattt tttctggggt 2580

gacgcaatag aaggtttggg ggtcctgccg ccagcgatcc cacttgagtt ttatggcgag 2640

gtcataggcg atgttgacga gccgctggtc tccagagagt ttcatgacca gcatgaaggg 2700

gattagctgc ttgccaaagg accccatcca ggtgtaggtt tccacatcgt aggtgagaaa 2760

gagcctttct gtgcgaggat gagagccaat cgggaagaac tggatctcct gccaccagtt 2820

ggaggaatgg ctgttgatgt gatggaagta gaactccctg cgacgcgccg agcattcatg 2880

cttgtgcttg tacagacggc cgcagtagtc gcagcgttgc acgggttgta tctcgtgaat 2940

gagttgtacc tggcttccct tgacgagaaa tttcagtggg aagccgaggc ctggcgattg 3000

tatctcgtgc tttactatgt tgtctgcatc ggcctgttca tcttctgtct cgatggtggt 3060

catgctgacg agccctcgcg ggaggcaagt ccagacctcg gcgcggcagg ggcggagctc 3120

gaggacgaga gcgcgcaggc tggagctgtc cagggtcctg agacgctgcg gactcaggtt 3180

agtaggcagt gtcaggagat taacttgcat gatcttttgg agggcgtgcg ggaggttcag 3240

atagtacttg atctcaacgg gtccgttggt ggagatgtcg atggcttgca gggttccgtg 3300

tcccttgggc gctaccaccg tgcccttgtt tttcattttg gacggcggtg gctctgttgc 3360

ttcttgcatg tttagaagcg gtgtcgaggg cgcgcaccgg gcggcagggg cggctcggga 3420

cccggcggca tggctggcag tggtacgtcg gcgccgcgcg cgggtaggtt ctggtactgc 3480

gccctgagaa gactcgcatg cgcgacgacg cggcggttga catcctggat ctgacgcctc 3540

tgggtgaaag ctaccggccc cgtgagcttg aacctgaaag agagttcaac agaatcaatc 3600

tcggtatcgt tgacggcggc ttgcctaagg atttcttgca cgtcaccaga gttgtcctgg 3660

taggcgatct ccgccatgaa ctgctcgatc tcttcctctt gaagatctcc gcggcccgct 3720

ctctcgacgg tggccgcgag gtcgttggag atgcgcccaa tgagttgaga gaatgcattc 3780

atgcccgcct cgttccagac gcggctgtag accacggccc ccacgggatc tctcgcgcgc 3840

atgaccacct gggcgaggtt gagctccacg tggcgggtga agaccgcata gttgcatagg 3900

cgctggaaaa ggtagttgag tgtggtggcg atgtgctcgg tgacgaagaa atacatgatc 3960

catcgtctca gcggcatctc gctgacatcg cccagagctt ccaagcgctc catggcctcg 4020

tagaagtcca cggcaaaatt aaaaaactgg gagtttcgcg cggacacggt caactcctct 4080

tccagaagac ggataagttc ggcgatggtg gtgcgcacct cgcgctcgaa agcccctggg 4140

atttcttcct caatctcttc ttcttccact aacatctctt cctcttcagg tggggctgca 4200

ggaggagggg gaacgcggcg acgccggcgg cgcacgggca gacggtcgat gaatctttca 4260

atgacctctc cgcggcggcg gcgcatggtt tcagtgacgg cgcggccgtt ctcgcgcggt 4320

cgcagagtaa aaacaccgcc gcgcatctcc ttaaagtggt gactgggagg ttctccgttt 4380

gggagggaga gggcgctgat tatacatttt attaattggc ccgtagggac tgcacgcaga 4440

gatctgatcg tgtcaagatc cacgggatct gaaaaccttt cgacgaaagc gtctaaccag 4500

tcacagtcac aaggtaggct gagtacggct tcttgtgggc gggggtggtt atgtgttcgg 4560

tctgggtctt ctgtttcttc ttcatctcgg gaaggtgaga cgatgctgct ggtgatgaaa 4620

ttaaagtagg cagttctaag acggcggatg gtggcgagga gcaccaggtc tttgggtccg 4680

gcttgctgga tacgcaggcg attggccatt ccccaagcat tatcctgaca tctagcaaga 4740

tctttgtagt agtcttgcat gagccgttct acgggcactt cttcctcacc cgttctgcca 4800

tgcatacgtg tgagtccaaa tccgcgcatt ggttgtacca gtgccaagtc agctacgact 4860

ctttcggcga ggatggcttg ctgtacttgg gtaagggtgg cttgaaagtc atcaaaatcc 4920

acaaagcggt ggtaagctcc tgtattaatg gtgtaagcac agttggccat gactgaccag 4980

ttaactgtct ggtgaccagg gcgcacgagc tcggtgtatt taaggcgcga ataggcgcgg 5040

gtgtcaaaga tgtaatcgtt gcaggtgcgc accagatact ggtaccctat aagaaaatgc 5100

ggcggtggtt ggcggtagag aggccatcgt tctgtagctg gagcgccagg ggcgaggtct 5160

tccaacataa ggcggtgata gccgtagatg tacctggaca tccaggtgat tcctgcggcg 5220

gtagtagaag cccgaggaaa ctcgcgtacg cggttccaaa tgttgcgtag cggcatgaag 5280

tagttcat 5288

<210> 61
<211> 1560
<212> DNA
<213> Artificial Sequence

<220>
<223> Anti-FAP BiTE DNA coding sequence, with N-terminal signal sequence without C-terminal deca-His affinity tag

<400> 61
atgggctgga gctgcatcat cttgttcctg gtcgcaactg ctaccggagt ccattcggac 60

atcgtcatga cccaaagccc tgactcgctc gctgtgtcac tgggagagcg ggcgactatc 120

aactgcaaat catcccagag cctgctgtat tcacgcaatc agaaaaacta cctggcctgg 180

tatcagcaga agccgggcca gcctcccaag ctgctgatct tctgggcctc cacccgcgaa 240

agcggcgtgc cggaccgctt cagcggaagc ggattcggaa ctgactttac tctgaccatt 300

agctccttgc aggcggagga cgtggccgtc tactactgcc agcagtattt ctcctatccg 360

ctcacctttg ggcaaggcac caaggtggag attaagggag ggggcggcag cgggggaggc 420

ggcagcggcg gcgggggatc gcaggtccag ctcgtccaat ccggagccga agtcaagaag 480

ccgggagcgt cggtcaaggt cagctgcaaa acttcgcgct acaccttcac tgagtacacg 540

atccactggg tccgccaggc gcccggccag cggctggagt ggatcggcgg gatcaaccca 600

aacaacggaa tcccaaatta caatcagaaa tttaaagggc gggtgactat caccgtggat 660

acctcggcct ccacggcgta catggagctc tcatcactca gatcggagga caccgcggtc 720

tattactgcg cccgccgccg gatcgcttat ggatacgatg aaggacatgc gatggattac 780

tggggccagg gcaccctcgt cacggtgtcg tcaggaggcg gcggttcaga tgtgcaactc 840

gtgcagtccg gtgcggaagt gaaaaagccg ggcgcgagcg tcaaagtgtc atgcaaggcg 900

tcaggatata cgtttactag atacactatg cactgggtgc gccaggcacc tggtcagggc 960

cttgaatgga tcggctacat caatccgtcg agaggctaca ctaattacgc ggactcagtc 1020

aaagggcgct tcacgattac gaccgacaag tccacctcga ctgcatacat ggaactgtcc 1080

tcgctgagaa gcgaggacac cgctacttac tactgcgcta gatactacga tgatcactac 1140

tgcctcgatt actggggcca gggaaccact gtcacggtgt catcgggaga gggcacctca 1200

accggatcag gggatcggg aggctcgggc ggcgcagacg acatcgtcct gacccagtcg 1260

cccgccacct tgtcgctgtc cccaggagaa agagcgaccc tgtcatgccg ggcgtcgcaa 1320

agcgtgagct atatgaattg gtatcagcag aagccaggaa aggcgccgaa gagatggatc 1380

tacgacacct ccaaggtcgc ttcaggtgtc ccggctagat tctcaggatc gggatcagga 1440

acggactact ccctgaccat caattcactg gaagcagaag atgcggccac ctactactgt 1500

cagcagtggt cctccaaccc gctgactttc ggaggcggaa ctaaggtcga gatcaagtag 1560

<210> 62
<211> 519
<212> PRT
<213> Artificial Sequence

<220>
<223> Anti-FAP BiTE amino acid sequence, with N-terminal signal sequence without C-terminal deca-His affinity tag

<400> 62

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
1 5 10 15

Val His Ser Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val
20 25 30

Ser Leu Gly Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu
35 40 45

Leu Tyr Ser Arg Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys
50 55 60

Pro Gly Gln Pro Pro Lys Leu Leu Ile Phe Trp Ala Ser Thr Arg Glu
65 70 75 80

Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Phe Gly Thr Asp Phe
85 90 95

Thr Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr
100 105 110

Cys Gln Gln Tyr Phe Ser Tyr Pro Leu Thr Phe Gly Gln Gly Thr Lys
115 120 125

Val Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
130 135 140

Gly Gly Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
145 150 155 160

```
Pro Gly Ala Ser Val Lys Val Ser Cys Lys Thr Ser Arg Tyr Thr Phe
                165                 170                 175

Thr Glu Tyr Thr Ile His Trp Val Arg Gln Ala Pro Gly Gln Arg Leu
            180                 185                 190

Glu Trp Ile Gly Gly Ile Asn Pro Asn Asn Gly Ile Pro Asn Tyr Asn
        195                 200                 205

Gln Lys Phe Lys Gly Arg Val Thr Ile Thr Val Asp Thr Ser Ala Ser
    210                 215                 220

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
225                 230                 235                 240

Tyr Tyr Cys Ala Arg Arg Arg Ile Ala Tyr Gly Tyr Asp Glu Gly His
                245                 250                 255

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly
            260                 265                 270

Gly Gly Gly Ser Asp Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys
        275                 280                 285

Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr
    290                 295                 300

Phe Thr Arg Tyr Thr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly
305                 310                 315                 320

Leu Glu Trp Ile Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr
                325                 330                 335

Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Thr Thr Asp Lys Ser Thr
            340                 345                 350

Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala
        355                 360                 365
```

```
Thr Tyr Tyr Cys Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr
    370                 375                 380

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Glu Gly Thr Ser
385                 390                 395                 400

Thr Gly Ser Gly Gly Ser Gly Gly Ser Gly Gly Ala Asp Asp Ile Val
                405                 410                 415

Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala
            420                 425                 430

Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Tyr Met Asn Trp Tyr
        435                 440                 445

Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Trp Ile Tyr Asp Thr Ser
    450                 455                 460

Lys Val Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly
465                 470                 475                 480

Thr Asp Tyr Ser Leu Thr Ile Asn Ser Leu Glu Ala Glu Asp Ala Ala
                485                 490                 495

Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr Phe Gly Gly
            500                 505                 510

Gly Thr Lys Val Glu Ile Lys
        515
```

<210> 63
<211> 1599
<212> DNA
<213> Artificial Sequence

<220>
<223> Control (Anti-FHA) BiTE DNA coding sequence, with N-terminal signal sequence without C-terminal deca-His affinity tag

<400> 63
atgggttggt catgcatcat cctgtttctc gtcgcaactg cgaccggcgt gcattcggaa 60

ctggacatcg tgatgaccca ggcacctgca tcactggcag tgagcctggg acagagagcc 120

accatttcat gccgggccag caagagcgtg tcgtcatccg gatacaatta tctgcactgg 180

tatcagcaga aaccaggaca acctccaaag ctactcatct acctggcgtc gaacctcgaa 240

tcgggcgtcc cagctagatt ctcagggagc ggttcgggaa ccgatttcac cctgaacatc 300

caccctgtgg aggaggaaga cgcggcaacg tactattgcc agcattcccg cgagttccct 360

ctcactttcg gtgcgggaac taagctggag atcaagtcca gcggcggcgg aggtagcggt 420

ggaggtggcg gaggaagctc ccggtcgtcg ctggaggtgc agctgcaaca atccggcccg 480

gaactggtca agccaggcgc atccgtcaag atttcatgca agacctcggg gtacaccttc 540

accgggtaca cgatgcattg ggtcaggcag agccacggca agtccctgga atggatcgga 600

ggaatcaacc ccaaaaacgg cggcatcatc tacaaccaaa agttccaggg aaaagccact 660

ctgaccgtgg acaagtcgtc gagcacggcc agcatggagc tgcggtccct cacttccgac 720

gactcagccg tgtattactg cgcgagacgg gtctacgatg actacccata ctactacgct 780

atggactact ggggacaagg aaccagcgtg accgtctcat cggcgaaaac tactccgccg 840

tcggtgacgt cgggaggtgg tggaagcgac gtgcagctcg tccagtcggg tgccgaggtg 900

aagaagccag gagcctccgt gaaggtctcg tgcaaagcca gcggctacac ttttactagg 960

tacactatgc actgggtgcg gcaagcgccg ggacaaggtc tggagtggat cggatacatc 1020

aatccgtcgc ggggatacac taattacgcg gactccgtca agggacggtt tactatcact 1080

acggataagt ccactagcac cgcctacatg gaactgtcct cgctgcggtc ggaagacact 1140

gcgacctact actgcgctag atattacgat gaccactact gcctcgacta ttgggggcag 1200

ggcactacgg tcaccgtctc gtcgggagaa ggaacctcaa ctggatcggg cggatcggga 1260

ggctccggag gagccgacga catcgtgctt acccagtcgc ctgcgaccct gtccctgtcc 1320

ccaggagaga gagcgactct ttcatgcagg gcttcccaat cagtctccta catgaattgg 1380

tatcaacaaa aacccggcaa ggccccgaaa cgctggatct acgatacttc aaaggtggcc 1440

agcggtgtgc ctgcccgctt ctccgggtcg gggtccggca ccgattactc gttgactatc 1500

aatagcctgg aggccgagga cgctgcaact tactactgcc agcagtggtc ctccaaccct 1560

ctcaccttcg gaggcgggac caaggtggaa atcaaatag 1599

<210> 64
<211> 532
<212> PRT

<213> Artificial Sequence

<220>
<223> Control (Anti-FHA) BiTE amino acid sequence with N-terminal signal sequence without C-terminal deca-His tag

<400> 64

```
Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
1               5                  10                  15


Val His Ser Glu Leu Asp Ile Val Met Thr Gln Ala Pro Ala Ser Leu
            20                  25                  30


Ala Val Ser Leu Gly Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Lys
        35                  40                  45


Ser Val Ser Ser Ser Gly Tyr Asn Tyr Leu His Trp Tyr Gln Gln Lys
    50                  55                  60


Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Leu Ala Ser Asn Leu Glu
65                  70                  75                  80


Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
                85                  90                  95


Thr Leu Asn Ile His Pro Val Glu Glu Glu Asp Ala Ala Thr Tyr Tyr
            100                 105                 110


Cys Gln His Ser Arg Glu Phe Pro Leu Thr Phe Gly Ala Gly Thr Lys
        115                 120                 125


Leu Glu Ile Lys Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Gly
    130                 135                 140


Gly Ser Ser Arg Ser Ser Leu Glu Val Gln Leu Gln Gln Ser Gly Pro
145                 150                 155                 160


Glu Leu Val Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Thr Ser
                165                 170                 175


Gly Tyr Thr Phe Thr Gly Tyr Thr Met His Trp Val Arg Gln Ser His
            180                 185                 190
```

```
Gly Lys Ser Leu Glu Trp Ile Gly Gly Ile Asn Pro Lys Asn Gly Gly
        195                 200                 205

Ile Ile Tyr Asn Gln Lys Phe Gln Gly Lys Ala Thr Leu Thr Val Asp
    210                 215                 220

Lys Ser Ser Ser Thr Ala Ser Met Glu Leu Arg Ser Leu Thr Ser Asp
225                 230                 235                 240

Asp Ser Ala Val Tyr Tyr Cys Ala Arg Arg Val Tyr Asp Asp Tyr Pro
                245                 250                 255

Tyr Tyr Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val
            260                 265                 270

Ser Ser Ala Lys Thr Thr Pro Pro Ser Val Thr Ser Gly Gly Gly Gly
        275                 280                 285

Ser Asp Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly
    290                 295                 300

Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Arg
305                 310                 315                 320

Tyr Thr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp
                325                 330                 335

Ile Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Ala Asp Ser
            340                 345                 350

Val Lys Gly Arg Phe Thr Ile Thr Thr Asp Lys Ser Thr Ser Thr Ala
        355                 360                 365

Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Thr Tyr Tyr
    370                 375                 380

Cys Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly Gln
385                 390                 395                 400
```

```
Gly Thr Thr Val Thr Val Ser Ser Gly Glu Gly Thr Ser Thr Gly Ser
                405                 410                 415


Gly Gly Ser Gly Gly Ser Gly Gly Ala Asp Asp Ile Val Leu Thr Gln
            420                 425                 430


Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser
        435                 440                 445


Cys Arg Ala Ser Gln Ser Val Ser Tyr Met Asn Trp Tyr Gln Gln Lys
    450                 455                 460


Pro Gly Lys Ala Pro Lys Arg Trp Ile Tyr Asp Thr Ser Lys Val Ala
465                 470                 475                 480


Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr
                485                 490                 495


Ser Leu Thr Ile Asn Ser Leu Glu Ala Glu Asp Ala Ala Thr Tyr Tyr
            500                 505                 510


Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr Phe Gly Gly Gly Thr Lys
        515                 520                 525


Val Glu Ile Lys
    530
```

<210> 65
<211> 532
<212> PRT
<213> Artificial Sequence

<220>
<223> Control BiTe (Anti-FHA) without C-terminal deca-His tag

<400> 65

```
Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
1               5                   10                  15


Val His Ser Glu Leu Asp Ile Val Met Thr Gln Ala Pro Ala Ser Leu
            20                  25                  30
```

```
Ala Val Ser Leu Gly Gln Arg Ala Thr Ile Ser Cys Arg Ala Ser Lys
        35                  40                  45

Ser Val Ser Ser Ser Gly Tyr Asn Tyr Leu His Trp Tyr Gln Gln Lys
    50                  55                  60

Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Leu Ala Ser Asn Leu Glu
65                  70                  75                  80

Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe
                85                  90                  95

Thr Leu Asn Ile His Pro Val Glu Glu Glu Asp Ala Ala Thr Tyr Tyr
            100                 105                 110

Cys Gln His Ser Arg Glu Phe Pro Leu Thr Phe Gly Ala Gly Thr Lys
        115                 120                 125

Leu Glu Ile Lys Ser Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Gly
    130                 135                 140

Gly Ser Ser Arg Ser Ser Leu Glu Val Gln Leu Gln Gln Ser Gly Pro
145                 150                 155                 160

Glu Leu Val Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Thr Ser
                165                 170                 175

Gly Tyr Thr Phe Thr Gly Tyr Thr Met His Trp Val Arg Gln Ser His
            180                 185                 190

Gly Lys Ser Leu Glu Trp Ile Gly Gly Ile Asn Pro Lys Asn Gly Gly
        195                 200                 205

Ile Ile Tyr Asn Gln Lys Phe Gln Gly Lys Ala Thr Leu Thr Val Asp
    210                 215                 220

Lys Ser Ser Ser Thr Ala Ser Met Glu Leu Arg Ser Leu Thr Ser Asp
225                 230                 235                 240

Asp Ser Ala Val Tyr Tyr Cys Ala Arg Arg Val Tyr Asp Asp Tyr Pro
                245                 250                 255
```

```
Tyr Tyr Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr Ser Val Thr Val
            260                 265                 270

Ser Ser Ala Lys Thr Thr Pro Pro Ser Val Thr Ser Gly Gly Gly Gly
        275                 280                 285

Ser Asp Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly
    290                 295                 300

Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Arg
305                 310                 315                 320

Tyr Thr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp
                325                 330                 335

Ile Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr Ala Asp Ser
            340                 345                 350

Val Lys Gly Arg Phe Thr Ile Thr Thr Asp Lys Ser Thr Ser Thr Ala
        355                 360                 365

Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Thr Tyr Tyr
    370                 375                 380

Cys Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr Trp Gly Gln
385                 390                 395                 400

Gly Thr Thr Val Thr Val Ser Ser Gly Glu Gly Thr Ser Thr Gly Ser
                405                 410                 415

Gly Gly Ser Gly Gly Ser Gly Gly Ala Asp Asp Ile Val Leu Thr Gln
            420                 425                 430

Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala Thr Leu Ser
        435                 440                 445

Cys Arg Ala Ser Gln Ser Val Ser Tyr Met Asn Trp Tyr Gln Gln Lys
    450                 455                 460
```

```
Pro Gly Lys Ala Pro Lys Arg Trp Ile Tyr Asp Thr Ser Lys Val Ala
465                 470                 475                 480


Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Tyr
                485                 490                 495


Ser Leu Thr Ile Asn Ser Leu Glu Ala Glu Asp Ala Ala Thr Tyr Tyr
            500                 505                 510


Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr Phe Gly Gly Gly Thr Lys
        515                 520                 525


Val Glu Ile Lys
    530
```

<210> 66
<211> 34865
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-605 (EnAd-CMV-FAPBiTE) without deca-His tag

<400> 66

```
tctatctata taatatacct tatagatgga atggtgccaa tatgtaaatg aggtgatttt       60

aaaaagtgtg gatcgtgtgg tgattggctg tggggttaac ggctaaaagg ggcggtgcga      120

ccgtgggaaa atgacgtttt gtgggggtgg agtttttttg caagttgtcg cgggaaatgt      180

gacgcataaa aaggcttttt tctcacggaa ctacttagtt ttcccacggt atttaacagg      240

aaatgaggta gttttgaccg gatgcaagtg aaaattgttg attttcgcgc gaaaactgaa      300

tgaggaagtg tttttctgaa taatgtggta tttatggcag ggtggagtat ttgttcaggg      360

ccaggtagac tttgacccat tacgtggagg tttcgattac cgtgtttttt acctgaattt      420

ccgcgtaccg tgtcaaagtc ttctgttttt acgtaggtgt cagctgatcg ctagggtatt      480

tatacctcag ggtttgtgtc aagaggccac tcttgagtgc cagcgagaag agttttctcc      540

tctgcgccgg cagtttaata ataaaaaaat gagagatttg cgatttctgc ctcaggaaat      600

aatctctgct gagactggaa atgaaatatt ggagcttgtg gtgcacgccc tgatgggaga      660

cgatccggag ccacctgtgc agctttttga gcctcctacg cttcaggaac tgtatgattt      720

agaggtagag ggatcggagg attctaatga ggaagctgta aatggctttt ttaccgattc      780
```

tatgctttta gctgctaatg aagggttaga attagatccg cctttggaca cttttgatac 840

tccaggggta attgtggaaa gcggtacagg tgtaagaaaa ttacctgatt tgagttccgt 900

ggactgtgat ttgcactgct atgaagacgg gtttcctccg agtgatgagg aggaccatga 960

aaaggagcag tccatgcaga ctgcagcggg tgagggagtg aaggctgcca atgttggttt 1020

tcagttggat tgcccggagc ttcctggaca tggctgtaag tcttgtgaat ttcacaggaa 1080

aaatactgga gtaaaggaac tgttatgttc gctttgttat atgagaacgc actgccactt 1140

tatttacagt aagtgtgttt aagttaaaat ttaaaggaat atgctgtttt tcacatgtat 1200

attgagtgtg agttttgtgc ttcttattat aggtcctgtg tctgatgctg atgaatcacc 1260

atctcctgat tctactacct cacctcctga gattcaagca cctgttcctg tggacgtgcg 1320

caagcccatt cctgtgaagc ttaagcctgg gaaacgtcca gcagtggaaa aacttgagga 1380

cttgttacag ggtggggacg gacctttgga cttgagtaca cggaaacgtc caagacaata 1440

agtgttccat atccgtgttt acttaaggtg acgtcaatat ttgtgtgaca gtgcaatgta 1500

ataaaaatat gttaactgtt cactggtttt tattgctttt tgggcgggga ctcaggtata 1560

taagtagaag cagacctgtg tggttagctc ataggagctg gctttcatcc atggaggttt 1620

gggccatttt ggaagacctt aggaagacta ggcaactgtt agagaacgct tcggacggag 1680

tctccggttt ttggagattc tggttcgcta gtgaattagc tagggtagtt tttaggataa 1740

aacaggacta taaacaagaa tttgaaaagt tgttggtaga ttgcccagga ctttttgaag 1800

ctcttaattt gggccatcag gttcacttta aagaaaaagt tttatcagtt ttagactttt 1860

caaccccagg tagaactgct gctgctgtgg cttttcttac ttttatatta gataaatgga 1920

tcccgcagac tcatttcagc aggggatacg ttttggattt catagccaca gcattgtgga 1980

gaacatggaa ggttcgcaag atgaggacaa tcttaggtta ctggccagtg cagcctttgg 2040

gtgtagcggg aatcctgagg catccaccgg tcatgccagc ggttctggag gaggaacagc 2100

aagaggacaa cccgagagcc ggcctggacc ctccagtgga ggaggcggag tagctgactt 2160

gtctcctgaa ctgcaacggg tgcttactgg atctacgtcc actggacggg ataggggcgt 2220

taagagggag agggcatcta gtggtactga tgctagatct gagttggctt taagtttaat 2280

gagtcgcaga cgtcctgaaa ccatttggtg gcatgaggtt cagaaagagg gaagggatga 2340

agtttctgta ttgcaggaga aatattcact ggaacaggtg aaaacatgtt ggttggagcc 2400

tgaggatgat tgggaggtgg ccattaaaaa ttatgccaag atagctttga ggcctgataa 2460

acagtataag attactagac ggattaatat ccggaatgct tgttacatat ctggaaatgg 2520

ggctgaggtg gtaatagata ctcaagacaa ggcagttatt agatgctgca tgatggatat 2580

gtggcctggg gtagtcggta tggaagcagt aacttttgta aatgttaagt ttaggggaga 2640

tggttataat ggaatagtgt ttatggccaa taccaaactt atattgcatg gttgtagctt 2700

ttttggtttc aacaatacct gtgtagatgc ctggggacag gttagtgtac ggggatgtag 2760

tttctatgcg tgttggattg ccacagctgg cagaaccaag agtcaattgt ctctgaagaa 2820

atgcatattt caaagatgta acctgggcat tctgaatgaa ggcgaagcaa gggtccgcca 2880

ctgcgcttct acagatactg gatgttttat tttgattaag ggaaatgcca gcgtaaagca 2940

taacatgatt tgcggtgctt ccgatgagag gccttatcaa atgctcactt gtgctggtgg 3000

gcattgtaat atgctggcta ctgtgcatat tgtttcccat caacgcaaaa aatggcctgt 3060

ttttgatcac aatgtgatga cgaagtgtac catgcatgca ggtgggcgta gaggaatgtt 3120

tatgccttac cagtgtaaca tgaatcatgt gaaagtgttg ttggaaccag atgccttttc 3180

cagaatgagc ctaacaggaa tttttgacat gaacatgcaa atctggaaga tcctgaggta 3240

tgatgatacg agatcgaggg tacgcgcatg cgaatgcgga ggcaagcatg ccaggttcca 3300

gccggtgtgt gtagatgtga ctgaagatct cagaccggat catttggtta ttgcccgcac 3360

tggagcagag ttcggatcca gtggagaaga aactgactaa ggtgagtatt gggaaaactt 3420

tggggtggga ttttcagatg gacagattga gtaaaaattt gtttttttctg tcttgcagct 3480

gtcatgagtg gaaacgcttc ttttaagggg ggagtcttca gcccttatct gacagggcgt 3540

ctcccatcct gggcaggagt tcgtcagaat gttatgggat ctactgtgga tggaagaccc 3600

gtccaacccg ccaattcttc aacgctgacc tatgctactt taagttcttc acctttggac 3660

gcagctgcag ctgccgccgc cgcttctgtt gccgctaaca ctgtgcttgg aatgggttac 3720

tatggaagca tcatggctaa ttccacttcc tctaataacc cttctaccct gactcaggac 3780

aagttacttg tccttttggc ccagctggag gctttgaccc aacgtctggg tgaactttct 3840

cagcaggtgg tcgagttgcg agtacaaact gagtctgctg tcggcacggc aaagtctaaa 3900

taaaaaaatc ccagaatcaa tgaataaata aacaagcttg ttgttgattt aaaatcaagt 3960

gtttttattt catttttcgc gcacggtatg ccctagacca ccgatctcta tcattgagaa 4020

ctcggtggat tttttccagg atcctataga ggtgggattg aatgtttaga tacatgggca 4080

ttaggccgtc tttggggtgg agatagctcc attgaaggga ttcatgctcc ggggtagtgt 4140

tgtaaatcac ccagtcataa caaggtcgca gtgcatggtg ttgcacaata tcttttagaa 4200

gtaggctgat tgccacagat aagcccttgg tgtaggtgtt tacaaaccgg ttgagctggg 4260

atgggtgcat tcggggtgaa attatgtgca ttttggattg gatttttaag ttggcaatat 4320

tgccgccaag atcccgtctt gggttcatgt tatgaaggac caccaagacg gtgtatccgg 4380

tacatttagg aaatttatcg tgcagcttgg atggaaaagc gtggaaaaat ttggagacac 4440

ccttgtgtcc tccaagattt tccatgcact catccatgat aatagcaatg gggccgtggg 4500

cagcggcgcg ggcaaacacg ttccgtgggt ctgacacatc atagttatgt tcctgagtta 4560

aatcatcata agccatttta atgaatttgg ggcggagagt accagattgg ggtatgaatg 4620

ttccttcggg ccccggagca tagttcccct cacagatttg catttcccaa gctttcagtt 4680

ccgagggtgg aatcatgtcc acctgggggg ctatgaaaaa caccgtttct ggggcggggg 4740

tgattaattg tgatgatagc aaatttctga gcaattgaga tttgccacat ccggtggggc 4800

cataaatgat tccgattacg ggttgcaggt ggtagtttag ggaacggcaa ctgccgtctt 4860

ctcgaagcaa gggggccacc tcgttcatca tttcccttac atgcatattt tcccgcacca 4920

aatccattag gaggcgctct cctcctagtg atagaagttc ttgtagtgag gaaaagtttt 4980

tcagcggttt cagaccgtca gccatgggca ttttggagag agtttgctgc aaaagttcta 5040

gtctgttcca cagttcagtg atgtgttcta tggcatctcg atccagcaga cctcctcgtt 5100

tcgcgggttt ggacggctcc tggaataggg tatgagacga tgggcgtcca gcgctgccag 5160

ggttcggtcc ttccagggtc tcagtgttcg agtcagggtt gtttccgtca cagtgaaggg 5220

gtgtgcgcct gcttgggcgc ttgccagggt gcgcttcaga ctcatcctgc tggtcgaaaa 5280

cttctgtcgc ttggcgccct gtatgtcggc caagtagcag tttaccatga gttcgtagtt 5340

gagcgcctcg gctgcgtggc ctttggcgcg gagcttacct ttggaagttt tcttgcatac 5400

cgggcagtat aggcatttca gcgcatacaa cttgggcgca aggaaaacgg attctgggga 5460

gtatgcatct gcgccgcagg aggcgcaaac agtttcacat tccaccagcc aggttaaatc 5520

cggttcattg gggtcaaaaa caagttttcc gccatatttt ttgatgcgtt tcttaccttt 5580

ggtctccatg agttcgtgtc ctcgttgagt gacaaacagg ctgtccgtgt ccccgtagac 5640

tgattttaca ggcctcttct ccagtggagt gcctcggtct tcttcgtaca ggaactctga 5700

ccactctgat acaaaggcgc gcgtccaggc cagcacaaag gaggctatgt gggaggggta 5760

gcgatcgttg tcaaccaggg ggtccacctt ttccaaagta tgcaaacaca tgtcaccctc 5820

ttcaacatcc aggaatgtga ttggcttgta ggtgtatttc acgtgacctg gggtccccgc 5880

tgggggggta taaaaggggg cggttctttg ctcttcctca ctgtcttccg gatcgctgtc 5940

caggaacgtc agctgttggg gtaggtattc cctctcgaag gcgggcatga cctctgcact 6000

caggttgtca gtttctaaga acgaggagga tttgatattg acagtgccgg ttgagatgcc 6060

tttcatgagg ttttcgtcca tctggtcaga aaacacaatt tttttattgt caagtttggt 6120

ggcaaatgat ccatacaggg cgttggataa aagtttggca atggatcgca tggtttggtt 6180

cttttccttg tccgcgcgct ctttggcggc gatgttgagt tggacatact cgcgtgccag 6240

gcacttccat tcggggaaga tagttgttaa ttcatctggc acgattctca cttgccaccc 6300

tcgattatgc aaggtaatta aatccacact ggtggccacc tcgcctcgaa ggggttcatt 6360

ggtccaacag agcctacctc ctttcctaga acagaaaggg ggaagtgggt ctagcataag 6420

ttcatcggga gggtctgcat ccatggtaaa gattcccgga agtaaatcct tatcaaaata 6480

gctgatggga gtggggtcat ctaaggccat ttgccattct cgagctgcca gtgcgcgctc 6540

atatgggtta aggggactgc cccatggcat gggatgggtg agtgcagagg catacatgcc 6600

acagatgtca tagacgtaga tgggatcctc aaagatgcct atgtaggttg gatagcatcg 6660

ccccccctctg atacttgctc gcacatagtc atatagttca tgtgatggcg ctagcagccc 6720

cggacccaag ttggtgcgat tgggtttttc tgttctgtag acgatctggc gaaagatggc 6780

gtgagaattg gaagagatgg tgggtctttg aaaaatgttg aaatgggcat gaggtagacc 6840

tacagagtct ctgacaaagt gggcataaga ttcttgaagc ttggttacca gttcggcggt 6900

gacaagtacg tctagggcgc agtagtcaag tgtttcttga atgatgtcat aacctggttg 6960

gtttttcttt tcccacagtt cgcggttgag aaggtattct tcgcgatcct tccagtactc 7020

ttctagcgga aacccgtctt tgtctgcacg gtaagatcct agcatgtaga actgattaac 7080

tgccttgtaa gggcagcagc ccttctctac gggtagagag tatgcttgag cagcttttcg 7140

tagcgaagcg tgagtaaggg caaaggtgtc tctgaccatg actttgagga attggtattt 7200

gaagtcgatg tcgtcacagg ctccctgttc ccagagttgg aagtctaccc gtttcttgta 7260

ggcggggttg ggcaaagcga aagtaacatc attgaagaga atcttgccgg ccctgggcat 7320

gaaattgcga gtgatgcgaa aaggctgtgg tacttccgct cggttattga taacctgggc 7380

agctaggacg atctcgtcga aaccgttgat gttgtgtcct acgatgtata attctatgaa 7440

acgcggcgtg cctctgacgt gaggtagctt actgagctca tcaaaggtta ggtctgtggg 7500

gtcagataag gcgtagtgtt cgagagccca ttcgtgcagg tgaggattcg ctttaaggaa 7560

ggaggaccag aggtccactg ccagtgctgt ttgtaactgg tcccggtact gacgaaaatg 7620

ccgtccgact gccatttttt ctggggtgac gcaatagaag gtttgggggt cctgccgcca 7680

gcgatcccac ttgagtttta tggcgaggtc ataggcgatg ttgacgagcc gctggtctcc 7740

agagagtttc atgaccagca tgaaggggat tagctgcttg ccaaaggacc ccatccaggt 7800

gtaggtttcc acatcgtagg tgagaaagag cctttctgtg cgaggatgag agccaatcgg 7860

gaagaactgg atctcctgcc accagttgga ggaatggctg ttgatgtgat ggaagtagaa 7920

ctccctgcga cgcgccgagc attcatgctt gtgcttgtac agacggccgc agtagtcgca 7980

gcgttgcacg ggttgtatct cgtgaatgag ttgtacctgg cttcccttga cgagaaattt 8040

cagtgggaag ccgaggcctg gcgattgtat ctcgtgcttt actatgttgt ctgcatcggc 8100

ctgttcatct tctgtctcga tggtggtcat gctgacgagc cctcgcggga ggcaagtcca 8160

gacctcggcg cggcaggggc ggagctcgag gacgagagcg cgcaggctgg agctgtccag 8220

ggtcctgaga cgctgcggac tcaggttagt aggcagtgtc aggagattaa cttgcatgat 8280

cttttggagg gcgtgcggga ggttcagata gtacttgatc tcaacgggtc cgttggtgga 8340

gatgtcgatg gcttgcaggg ttccgtgtcc cttgggcgct accaccgtgc ccttgttttt 8400

cattttggac ggcggtggct ctgttgcttc ttgcatgttt agaagcggtg tcgagggcgc 8460

gcaccgggcg gcaggggcgg ctcgggaccc ggcggcatgg ctggcagtgg tacgtcggcg 8520

ccgcgcgcgg gtaggttctg gtactgcgcc ctgagaagac tcgcatgcgc gacgacgcgg 8580

cggttgacat cctggatctg acgcctctgg gtgaaagcta ccggccccgt gagcttgaac 8640

ctgaaagaga gttcaacaga atcaatctcg gtatcgttga cggcggcttg cctaaggatt 8700

tcttgcacgt caccagagtt gtcctggtag gcgatctccg ccatgaactg ctcgatctct 8760

tcctcttgaa gatctccgcg gcccgctctc tcgacggtgg ccgcgaggtc gttggagatg 8820

cgcccaatga gttgagagaa tgcattcatg cccgcctcgt tccagacgcg gctgtagacc 8880

acggccccca cgggatctct cgcgcgcatg accacctggg cgaggttgag ctccacgtgg 8940

cgggtgaaga ccgcatagtt gcataggcgc tggaaaaggt agttgagtgt ggtggcgatg 9000

tgctcggtga cgaagaaata catgatccat cgtctcagcg gcatctcgct gacatcgccc 9060

agagcttcca agcgctccat ggcctcgtag aagtccacgg caaaattaaa aaactgggag 9120

tttcgcgcgg acacggtcaa ctcctcttcc agaagacgga taagttcggc gatggtggtg 9180

cgcacctcgc gctcgaaagc ccctgggatt tcttcctcaa tctcttcttc ttccactaac 9240

atctcttcct cttcaggtgg ggctgcagga ggagggggaa cgcggcgacg ccggcggcgc 9300

acgggcagac ggtcgatgaa tctttcaatg acctctccgc ggcggcggcg catggtttca 9360

gtgacggcgc ggccgttctc gcgcggtcgc agagtaaaaa caccgccgcg catctcctta 9420

aagtggtgac tgggaggttc tccgtttggg agggagaggg cgctgattat acattttatt 9480

aattggcccg tagggactgc acgcagagat ctgatcgtgt caagatccac gggatctgaa 9540

aacctttcga cgaaagcgtc taaccagtca cagtcacaag gtaggctgag tacggcttct 9600

tgtgggcggg ggtggttatg tgttcggtct gggtcttctg tttcttcttc atctcgggaa 9660

ggtgagacga tgctgctggt gatgaaatta aagtaggcag ttctaagacg gcggatggtg 9720

gcgaggagca ccaggtcttt gggtccggct tgctggatac gcaggcgatt ggccattccc 9780

caagcattat cctgacatct agcaagatct ttgtagtagt cttgcatgag ccgttctacg 9840

ggcacttctt cctcacccgt tctgccatgc atacgtgtga gtccaaatcc gcgcattggt 9900

tgtaccagtg ccaagtcagc tacgactctt tcggcgagga tggcttgctg tacttgggta 9960

agggtggctt gaaagtcatc aaaatccaca aagcggtggt aagctcctgt attaatggtg 10020

taagcacagt tggccatgac tgaccagtta actgtctggt gaccagggcg cacgagctcg 10080

gtgtatttaa ggcgcgaata ggcgcgggtg tcaaagatgt aatcgttgca ggtgcgcacc 10140

agatactggt accctataag aaaatgcggc ggtggttggc ggtagagagg ccatcgttct 10200

gtagctggag cgccaggggc gaggtcttcc aacataaggc ggtgatagcc gtagatgtac 10260

ctggacatcc aggtgattcc tgcggcggta gtagaagccc gaggaaactc gcgtacgcgg 10320

ttccaaatgt tgcgtagcgg catgaagtag ttcattgtag gcacggtttg accagtgagg 10380

cgcgcgcagt cattgatgct ctatagacac ggagaaaatg aaagcgttca gcgactcgac 10440

tccgtagcct ggaggaacgt gaacgggttg ggtcgcggtg taccccggtt cgagacttgt 10500

actcgagccg gccggagccg cggctaacgt ggtattggca ctcccgtctc gacccagcct 10560

acaaaaatcc aggatacgga atcgagtcgt tttgctggtt tccgaatggc agggaagtga 10620

gtcctatttt tttttttgc cgctcagatg catcccgtgc tgcgacagat gcgcccccaa 10680

caacagcccc cctcgcagca gcagcagcag caatcacaaa aggctgtccc tgcaactact 10740

gcaactgccg ccgtgagcgg tgcgggacag cccgcctatg atctggactt ggaagagggc 10800

gaaggactgg cacgtctagg tgcgccttca cccgagcggc atccgcgagt tcaactgaaa 10860

aaagattctc gcgaggcgta tgtgccccaa cagaacctat ttagagacag aagcggcgag 10920

gagccggagg agatgcgagc ttcccgcttt aacgcgggtc gtgagctgcg tcacggtttg 10980

gaccgaagac gagtgttgcg ggacgaggat ttcgaagttg atgaaatgac agggatcagt 11040

cctgccaggg cacacgtggc tgcagccaac cttgtatcgg cttacgagca gacagtaaag 11100

gaagagcgta acttccaaaa gtcttttaat aatcatgtgc gaaccctgat tgcccgcgaa 11160

gaagttaccc ttggtttgat gcatttgtgg gatttgatgg aagctatcat tcagaaccct 11220

actagcaaac ctctgaccgc ccagctgttt ctggtggtgc aacacagcag agacaatgag 11280

gctttcagag aggcgctgct gaacatcacc gaacccgagg ggagatggtt gtatgatctt 11340

atcaacattc tacagagtat catagtgcag gagcggagcc tgggcctggc cgagaaggtg 11400

gctgccatca attactcggt tttgagcttg ggaaaatatt acgctcgcaa aatctacaag 11460

actccatacg ttcccataga caaggaggtg aagatagatg ggttctacat gcgcatgacg 11520

ctcaaggtct tgaccctgag cgatgatctt ggggtgtatc gcaatgacag aatgcatcgc 11580

gcggttagcg ccagcaggag gcgcgagtta agcgacaggg aactgatgca cagtttgcaa 11640

agagctctga ctggagctgg aaccgagggt gagaattact tcgacatggg agctgacttg 11700

cagtggcagc ctagtcgcag ggctctgagc gccgcgacgg caggatgtga gcttccttac 11760

atagaagagg cggatgaagg cgaggaggaa gagggcgagt acttggaaga ctgatggcac 11820

aacccgtgtt ttttgctaga tggaacagca agcaccggat cccgcaatgc gggcggcgct 11880

gcagagccag ccgtccggca ttaactcctc ggacgattgg acccaggcca tgcaacgtat 11940

catggcgttg acgactcgca accccgaagc ctttagacag caaccccagg ccaaccgtct 12000

atcggccatc atggaagctg tagtgccttc ccgctctaat cccactcatg agaaggtcct 12060

ggccatcgtg aacgcgttgg tggagaacaa agctattcgt ccagatgagg ccggactggt 12120

atacaacgct ctcttagaac gcgtggctcg ctacaacagt agcaatgtgc aaaccaattt 12180

ggaccgtatg ataacagatg tacgcgaagc cgtgtctcag cgcgaaaggt tccagcgtga 12240

tgccaacctg ggttcgctgg tggcgttaaa tgctttcttg agtactcagc ctgctaatgt 12300

gccgcgtggt caacaggatt atactaactt tttaagtgct ttgagactga tggtatcaga 12360

agtacctcag agcgaagtgt atcagtccgg tcctgattac ttctttcaga ctagcagaca 12420

gggcttgcag acggtaaatc tgagccaagc ttttaaaaac cttaaaggtt tgtggggagt 12480

gcatgccccg gtaggagaaa gagcaaccgt gtctagcttg ttaactccga actcccgcct 12540

attattactg ttggtagctc ctttcaccga cagcggtagc atcgaccgta attcctattt 12600

gggttaccta ctaaacctgt atcgcgaagc catagggcaa agtcaggtgg acgagcagac 12660

ctatcaagaa attacccaag tcagtcgcgc tttgggacag gaagacactg gcagtttgga 12720

agccactctg aacttcttgc ttaccaatcg gtctcaaaag atccctcctc aatatgctct 12780

tactgcggag gaggagagga tccttagata tgtgcagcag agcgtgggat tgtttctgat 12840

gcaagagggg gcaactccga ctgcagcact ggacatgaca gcgcgaaata tggagcccag 12900

catgtatgcc agtaaccgac ctttcattaa caaactgctg gactacttgc acagagctgc 12960

cgctatgaac tctgattatt tcaccaatgc catcttaaac ccgcactggc tgcccccacc 13020

tggtttctac acgggcgaat atgacatgcc cgaccctaat gacggatttc tgtgggacga 13080

cgtggacagc gatgtttttt cacctctttc tgatcatcgc acgtggaaaa aggaaggcgg 13140

cgatagaatg cattcttctg catcgctgtc cggggtcatg ggtgctaccg cggctgagcc 13200

cgagtctgca agtccttttc ctagtctacc cttttctcta cacagtgtac gtagcagcga 13260

agtgggtaga ataagtcgcc cgagtttaat gggcgaagag gagtatctaa acgattcctt 13320

gctcagaccg gcaagagaaa aaaatttccc aaacaatgga atagaaagtt tggtggataa 13380

aatgagtaga tggaagactt atgctcagga tcacagagac gagcctggga tcatggggat 13440

tacaagtaga gcgagccgta gacgccagcg ccatgacaga cagaggggtc ttgtgtggga 13500

cgatgaggat tcggccgatg atagcagcgt gctggacttg ggtgggagag gaaggggcaa 13560

cccgtttgct catttgcgcc ctcgcttggg tggtatgttg taaaaaaaaa taaaaaaaaa 13620

actcaccaag gccatggcga cgagcgtacg ttcgttcttc tttattatct gtgtctagta 13680

taatgaggcg agtcgtgcta ggcggagcgg tggtgtatcc ggagggtcct cctccttcgt 13740

acgagagcgt gatgcagcag cagcaggcga cggcggtgat gcaatcccca ctggaggctc 13800

cctttgtgcc tccgcgatac ctggcaccta cggagggcag aaacagcatt cgttattcgg 13860

aactggcacc tcagtacgat accaccaggt tgtatctggt ggacaacaag tcggcggaca 13920

ttgcttctct gaactatcag aatgaccaca gcaacttctt gaccacggtg gtgcaaaaca 13980

atgactttac ccctacggaa gccagcaccc agaccattaa ctttgatgaa cgatcgcggt 14040

ggggcggtca gctaaagacc atcatgcata ctaacatgcc aaacgtgaac gagtatatgt 14100

ttagtaacaa gttcaaagcg cgtgtgatgg tgtccagaaa acctcccgac ggtgctgcag 14160

ttggggatac ttatgatcac aagcaggata ttttgaaata tgagtggttc gagtttactt 14220

tgccagaagg caacttttca gttactatga ctattgattt gatgaacaat gccatcatag 14280

ataattactt gaaagtgggt agacagaatg gagtgcttga aagtgacatt ggtgttaagt 14340

tcgacaccag gaacttcaag ctgggatggg atcccgaaac caagttgatc atgcctggag 14400

tgtatacgta tgaagccttc catcctgaca ttgtcttact gcctggctgc ggagtggatt 14460

ttaccgagag tcgtttgagc aaccttcttg gtatcagaaa aaaacagcca tttcaagagg 14520

gttttaagat tttgtatgaa gatttagaag gtggtaatat tccggccctc ttggatgtag 14580

atgcctatga gaacagtaag aaagaacaaa aagccaaaat agaagctgct acagctgctg 14640

cagaagctaa ggcaaacata gttgccagcg actctacaag ggttgctaac gctggagagg 14700

tcagaggaga caattttgcg ccaacacctg ttccgactgc agaatcatta ttggccgatg 14760

tgtctgaagg aacggacgtg aaactcacta ttcaacctgt agaaaaagat agtaagaata 14820

gaagctataa tgtgttggaa gacaaaatca acacagccta tcgcagttgg tatctttcgt 14880

acaattatgg cgatcccgaa aaaggagtgc gttcctggac attgctcacc acctcagatg 14940

tcacctgcgg agcagagcag gtctactggt cgcttccaga catgatgaag gatcctgtca 15000

ctttccgctc cactagacaa gtcagtaact accctgtggt gggtgcagag cttatgcccg 15060

tcttctcaaa gagcttctac aacgaacaag ctgtgtactc ccagcagctc cgccagtcca 15120

cctcgcttac gcacgtcttc aaccgctttc ctgagaacca gattttaatc cgtccgccgg 15180

cgcccaccat taccaccgtc agtgaaaacg ttcctgctct cacagatcac gggaccctgc 15240

cgttgcgcag cagtatccgg ggagtccaac gtgtgaccgt tactgacgcc agacgccgca 15300

cctgtcccta cgtgtacaag gcactgggca tagtcgcacc gcgcgtcctt tcaagccgca 15360

ctttctaaaa aaaaaaaaaa tgtccattct tatctcgccc agtaataaca ccggttgggg 15420

tctgcgcgct ccaagcaaga tgtacggagg cgcacgcaaa cgttctaccc aacatcctgt 15480

ccgtgttcgc ggacattttc gcgctccatg gggcgccctc aagggccgca ctcgcgttcg 15540

aaccaccgtc gatgatgtaa tcgatcaggt ggttgccgac gcccgtaatt atactcctac 15600

tgcgcctaca tctactgtgg atgcagttat tgacagtgta gtggctgacg ctcgcaacta 15660

tgctcgacgt aagagccggc gaaggcgcat tgccagacgc caccgagcta ccactgccat 15720

gcgagccgca agagctctgc tacgaagagc tagacgcgtg gggcgaagag ccatgcttag 15780

ggcggccaga cgtgcagctt cgggcgccag cgccggcagg tcccgcaggc aagcagccgc 15840

tgtcgcagcg gcgactattg ccgacatggc ccaatcgcga agaggcaatg tatactgggt 15900

gcgtgacgct gccaccggtc aacgtgtacc cgtgcgcacc cgtccccctc gcacttagaa 15960

gatactgagc agtctccgat gttgtgtccc agcggcgagg atgtccaagc gcaaatacaa 16020

ggaagaaatg ctgcaggtta tcgcacctga agtctacggc caaccgttga aggatgaaaa 16080

aaaaccccgc aaaatcaagc gggttaaaaa ggacaaaaaa gaagaggaag atggcgatga 16140

tgggctggcg gagtttgtgc gcgagtttgc cccacggcga cgcgtgcaat ggcgtgggcg 16200

caaagttcga catgtgttga gacctggaac ttcggtggtc tttacacccg gcgagcgttc 16260

aagcgctact tttaagcgtt cctatgatga ggtgtacggg gatgatgata ttcttgagca 16320

ggcggctgac cgattaggcg agtttgctta tggcaagcgt agtagaataa cttccaagga 16380

tgagacagtg tcgataccct tggatcatgg aaatcccacc cctagtctta aaccggtcac 16440

tttgcagcaa gtgttacccg taactccgcg aacaggtgtt aaacgcgaag gtgaagattt 16500

gtatcccact atgcaactga tggtacccaa acgccagaag ttggaggacg ttttggagaa 16560

agtaaaagtg gatccagata ttcaacctga ggttaaagtg agacccatta agcaggtagc 16620

gcctggtctg ggggtacaaa ctgtagacat taagattccc actgaaagta tggaagtgca 16680

aactgaaccc gcaaagccta ctgccacctc cactgaagtg caaacggatc catggatgcc 16740

catgcctatt acaactgacg ccgccggtcc cactcgaaga tcccgacgaa agtacggtcc 16800

agcaagtctg ttgatgccca attatgttgt acacccatct attattccta ctcctggtta 16860

ccgaggcact cgctactatc gcagccgaaa cagtacctcc cgccgtcgcc gcaagacacc 16920

tgcaaatcgc agtcgtcgcc gtagacgcac aagcaaaccg actcccggcg ccctggtgcg 16980

gcaagtgtac cgcaatggta gtgcggaacc tttgacactg ccgcgtgcgc gttaccatcc 17040

gagtatcatc acttaatcaa tgttgccgct gcctccttgc agatatggcc ctcacttgtc 17100

gccttcgcgt tcccatcact ggttaccgag gaagaaactc gcgccgtaga agagggatgt 17160

tgggacgcgg aatgcgacgc tacaggcgac ggcgtgctat ccgcaagcaa ttgcggggtg 17220

gtttttacc agccttaatt ccaattatcg ctgctgcaat tggcgcgata ccaggcatag 17280

cttccgtggc ggttcaggcc tcgcaacgac attgacattg gaaaaaaacg tataaataaa 17340

aaaaaaaaaa tacaatggac tctgacactc ctggtcctgt gactatgttt tcttagagat 17400

ggaagacatc aatttttcat ccttggctcc gcgacacggc acgaagccgt acatgggcac 17460

ctggagcgac atcggcacga gccaactgaa cgggggcgcc ttcaattgga gcagtatctg 17520

gagcgggctt aaaaattttg gctcaaccat aaaaacatac gggaacaaag cttggaacag 17580

cagtacagga caggcgctta gaaataaact taaagaccag aacttccaac aaaaagtagt 17640

cgatgggata gcttccggca tcaatggagt ggtagatttg gctaaccagg ctgtgcagaa 17700

aaagataaac agtcgtttgg acccgccgcc agcaacccca ggtgaaatgc aagtggagga 17760

agaaattcct ccgccagaaa aacgaggcga caagcgtccg cgtcccgatt tggaagagac 17820

gctggtgacg cgcgtagatg aaccgccttc ttatgaggaa gcaacgaagc ttggaatgcc 17880

caccactaga ccgatagccc caatggccac cggggtgatg aaaccttctc agttgcatcg 17940

acccgtcacc ttggatttgc ccctcccccc tgctgctact gctgtacccg cttctaagcc 18000

tgtcgctgcc ccgaaaccag tcgccgtagc caggtcacgt cccgggggcg ctcctcgtcc 18060

aaatgcgcac tggcaaaata ctctgaacag catcgtgggt ctaggcgtgc aaagtgtaaa 18120

acgccgtcgc tgcttttaat taaatatgga gtagcgctta acttgcctat ctgtgtatat 18180

gtgtcattac acgccgtcac agcagcagag gaaaaaagga agaggtcgtg cgtcgacgct 18240

gagttacttt caagatggcc accccatcga tgctgcccca atgggcatac atgcacatcg 18300

ccggacagga tgcttcggag tacctgagtc cgggtctggt gcagttcgcc cgcgccacag 18360

acacctactt caatctggga aataagttta gaaatcccac cgtagcgccg acccacgatg 18420

tgaccaccga ccgtagccag cggctcatgt tgcgcttcgt gcccgttgac cgggaggaca 18480

atacatactc ttacaaagtg cggtacaccc tggccgtggg cgacaacaga gtgctggata 18540

tggccagcac gttctttgac attaggggtg tgttggacag aggtcccagt ttcaaaccct 18600

attctggtac ggcttacaac tccctggctc ctaaaggcgc tccaaataca tctcagtgga 18660

ttgcagaagg tgtaaaaaat acaactggtg aggaacacgt aacagaagag gaaaccaata 18720

ctactactta cacttttggc aatgctcctg taaaagctga agctgaaatt acaaaagaag 18780

gactcccagt aggtttggaa gtttcagatg aagaaagtaa accgatttat gctgataaaa 18840

catatcagcc agaacctcag ctgggagatg aaacttggac tgaccttgat ggaaaaaccg 18900

aaaagtatgg aggcagggct ctcaaacccg atactaagat gaaaccatgc tacgggtcct 18960

ttgccaaacc tactaatgtg aaaggcggtc aggcaaaaca aaaaacaacg gagcagccaa 19020

atcagaaagt cgaatatgat atcgacatgg agtttttga tgcggcatcg cagaaaacaa 19080

acttaagtcc taaaattgtc atgtatgcag aaaatgtaaa tttggaaact ccagacactc 19140

atgtagtgta caaacctgga acagaagaca caagttccga agctaatttg ggacaacaat 19200

ctatgcccaa cagacccaac tacattggct tcagagataa ctttattgga cttatgtact 19260

ataacagtac tggtaacatg ggggtgctgg ctggtcaagc gtctcagtta aatgcagtgg 19320

ttgacttgca ggacagaaac acagaacttt cttaccaact cttgcttgac tctctgggcg 19380

acagaaccag atactttagc atgtggaatc aggctgtgga cagttatgat cctgatgtac 19440

gtgttattga aaatcatggt gtggaagatg aacttcccaa ctactgtttt ccactggacg 19500

gcataggtgt tccaacaacc agttacaaat caatagttcc aaatggagac aatgcgccta 19560

attggaagga acctgaagta aatggaacaa gtgagatcgg acagggtaat ttgtttgcca 19620

tggaaattaa ccttcaagcc aatctatggc gaagtttcct ttattccaat gtggctctat 19680

atctcccaga ctcgtacaaa tacaccccgt ccaatgtcac tcttccagaa aacaaaaaca 19740

cctacgacta catgaacggg cgggtggtgc cgccatctct agtagacacc tatgtgaaca 19800

ttggtgccag gtggtctctg gatgccatgg acaatgtcaa cccattcaac caccaccgta 19860

acgctggctt gcgttaccga tccatgcttc tgggtaacgg acgttatgtg cctttccaca 19920

tacaagtgcc tcaaaaattc ttcgctgtta aaaacctgct gcttctccca ggctcctaca 19980

cttatgagtg gaactttagg aaggatgtga acatggttct acagagttcc ctcggtaacg 20040

acctgcgggt agatggcgcc agcatcagtt tcacgagcat caacctctat gctacttttt 20100

tccccatggc tcacaacacc gcttccaccc ttgaagccat gctgcggaat gacaccaatg 20160

atcagtcatt caacgactac ctatctgcag ctaacatgct ctaccccatt cctgccaatg 20220

caaccaatat tcccatttcc attccttctc gcaactgggc ggctttcaga ggctggtcat 20280

ttaccagact gaaaaccaaa gaaactccct ctttggggtc tggatttgac ccctactttg 20340

tctattctgg ttctattccc tacctggatg gtaccttcta cctgaaccac acttttaaga 20400

aggtttccat catgtttgac tcttcagtga gctggcctgg aaatgacagg ttactatctc 20460

ctaacgaatt tgaaataaag cgcactgtgg atggcgaagg ctacaacgta gcccaatgca 20520

acatgaccaa agactggttc ttggtacaga tgctcgccaa ctacaacatc ggctatcagg 20580

gcttctacat tccagaagga tacaaagatc gcatgtattc atttttcaga aacttccagc 20640

ccatgagcag gcaggtggtt gatgaggtca attacaaaga cttcaaggcc gtcgccatac 20700

cctaccaaca caacaactct ggctttgtgg gttacatggc tccgaccatg cgccaaggtc 20760

aaccctatcc cgctaactat ccctatccac tcattggaac aactgccgta aatagtgtta 20820

cgcagaaaaa gttcttgtgt gacagaacca tgtggcgcat accgttctcg agcaacttca 20880

tgtctatggg ggcccttaca gacttgggac agaatatgct ctatgccaac tcagctcatg 20940

ctctggacat gacctttgag gtggatccca tggatgagcc caccctgctt tatcttctct 21000

tcgaagtttt cgacgtggtc agagtgcatc agccacaccg cggcatcatc gaggcagtct 21060

acctgcgtac accgttctcg gccggtaacg ctaccacgta agaagcttct tgcttcttgc 21120

aaatagcagc tgcaaccatg gcctgcggat cccaaaacgg ctccagcgag caagagctca 21180

gagccattgt ccaagacctg ggttgcggac cctatttttt gggaacctac gataagcgct 21240

tcccggggtt catggccccc gataagctcg cctgtgccat tgtaaatacg gccggacgtg 21300

agacgggggg agagcactgg ttggctttcg gttggaaccc acgttctaac acctgctacc 21360

tttttgatcc ttttggattc tcggatgatc gtctcaaaca gatttaccag tttgaatatg 21420

agggtctcct gcgccgcagc gctcttgcta ccaaggaccg ctgtattacg ctggaaaaat 21480

ctacccagac cgtgcagggt ccccgttctg ccgcctgcgg acttttctgc tgcatgttcc 21540

ttcacgcctt tgtgcactgg cctgaccgtc ccatggacgg aaaccccacc atgaaattgc 21600

taactggagt gccaaacaac atgcttcatt ctcctaaagt ccagcccacc ctgtgtgaca 21660

atcaaaaagc actctaccat tttcttaata cccattcgcc ttattttcgc tcccatcgta 21720

cacacatcga aagggccact gcgttcgacc gtatggatgt tcaataatga ctcatgtaaa 21780

caacgtgttc aataaacatc actttatttt tttacatgta tcaaggctct gcattactta 21840

tttatttaca agtcgaatgg gttctgacga gaatcagaat gacccgcagg cagtgatacg 21900

ttgcggaact gatacttggg ttgccacttg aattcgggaa tcaccaactt gggaaccggt 21960

atatcgggca ggatgtcact ccacagcttt ctggtcagct gcaaagctcc aagcaggtca 22020

ggagccgaaa tcttgaaatc acaattagga ccagtgcttt gagcgcgaga gttgcggtac 22080

accggattgc agcactgaaa caccatcagc gacggatgtc tcacgcttgc cagcacggtg 22140

ggatctgcaa tcatgcccac atccagatct tcagcattgg caatgctgaa cggggtcatc 22200

ttgcaggtct gcctacccat ggcgggcacc caattaggct tgtggttgca atcgcagtgc 22260

agggggatca gtatcatctt ggcctgatcc tgtctgattc ctggatacac ggctctcatg 22320

aaagcatcat attgcttgaa agcctgctgg gctttactac cctcggtata aaacatcccg 22380

caggacctgc tcgaaaactg gttagctgca cagccggcat cattcacaca gcagcgggcg 22440

tcattgttag ctatttgcac cacacttctg ccccagcggt tttgggtgat tttggttcgc 22500

tcgggattct cctttaaggc tcgttgtccg ttctcgctgg ccacatccat ctcgataatc 22560

tgctccttct gaatcataat attgccatgc aggcacttca gcttgccctc ataatcattg 22620

cagccatgag gccacaacgc acagcctgta cattcccaat tatggtgggc gatctgagaa 22680

aaagaatgta tcattccctg cagaaatctt cccatcatcg tgctcagtgt cttgtgacta 22740

gtgaaagtta actggatgcc tcggtgctcc tcgtttacgt actggtgaca gatgcgcttg 22800

tattgttcgt gttgctcagg cattagttta aaagaggttc taagttcgtt atccagcctg 22860

tacttctcca tcagcagaca catcacttcc atgcctttct cccaagcaga caccaggggc 22920

aagctaatcg gattcttaac agtgcaggca gcagctcctt tagccagagg gtcatcttta 22980

gcgatcttct caatgcttct tttgccatcc ttctcaacga tgcgcacggg cgggtagctg 23040

aaacccactg ctacaagttg cgcctcttct ctttcttctt cgctgtcttg actgatgtct 23100

tgcatgggga tatgtttggt cttccttggc ttctttttgg ggggtatcgg aggaggagga 23160

ctgtcgctcc gttccggaga cagggaggat tgtgacgttt cgctcaccat taccaactga 23220

ctgtcggtag aagaacctga ccccacacgg cgacaggtgt ttctcttcgg gggcagaggt 23280

ggaggcgatt gcgaagggct gcggtccgac ctggaaggcg gatgactggc agaacccctt 23340

ccgcgttcgg gggtgtgctc cctgtggcgg tcgcttaact gatttccttc gcggctggcc 23400

attgtgttct cctaggcaga gaaacaacag acatggaaac tcagccattg ctgtcaacat 23460

cgccacgagt gccatcacat ctcgtcctca gcgacgagga aaaggagcag agcttaagca 23520

ttccaccgcc cagtcctgcc accacctcta ccctagaaga taaggaggtc gacgcatctc 23580

atgacatgca gaataaaaaa gcgaaagagt ctgagacaga catcgagcaa gacccgggct 23640

atgtgacacc ggtggaacac gaggaagagt tgaaacgctt tctagagaga gaggatgaaa 23700

actgcccaaa acaacgagca gataactatc accaagatgc tggaaatagg gatcagaaca 23760

ccgactacct catagggctt gacggggaag acgcgctcct taaacatcta gcaagacagt 23820

cgctcatagt caaggatgca ttattggaca gaactgaagt gcccatcagt gtggaagagc 23880

tcagccgcgc ctacgagctt aacctctttt cacctcgtac tccccccaaa cgtcagccaa 23940

acggcacctg cgagccaaat cctcgcttaa acttttatcc agcttttgct gtgccagaag 24000

tactggctac ctatcacatc ttttttaaaa atcaaaaaat tccagtctcc tgccgcgcta 24060

atcgcacccg cgccgatgcc ctactcaatc tgggacctgg ttcacgctta cctgatatag 24120

cttccttgga agaggttcca aagatcttcg agggtctggg caataatgag actcgggccg 24180

caaatgctct gcaaaaggga gaaaatggca tggatgagca tcacagcgtt ctggtggaat 24240

tggaaggcga taatgccaga ctcgcagtac tcaagcgaag catcgaggtc acacacttcg 24300

catatcccgc tgtcaacctg ccccctaaag tcatgacggc ggtcatggac cagttactca 24360

ttaagcgcgc aagtcccctt tcagaagaca tgcatgaccc agatgcctgt gatgagggta 24420

aaccagtggt cagtgatgag cagctaaccc gatggctggg caccgactct cccagggatt 24480

tggaagagcg tcgcaagctt atgatggccg tggtgctggt taccgtagaa ctagagtgtc 24540

tccgacgttt ctttaccgat tcagaaacct tgcgcaaact cgaagagaat ctgcactaca 24600

cttttagaca cggctttgtg cggcaggcat gcaagatatc taacgtggaa ctcaccaacc 24660

tggtttccta catgggtatt ctgcatgaga atcgcctagg acaaagcgtg ctgcacagca 24720

ccctgaaggg ggaagcccgc cgtgattaca tccgcgattg tgtctatctg tacctgtgcc 24780

acacgtggca aaccggcatg ggtgtatggc agcaatgttt agaagaacag aacttgaaag 24840

agcttgacaa gctcttacag aaatctctta aggttctgtg gacagggttc gacgagcgca 24900

ccgtcgcttc cgacctggca gacctcatct tcccagagcg tctcagggtt actttgcgaa 24960

acggattgcc tgactttatg agccagagca tgcttaacaa ttttcgctct ttcatcctgg 25020

aacgctccgg tatcctgccc gccacctgct gcgcactgcc ctccgacttt gtgcctctca 25080

cctaccgcga gtgccccccg ccgctatgga gtcactgcta cctgttccgt ctggccaact 25140

atctctccta ccactcggat gtgatcgagg atgtgagcgg agacggcttg ctggagtgtc 25200

actgccgctg caatctgtgc acgccccacc ggtccctagc ttgcaacccc cagttgatga 25260

gcgaaaccca gataataggc acctttgaat tgcaaggccc cagcagccaa ggcgatgggt 25320

cttctcctgg gcaaagttta aaactgaccc cgggactgtg gacctccgcc tacttgcgca 25380

agtttgctcc ggaagattac cacccctatg aaatcaagtt ctatgaggac caatcacagc 25440

ctccaaaggc cgaactttcg gcctgcgtca tcacccaggg ggcaattctg gcccaattgc 25500

aagccatcca aaaatcccgc caagaatttc tactgaaaaa gggtaagggg gtctaccttg 25560

acccccagac cggcgaggaa ctcaacacaa ggttccctca ggatgtccca acgacgagaa 25620

aacaagaagt tgaaggtgca gccgccgccc ccagaagata tggaggaaga ttgggacagt 25680

caggcagagg aggcggagga ggacagtctg gaggacagtc tggaggaaga cagtttggag 25740

gaggaaaacg aggaggcaga ggaggtggaa gaagtaaccg ccgacaaaca gttatcctcg 25800

gctgcggaga caagcaacag cgctaccatc tccgctccga gtcgaggaac ccggcggcgt 25860

cccagcagta gatgggacga gaccggacgc ttcccgaacc caaccagcgc ttccaagacc 25920

ggtaagaagg atcggcaggg atacaagtcc tggcgggggc ataagaatgc catcatctcc 25980

tgcttgcatg agtgcggggg caacatatcc ttcacgcggc gctacttgct attccaccat 26040

ggggtgaact ttccgcgcaa tgttttgcat tactaccgtc acctccacag cccctactat 26100

agccagcaaa tcccggcagt ctcgacagat aaagacagcg gcggcgacct ccaacagaaa 26160

accagcagcg gcagttagaa aatacacaac aagtgcagca acaggaggat taaagattac 26220

agccaacgag ccagcgcaaa cccgagagtt aagaaatcgg atctttccaa ccctgtatgc 26280

catcttccag cagagtcggg gtcaagagca ggaactgaaa ataaaaaacc gatctctgcg 26340

ttcgctcacc agaagttgtt tgtatcacaa gagcgaagat caacttcagc gcactctcga 26400

ggacgccgag gctctcttca acaagtactg cgcgctgact cttaaagagt aggcagcgac 26460

cgcgcttatt caaaaaaggc gggaattaca tcatcctcga catgagtaaa gaaattccca 26520

cgccttacat gtggagttat caaccccaaa tgggattggc ggcaggcgcc tcccaggact 26580

actccacccg catgaattgg ctcagcgccg ggccttctat gatttctcga gttaatgata 26640

tacgcgccta ccgaaaccaa atacttttgg aacagtcagc tcttaccacc acgccccgcc 26700

aacaccttaa tcccagaaat tggcccgccg ccctagtgta ccaggaaagt cccgctccca 26760

ccactgtatt acttcctcga gacgcccagg ccgaagtcca aatgactaat gcaggtgcgc 26820

agttagctgg cggctccacc ctatgtcgtc acaggcctcg gcataatata aaacgcctga 26880

tgatcagagg ccgaggtatc cagctcaacg acgagtcggt gagctctccg cttggtctac 26940

gaccagacgg aatctttcag attgccggct gcgggagatc ttccttcacc cctcgtcagg 27000

ctgttctgac tttggaaagt tcgtcttcgc aaccccgctc gggcggaatc gggaccgttc 27060

aatttgtgga ggagtttact ccctctgtct acttcaaccc cttctccgga tctcctgggc 27120

attacccgga cgagttcata ccgaacttcg acgcgattag cgagtcagtg gacggctacg 27180

attgatgtct ggtgacgcgg ctgagctatc tcggctgcga catctagacc actgccgccg 27240

ctttcgctgc tttgcccggg aactcattga gttcatctac ttcgaactcc ccaaggatca 27300

ccctcaaggt ccggcccacg gagtgcggat ttctatcgaa ggcaaaatag actctcgcct 27360

gcaacgaatt ttctcccagc ggcccgtgct gatcgagcga gaccagggaa acaccacggt 27420

ttccatctac tgcatttgta atcaccccgg attgcatgaa agcctttgct gtcttatgtg 27480

tactgagttt aataaaaact gaattaagac tctcctacgg actgccgctt cttcaacccg 27540

gattttacaa ccagaagaac gaaacttttc ctgtcgtcca ggactctgtt aacttcacct 27600

ttcctactca caaactagaa gctcaacgac tacaccgctt ttccagaagc attttcccta 27660

ctaatactac tttcaaaacc ggaggtgagc tccaaggtct tcctacagaa aacccttggg 27720

tggaagcggg ccttgtagtg ctaggaattc ttgcgggtgg gcttgtgatt attctttgct 27780

acctatacac accttgcttc actttcttag tggtgttgtg gtattggttt aaaaaatggg 27840

gcccatacta gtcttgcttg ttttactttc gcttttggaa ccgggttctg ccaattacga 27900

tccatgtcta gacttcgacc cagaaaactg cacacttact tttgcacccg acacaagccg 27960

catctgtgga gttcatcgcc tctcttacga acttggcccc caacgacaaa aatttacctg 28020

catggtggga atcaacccca tagttatcac ccagcaaagt ggagatacta agggttgcat 28080

tcactgctcc tgcgattcca tcgagtgcac ctacaccctg ctgaagaccc tatgcggcct 28140

aagagacctg ctaccaatga attaaaaaat gattaataaa aaatcactta cttgaaatca 28200

gcaataaggt ctctgttgaa attttctccc agcagcacct cacttccctc ttcccaactc 28260

tggtattcta aaccccgttc agcggcatac tttctccata ctttaaaggg gatgtcaaat 28320

tttagctcct ctcctgtacc cacaatcttc atgtctttct tcccagatga ccaagagagt 28380

ccggctcagt gactccttca accctgtcta cccctatgaa gatgaaagca cctcccaaca 28440

ccccttttata aacccagggt ttatttcccc aaatggcttc acacaaagcc caaacggagt 28500

tcttacttta aaatgtttaa ccccactaac aaccacaggc ggatctctac agctaaaagt 28560

gggaggggga cttacagtgg atgacaccaa cggtttttg aaagaaaaca taagtgccac 28620

cacaccactc gttaagactg gtcactctat aggtttacca ctaggagccg gattgggaac 28680

gaatgaaaat aaactttgta tcaaattagg acaaggactt acattcaatt caaacaacat 28740

ttgcattgat gacaatatta acaccttatg gacaggagtc aaccccaccg aagccaactg 28800

tcaaatcatg aactccagtg aatctaatga ttgcaaatta attctaacac tagttaaaac 28860

tggagcacta gtcactgcat ttgtttatgt tataggagta tctaacaatt ttaatatgct 28920

aactacacac agaaatataa attttactgc agagctgttt ttcgattcta ctggtaattt 28980

actaactaga ctctcatccc tcaaaactcc acttaatcat aaatcaggac aaaacatggc 29040

tactggtgcc attactaatg ctaaaggttt catgcccagc acgactgcct atcctttcaa 29100

tgataattct agagaaaaag aaaactacat ttacggaact tgttactaca cagctagtga 29160

tcgcactgct tttcccattg acatatctgt catgcttaac cgaagagcaa taaatgacga 29220

gacatcatat tgtattcgta taacttggtc ctggaacaca ggagatgccc cagaggtgca 29280

aacctctgct acaaccctag tcacctcccc atttaccttt tactacatca gagaagacga 29340

ctgacaaata aagtttgcga tcgccagggg ctcccgccag atctagtaat caattacggg 29400

gtcattagtt catagcccat atatggagtt ccgcgttaca taacttacgg taaatggccc 29460

gcctggctga ccgcccaacg acccccgccc attgacgtca ataatgacgt atgttcccat 29520

agtaacgcca atagggactt tccattgacg tcaatgggtg gagtatttac ggtaaactgc 29580

ccacttggca gtacatcaag tgtatcatat gccaagtacg ccccctattg acgtcaatga 29640

cggtaaatgg cccgcctggc attatgccca gtacatgacc ttatgggact ttcctacttg 29700

gcagtacatc tacgtattag tcatcgctat taccatgctg atgcggtttt ggcagtacat 29760

caatgggcgt ggatagcggt ttgactcacg gggatttcca agtctccacc ccattgacgt 29820

caatgggagt ttgttttggc accaaaatca acgggacttt ccaaaatgtc gtaacaactc 29880

cgccccattg acgcaaatgg gcggtaggcg tgtacggtgg gaggtctata taagcagagc 29940

tggtttagtg aaccgtcaga tcagatcttt gtcgatccta ccatccactc gacacacccg 30000

ccagcggccg ctgccaagct tccgagctct cgaattcaaa ggaggtaccc accatgggct 30060

ggagctgcat catcttgttc ctggtcgcaa ctgctaccgg agtccattcg gacatcgtca 30120

tgacccaaag ccctgactcg ctcgctgtgt cactgggaga gcgggcgact atcaactgca 30180

aatcatccca gagcctgctg tattcacgca atcagaaaaa ctacctggcc tggtatcagc 30240

agaagccggg ccagcctccc aagctgctga tcttctgggc ctccacccgc gaaagcggcg 30300

tgccggaccg cttcagcgga agcggattcg gaactgactt tactctgacc attagctcct 30360

tgcaggcgga ggacgtggcc gtctactact gccagcagta tttctcctat ccgctcacct 30420

ttgggcaagg caccaaggtg gagattaagg gaggggcgg cagcgggga ggcggcagcg 30480

gcggcggggg atcgcaggtc cagctcgtcc aatccggagc cgaagtcaag aagccgggag 30540

cgtcggtcaa ggtcagctgc aaaacttcgc gctacacctt cactgagtac acgatccact 30600

gggtccgcca ggcgcccggc cagcggctgg agtggatcgg cgggatcaac ccaaacaacg 30660

gaatcccaaa ttacaatcag aaatttaaag ggcgggtgac tatcaccgtg gatacctcgg 30720

cctccacggc gtacatggag ctctcatcac tcagatcgga ggacaccgcg gtctattact 30780

gcgcccgccg ccggatcgct tatggatacg atgaaggaca tgcgatggat tactggggcc 30840

agggcaccct cgtcacggtg tcgtcaggag gcggcggttc agatgtgcaa ctcgtgcagt 30900

ccggtgcgga agtgaaaaag ccgggcgcga gcgtcaaagt gtcatgcaag gcgtcaggat 30960

atacgtttac tagatacact atgcactggg tgcgccaggc acctggtcag ggccttgaat 31020

ggatcggcta catcaatccg tcgagaggct acactaatta cgcggactca gtcaaagggc 31080

gcttcacgat tacgaccgac aagtccacct cgactgcata catggaactg tcctcgctga 31140

gaagcgagga caccgctact tactactgcg ctagatacta cgatgatcac tactgcctcg 31200

attactgggg ccagggaacc actgtcacgg tgtcatcggg agagggcacc tcaaccggat 31260

caggggatc gggaggctcg ggcggcgcag acgacatcgt cctgacccag tcgcccgcca 31320

ccttgtcgct gtccccagga gaaagagcga ccctgtcatg ccgggcgtcg caaagcgtga 31380

gctatatgaa ttggtatcag cagaagccag gaaaggcgcc gaagagatgg atctacgaca 31440

cctccaaggt cgcttcaggt gtcccggcta gattctcagg atcgggatca ggaacggact 31500

actccctgac catcaattca ctggaagcag aagatgcggc cacctactac tgtcagcagt 31560

ggtcctccaa cccgctgact ttcggaggcg gaactaaggt cgagatcaag taggctagct 31620

tgactgactg agatacagcg taccttcagc tcacagacat gataagatac attgatgagt 31680

ttggacaaac cacaactaga atgcagtgaa aaaaatgctt tatttgtgaa atttgtgatg 31740

ctattgcttt atttgtaacc attataagct gcaataaaca agttaacaac aacaattgca 31800

ttcattttat gtttcaggtt caggggggagg tgtgggaggt tttttaaagc aagtaaaacc 31860

tctacaaatg tggtagtcgt cagctatcct gcaggaactt gtttatttga aaatcaattc 31920

acaaaatccg agtagttatt ttgcctcccc cttcccattt aacagaatac accaatctct 31980

ccccacgcac agctttaaac atttggatac cattagatat agacatggtt ttagattcca 32040

cattccaaac agtttcagag cgagccaatc tggggtcagt gatagataaa aatccatcgg 32100

gatagtcttt taaagcgctt tcacagtcca actgctgcgg atgcgactcc ggagtctgga 32160

tcacggtcat ctggaagaag aacgatggga atcataatcc gaaaacggta tcggacgatt 32220

gtgtctcatc aaacccacaa gcagccgctg tctgcgtcgc tccgtgcgac tgctgtttat 32280

gggatcaggg tccacagtgt cctgaagcat gattttaata gcccttaaca tcaactttct 32340

ggtgcgatgc gcgcagcaac gcattctgat ttcactcaaa tctttgcagt aggtacaaca 32400

cattattaca atattgttta ataaaccata attaaaagcg ctccagccaa aactcatatc 32460

tgatataatc gcccctgcat gaccatcata ccaaagttta atataaatta aatgacgttc 32520

cctcaaaaac acactaccca catacatgat ctcttttggc atgtgcatat taacaatctg 32580

tctgtaccat ggacaacgtt ggttaatcat gcaacccaat ataaccttcc ggaaccacac 32640

tgccaacacc gctcccccag ccatgcattg aagtgaaccc tgctgattac aatgacaatg 32700

aagaacccaa ttctctcgac cgtgaatcac ttgagaatga aaaatatcta tagtggcaca 32760

acatagacat aaatgcatgc atcttctcat aatttttaac tcctcaggat ttagaaacat 32820

atcccaggga ataggaagct cttgcagaac agtaaagctg gcagaacaag gaagaccacg 32880

aacacaactt acactatgca tagtcatagt atcacaatct ggcaacagcg ggtggtcttc 32940

agtcatagaa gctcgggttt cattttcctc acaacgtggt aactgggctc tggtgtaagg 33000

gtgatgtctg gcgcatgatg tcgagcgtgc gcgcaacctt gtcataatgg agttgcttcc 33060

tgacattctc gtattttgta tagcaaaacg cggccctggc agaacacact cttcttcgcc 33120

ttctatcctg ccgcttagcg tgttccgtgt gatagttcaa gtacaaccac actcttaagt 33180

tggtcaaaag aatgctggct tcagttgtaa tcaaaactcc atcgcatcta atcgttctga 33240

ggaaatcatc caagcaatgc aactggattg tgtttcaagc aggagaggag agggaagaga 33300

cggaagaacc atgttaattt ttattccaaa cgatctcgca gtacttcaaa ttgtagatcg 33360

cgcagatggc atctctcgcc cccactgtgt tggtgaaaaa gcacagctag atcaaaagaa 33420

atgcgatttt caaggtgctc aacggtggct tccagcaaag cctccacgcg cacatccaag 33480

aacaaaagaa taccaaaaga aggagcattt tctaactcct caatcatcat attacattcc 33540

tgcaccattc ccagataatt ttcagctttc cagccttgaa ttattcgtgt cagttcttgt 33600

ggtaaatcca atccacacat tacaaacagg tcccggaggg cgccctccac caccattctt 33660

aaacacaccc tcataatgac aaaatatctt gctcctgtgt cacctgtagc gaattgagaa 33720

tggcaacatc aattgacatg cccttggctc taagttcttc tttaagttct agttgtaaaa 33780

actctctcat attatcacca aactgcttag ccagaagccc cccgggaaca agagcagggg 33840

acgctacagt gcagtacaag cgcagacctc cccaattggc tccagcaaaa acaagattgg 33900

aataagcata ttgggaaccg ccagtaatat catcgaagtt gctggaaata taatcaggca 33960

gagtttcttg taaaaattga ataaaagaaa aatttgccaa aaaaacattc aaaacctctg 34020

ggatgcaaat gcaataggtt accgcgctgc gctccaacat tgttagtttt gaattagtct 34080

gcaaaaataa aaaaaaaaac aagcgtcata tcatagtagc ctgacgaaca gatggataaa 34140

tcagtctttc catcacaaga caagccacag ggtctccagc tcgaccctcg taaaacctgt 34200

catcatgatt aaacaacagc accgaaagtt cctcgcggtg accagcatga ataattcttg 34260

atgaagcata caatccagac atgttagcat cagttaacga gaaaaaacag ccaacatagc 34320

ctttgggtat aattatgctt aatcgtaagt atagcaaagc cacccctcgc ggatacaaag 34380

taaaaggcac aggagaataa aaaatataat tatttctctg ctgctgttca ggcaacgtcg 34440

cccccggtcc ctctaaatac acatacaaag cctcatcagc catggcttac cagacaaagt 34500

acagcgggca cacaaagcac aagctctaaa gtgactctcc aacctctcca caatatatat 34560

atacacaagc cctaaactga cgtaatggga gtaaagtgta aaaaatcccg ccaaacccaa 34620

cacacacccc gaaactgcgt caccagggaa aagtacagtt tcacttccgc aatcccaaca 34680

ggcgtaactt cctctttctc acggtacgtg atatcccact aacttgcaac gtcattttcc 34740

cacggtcgca ccgccccttt tagccgttaa ccccacagcc aatcaccaca cgatccacac 34800

ttttaaaat cacctcattt acatattggc accattccat ctataaggta tattatatag 34860

ataga 34865

<210> 67
<211> 34186
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-606 (EnAd-SA-FAPBiTE) without deca-His tag

<400> 67
tctatctata taatatacct tatagatgga atggtgccaa tatgtaaatg aggtgatttt 60

aaaaagtgtg gatcgtgtgg tgattggctg tggggttaac ggctaaaagg ggcggtgcga 120

ccgtgggaaa atgacgtttt gtgggggtgg agtttttttg caagttgtcg cgggaaatgt 180

gacgcataaa aaggcttttt tctcacggaa ctacttagtt ttcccacggt atttaacagg 240

aaatgaggta gttttgaccg gatgcaagtg aaaattgttg attttcgcgc gaaaactgaa 300

tgaggaagtg tttttctgaa taatgtggta tttatggcag ggtggagtat ttgttcaggg 360

ccaggtagac tttgacccat tacgtggagg tttcgattac cgtgtttttt acctgaattt 420

ccgcgtaccg tgtcaaagtc ttctgttttt acgtaggtgt cagctgatcg ctagggtatt 480

tatacctcag ggtttgtgtc aagaggccac tcttgagtgc cagcgagaag agttttctcc 540

tctgcgccgg cagtttaata ataaaaaaat gagagatttg cgatttctgc ctcaggaaat 600

aatctctgct gagactggaa atgaaatatt ggagcttgtg gtgcacgccc tgatgggaga 660

cgatccggag ccacctgtgc agctttttga gcctcctacg cttcaggaac tgtatgattt 720

agaggtagag ggatcggagg attctaatga ggaagctgta aatggctttt ttaccgattc 780

tatgctttta gctgctaatg aagggttaga attagatccg cctttggaca cttttgatac 840

tccaggggta attgtggaaa gcggtacagg tgtaagaaaa ttacctgatt tgagttccgt 900

ggactgtgat ttgcactgct atgaagacgg gtttcctccg agtgatgagg aggaccatga 960

aaaggagcag tccatgcaga ctgcagcggg tgagggagtg aaggctgcca atgttggttt 1020

tcagttggat tgcccggagc ttcctggaca tggctgtaag tcttgtgaat ttcacaggaa 1080

aaatactgga gtaaaggaac tgttatgttc gctttgttat atgagaacgc actgccactt 1140

tatttacagt aagtgtgttt aagttaaaat ttaaaggaat atgctgtttt tcacatgtat 1200

attgagtgtg agttttgtgc ttcttattat aggtcctgtg tctgatgctg atgaatcacc 1260

atctcctgat tctactacct cacctcctga gattcaagca cctgttcctg tggacgtgcg 1320

caagcccatt cctgtgaagc ttaagcctgg gaaacgtcca gcagtggaaa aacttgagga 1380

cttgttacag ggtggggacg gacctttgga cttgagtaca cggaaacgtc caagacaata 1440

agtgttccat atccgtgttt acttaaggtg acgtcaatat ttgtgtgaca gtgcaatgta 1500

ataaaaatat gttaactgtt cactggtttt tattgctttt tgggcgggga ctcaggtata 1560

taagtagaag cagacctgtg tggttagctc ataggagctg gctttcatcc atggaggttt 1620

gggccatttt ggaagacctt aggaagacta ggcaactgtt agagaacgct tcggacggag 1680

tctccggttt ttggagattc tggttcgcta gtgaattagc tagggtagtt tttaggataa 1740

aacaggacta taaacaagaa tttgaaaagt tgttggtaga ttgcccagga ctttttgaag 1800

ctcttaattt gggccatcag gttcacttta aagaaaaagt tttatcagtt ttagactttt 1860

caaccccagg tagaactgct gctgctgtgg cttttcttac ttttatatta gataaatgga 1920

tcccgcagac tcatttcagc aggggatacg ttttggattt catagccaca gcattgtgga 1980

gaacatggaa ggttcgcaag atgaggacaa tcttaggtta ctggccagtg cagcctttgg 2040

gtgtagcggg aatcctgagg catccaccgg tcatgccagc ggttctggag gaggaacagc 2100

aagaggacaa cccgagagcc ggcctggacc ctccagtgga ggaggcggag tagctgactt 2160

gtctcctgaa ctgcaacggg tgcttactgg atctacgtcc actggacggg ataggggcgt 2220

taagagggag agggcatcta gtggtactga tgctagatct gagttggctt taagtttaat 2280

gagtcgcaga cgtcctgaaa ccatttggtg gcatgaggtt cagaaagagg gaagggatga 2340

agtttctgta ttgcaggaga aatattcact ggaacaggtg aaaacatgtt ggttggagcc 2400

tgaggatgat tgggaggtgg ccattaaaaa ttatgccaag atagctttga ggcctgataa 2460

acagtataag attactagac ggattaatat ccggaatgct tgttacatat ctggaaatgg 2520

ggctgaggtg gtaatagata ctcaagacaa ggcagttatt agatgctgca tgatggatat 2580

gtggcctggg gtagtcggta tggaagcagt aacttttgta aatgttaagt ttaggggaga 2640

tggttataat ggaatagtgt ttatggccaa taccaaactt atattgcatg gttgtagctt 2700

ttttggtttc aacaatacct gtgtagatgc ctggggacag gttagtgtac ggggatgtag 2760

tttctatgcg tgttggattg ccacagctgg cagaaccaag agtcaattgt ctctgaagaa 2820

atgcatattt caaagatgta acctgggcat tctgaatgaa ggcgaagcaa gggtccgcca 2880

ctgcgcttct acagatactg gatgttttat tttgattaag ggaaatgcca gcgtaaagca 2940

taacatgatt tgcggtgctt ccgatgagag gccttatcaa atgctcactt gtgctggtgg 3000

gcattgtaat atgctggcta ctgtgcatat tgtttcccat caacgcaaaa aatggcctgt 3060

ttttgatcac aatgtgatga cgaagtgtac catgcatgca ggtgggcgta gaggaatgtt 3120

tatgccttac cagtgtaaca tgaatcatgt gaaagtgttg ttggaaccag atgccttttc 3180

cagaatgagc ctaacaggaa tttttgacat gaacatgcaa atctggaaga tcctgaggta 3240

tgatgatacg agatcgaggg tacgcgcatg cgaatgcgga ggcaagcatg ccaggttcca 3300

gccggtgtgt gtagatgtga ctgaagatct cagaccggat catttggtta ttgcccgcac 3360

tggagcagag ttcggatcca gtggagaaga aactgactaa ggtgagtatt gggaaaactt 3420

tggggtggga ttttcagatg gacagattga gtaaaaattt gtttttttctg tcttgcagct 3480

gtcatgagtg gaaacgcttc ttttaagggg ggagtcttca gcccttatct gacagggcgt 3540

ctcccatcct gggcaggagt tcgtcagaat gttatgggat ctactgtgga tggaagaccc 3600

gtccaacccg ccaattcttc aacgctgacc tatgctactt taagttcttc acctttggac 3660

gcagctgcag ctgccgccgc cgcttctgtt gccgctaaca ctgtgcttgg aatgggttac 3720

tatggaagca tcatggctaa ttccacttcc tctaataacc cttctaccct gactcaggac 3780

aagttacttg tccttttggc ccagctggag gctttgaccc aacgtctggg tgaactttct 3840

cagcaggtgg tcgagttgcg agtacaaact gagtctgctg tcggcacggc aaagtctaaa 3900

taaaaaaatc ccagaatcaa tgaataaata aacaagcttg ttgttgattt aaaatcaagt 3960

gtttttattt catttttcgc gcacggtatg ccctagacca ccgatctcta tcattgagaa 4020

ctcggtggat tttttccagg atcctataga ggtgggattg aatgtttaga tacatgggca 4080

ttaggccgtc tttggggtgg agatagctcc attgaaggga ttcatgctcc ggggtagtgt 4140

tgtaaatcac ccagtcataa caaggtcgca gtgcatggtg ttgcacaata tcttttagaa 4200

gtaggctgat tgccacagat aagcccttgg tgtaggtgtt tacaaaccgg ttgagctggg 4260

atgggtgcat tcggggtgaa attatgtgca ttttggattg gatttttaag ttggcaatat 4320

tgccgccaag atcccgtctt gggttcatgt tatgaaggac caccaagacg gtgtatccgg 4380

tacatttagg aaatttatcg tgcagcttgg atggaaaagc gtggaaaaat ttggagacac 4440

ccttgtgtcc tccaagattt tccatgcact catccatgat aatagcaatg gggccgtggg 4500

cagcggcgcg ggcaaacacg ttccgtgggt ctgacacatc atagttatgt tcctgagtta 4560

aatcatcata agccatttta atgaatttgg ggcggagagt accagattgg ggtatgaatg 4620

ttccttcggg ccccggagca tagttcccct cacagatttg catttcccaa gctttcagtt 4680

ccgagggtgg aatcatgtcc acctgggggg ctatgaaaaa caccgtttct ggggcggggg 4740

tgattaattg tgatgatagc aaatttctga gcaattgaga tttgccacat ccggtggggc 4800

cataaatgat tccgattacg ggttgcaggt ggtagtttag ggaacggcaa ctgccgtctt 4860

ctcgaagcaa gggggccacc tcgttcatca tttcccttac atgcatattt tcccgcacca 4920

aatccattag gaggcgctct cctcctagtg atagaagttc ttgtagtgag gaaaagtttt 4980

tcagcggttt cagaccgtca gccatgggca ttttggagag agtttgctgc aaaagttcta 5040

gtctgttcca cagttcagtg atgtgttcta tggcatctcg atccagcaga cctcctcgtt 5100

tcgcgggttt ggacggctcc tggaataggg tatgagacga tgggcgtcca gcgctgccag 5160

ggttcggtcc ttccagggtc tcagtgttcg agtcagggtt gtttccgtca cagtgaaggg 5220

gtgtgcgcct gcttgggcgc ttgccagggt gcgcttcaga ctcatcctgc tggtcgaaaa 5280

cttctgtcgc ttggcgccct gtatgtcggc caagtagcag tttaccatga gttcgtagtt 5340

gagcgcctcg gctgcgtggc ctttggcgcg gagcttacct ttggaagttt tcttgcatac 5400

cgggcagtat aggcatttca gcgcatacaa cttgggcgca aggaaaacgg attctgggga 5460

gtatgcatct gcgccgcagg aggcgcaaac agtttcacat tccaccagcc aggttaaatc 5520

cggttcattg gggtcaaaaa caagttttcc gccatatttt ttgatgcgtt tcttaccttt 5580

ggtctccatg agttcgtgtc ctcgttgagt gacaaacagg ctgtccgtgt ccccgtagac 5640

tgattttaca ggcctcttct ccagtggagt gcctcggtct tcttcgtaca ggaactctga 5700

ccactctgat acaaaggcgc gcgtccaggc cagcacaaag gaggctatgt gggaggggta 5760

gcgatcgttg tcaaccaggg ggtccacctt ttccaaagta tgcaaacaca tgtcaccctc 5820

ttcaacatcc aggaatgtga ttggcttgta ggtgtatttc acgtgacctg gggtccccgc 5880

tgggggggta taaaaggggg cggttctttg ctcttcctca ctgtcttccg gatcgctgtc 5940

caggaacgtc agctgttggg gtaggtattc cctctcgaag gcgggcatga cctctgcact 6000

caggttgtca gtttctaaga acgaggagga tttgatattg acagtgccgg ttgagatgcc 6060

tttcatgagg ttttcgtcca tctggtcaga aaacacaatt tttttattgt caagtttggt 6120

ggcaaatgat ccatacaggg cgttggataa aagtttggca atggatcgca tggtttggtt 6180

cttttccttg tccgcgcgct ctttggcggc gatgttgagt tggacatact cgcgtgccag 6240

gcacttccat tcggggaaga tagttgttaa ttcatctggc acgattctca cttgccaccc 6300

tcgattatgc aaggtaatta aatccacact ggtggccacc tcgcctcgaa ggggttcatt 6360

ggtccaacag agcctacctc ctttcctaga acagaaaggg ggaagtgggt ctagcataag 6420

ttcatcggga gggtctgcat ccatggtaaa gattcccgga agtaaatcct tatcaaaata 6480

gctgatggga gtggggtcat ctaaggccat ttgccattct cgagctgcca gtgcgcgctc 6540

atatgggtta aggggactgc cccatggcat gggatgggtg agtgcagagg catacatgcc 6600

acagatgtca tagacgtaga tgggatcctc aaagatgcct atgtaggttg gatagcatcg 6660

ccccccctctg atacttgctc gcacatagtc atatagttca tgtgatggcg ctagcagccc 6720

cggacccaag ttggtgcgat tgggtttttc tgttctgtag acgatctggc gaaagatggc 6780

gtgagaattg gaagagatgg tgggtctttg aaaaatgttg aaatgggcat gaggtagacc 6840

tacagagtct ctgacaaagt gggcataaga ttcttgaagc ttggttacca gttcggcggt 6900

gacaagtacg tctagggcgc agtagtcaag tgtttcttga atgatgtcat aacctggttg 6960

gtttttcttt tcccacagtt cgcggttgag aaggtattct tcgcgatcct tccagtactc 7020

ttctagcgga aacccgtctt tgtctgcacg gtaagatcct agcatgtaga actgattaac 7080

tgccttgtaa gggcagcagc ccttctctac gggtagagag tatgcttgag cagcttttcg 7140

tagcgaagcg tgagtaaggg caaaggtgtc tctgaccatg actttgagga attggtattt 7200

gaagtcgatg tcgtcacagg ctccctgttc ccagagttgg aagtctaccc gtttcttgta 7260

ggcggggttg ggcaaagcga aagtaacatc attgaagaga atcttgccgg ccctgggcat 7320

gaaattgcga gtgatgcgaa aaggctgtgg tacttccgct cggttattga taacctgggc 7380

agctaggacg atctcgtcga aaccgttgat gttgtgtcct acgatgtata attctatgaa 7440

acgcggcgtg cctctgacgt gaggtagctt actgagctca tcaaaggtta ggtctgtggg 7500

gtcagataag gcgtagtgtt cgagagccca ttcgtgcagg tgaggattcg ctttaaggaa 7560

ggaggaccag aggtccactg ccagtgctgt ttgtaactgg tcccggtact gacgaaaatg 7620

ccgtccgact gccatttttt ctggggtgac gcaatagaag gtttgggggt cctgccgcca 7680

gcgatcccac ttgagtttta tggcgaggtc ataggcgatg ttgacgagcc gctggtctcc 7740

agagagtttc atgaccagca tgaaggggat tagctgcttg ccaaaggacc ccatccaggt 7800

gtaggtttcc acatcgtagg tgagaaagag cctttctgtg cgaggatgag agccaatcgg 7860

gaagaactgg atctcctgcc accagttgga ggaatggctg ttgatgtgat ggaagtagaa 7920

ctccctgcga cgcgccgagc attcatgctt gtgcttgtac agacggccgc agtagtcgca 7980

gcgttgcacg ggttgtatct cgtgaatgag ttgtacctgg cttcccttga cgagaaattt 8040

cagtgggaag ccgaggcctg gcgattgtat ctcgtgcttt actatgttgt ctgcatcggc 8100

ctgttcatct tctgtctcga tggtggtcat gctgacgagc cctcgcggga ggcaagtcca 8160

gacctcggcg cggcaggggc ggagctcgag gacgagagcg cgcaggctgg agctgtccag 8220

ggtcctgaga cgctgcggac tcaggttagt aggcagtgtc aggagattaa cttgcatgat 8280

cttttggagg gcgtgcggga ggttcagata gtacttgatc tcaacgggtc cgttggtgga 8340

gatgtcgatg gcttgcaggg ttccgtgtcc cttgggcgct accaccgtgc ccttgttttt 8400

cattttggac ggcggtggct ctgttgcttc ttgcatgttt agaagcggtg tcgagggcgc 8460

gcaccgggcg gcaggggcgg ctcgggaccc ggcggcatgg ctggcagtgg tacgtcggcg 8520

ccgcgcgcgg gtaggttctg gtactgcgcc ctgagaagac tcgcatgcgc gacgacgcgg 8580

cggttgacat cctggatctg acgcctctgg gtgaaagcta ccggccccgt gagcttgaac 8640

ctgaaagaga gttcaacaga atcaatctcg gtatcgttga cggcggcttg cctaaggatt 8700

tcttgcacgt caccagagtt gtcctggtag gcgatctccg ccatgaactg ctcgatctct 8760

tcctcttgaa gatctccgcg gcccgctctc tcgacggtgg ccgcgaggtc gttggagatg 8820

cgcccaatga gttgagagaa tgcattcatg cccgcctcgt tccagacgcg gctgtagacc 8880

acggccccca cgggatctct cgcgcgcatg accacctggg cgaggttgag ctccacgtgg 8940

cgggtgaaga ccgcatagtt gcataggcgc tggaaaaggt agttgagtgt ggtggcgatg 9000

tgctcggtga cgaagaaata catgatccat cgtctcagcg gcatctcgct gacatcgccc 9060

agagcttcca agcgctccat ggcctcgtag aagtccacgg caaaattaaa aaactgggag 9120

tttcgcgcgg acacggtcaa ctcctcttcc agaagacgga taagttcggc gatggtggtg 9180

cgcacctcgc gctcgaaagc ccctgggatt tcttcctcaa tctcttcttc ttccactaac 9240

atctcttcct cttcaggtgg ggctgcagga ggagggggaa cgcggcgacg ccggcggcgc 9300

acgggcagac ggtcgatgaa tctttcaatg acctctccgc ggcggcggcg catggtttca 9360

gtgacggcgc ggccgttctc gcgcggtcgc agagtaaaaa caccgccgcg catctcctta 9420

aagtggtgac tgggaggttc tccgtttggg agggagaggg cgctgattat acattttatt 9480

aattggcccg tagggactgc acgcagagat ctgatcgtgt caagatccac gggatctgaa 9540

aacctttcga cgaaagcgtc taaccagtca cagtcacaag gtaggctgag tacggcttct 9600

tgtgggcggg ggtggttatg tgttcggtct gggtcttctg tttcttcttc atctcgggaa 9660

ggtgagacga tgctgctggt gatgaaatta aagtaggcag ttctaagacg gcggatggtg 9720

gcgaggagca ccaggtcttt gggtccggct tgctggatac gcaggcgatt ggccattccc 9780

caagcattat cctgacatct agcaagatct ttgtagtagt cttgcatgag ccgttctacg 9840

ggcacttctt cctcacccgt tctgccatgc atacgtgtga gtccaaatcc gcgcattggt 9900

tgtaccagtg ccaagtcagc tacgactctt tcggcgagga tggcttgctg tacttgggta 9960

agggtggctt gaaagtcatc aaaatccaca aagcggtggt aagctcctgt attaatggtg 10020

taagcacagt tggccatgac tgaccagtta actgtctggt gaccagggcg cacgagctcg 10080

gtgtatttaa ggcgcgaata ggcgcgggtg tcaaagatgt aatcgttgca ggtgcgcacc 10140

agatactggt accctataag aaaatgcggc ggtggttggc ggtagagagg ccatcgttct 10200

gtagctggag cgccaggggc gaggtcttcc aacataaggc ggtgatagcc gtagatgtac 10260

ctggacatcc aggtgattcc tgcggcggta gtagaagccc gaggaaactc gcgtacgcgg 10320

ttccaaatgt tgcgtagcgg catgaagtag ttcattgtag gcacggtttg accagtgagg 10380

cgcgcgcagt cattgatgct ctatagacac ggagaaaatg aaagcgttca gcgactcgac 10440

tccgtagcct ggaggaacgt gaacgggttg ggtcgcggtg taccccggtt cgagacttgt 10500

actcgagccg gccggagccg cggctaacgt ggtattggca ctcccgtctc gacccagcct 10560

acaaaaatcc aggatacgga atcgagtcgt tttgctggtt tccgaatggc agggaagtga 10620

gtcctatttt tttttttgc cgctcagatg catcccgtgc tgcgacagat gcgcccccaa 10680

caacagcccc cctcgcagca gcagcagcag caatcacaaa aggctgtccc tgcaactact 10740

gcaactgccg ccgtgagcgg tgcgggacag cccgcctatg atctggactt ggaagagggc 10800

gaaggactgg cacgtctagg tgcgccttca cccgagcggc atccgcgagt tcaactgaaa 10860

aaagattctc gcgaggcgta tgtgccccaa cagaacctat ttagagacag aagcggcgag 10920

gagccggagg agatgcgagc ttcccgcttt aacgcgggtc gtgagctgcg tcacggtttg 10980

gaccgaagac gagtgttgcg ggacgaggat ttcgaagttg atgaaatgac agggatcagt 11040

cctgccaggg cacacgtggc tgcagccaac cttgtatcgg cttacgagca gacagtaaag 11100

gaagagcgta acttccaaaa gtcttttaat aatcatgtgc gaaccctgat tgcccgcgaa 11160

gaagttaccc ttggtttgat gcatttgtgg gatttgatgg aagctatcat tcagaaccct 11220

actagcaaac ctctgaccgc ccagctgttt ctggtggtgc aacacagcag agacaatgag 11280

gctttcagag aggcgctgct gaacatcacc gaacccgagg ggagatggtt gtatgatctt 11340

atcaacattc tacagagtat catagtgcag gagcggagcc tgggcctggc cgagaaggtg 11400

gctgccatca attactcggt tttgagcttg ggaaaatatt acgctcgcaa aatctacaag 11460

actccatacg ttcccataga caaggaggtg aagatagatg ggttctacat gcgcatgacg 11520

ctcaaggtct tgaccctgag cgatgatctt ggggtgtatc gcaatgacag aatgcatcgc 11580

gcggttagcg ccagcaggag gcgcgagtta agcgacaggg aactgatgca cagtttgcaa 11640

agagctctga ctggagctgg aaccgagggt gagaattact tcgacatggg agctgacttg 11700

cagtggcagc ctagtcgcag ggctctgagc gccgcgacgg caggatgtga gcttccttac 11760

atagaagagg cggatgaagg cgaggaggaa gagggcgagt acttggaaga ctgatggcac 11820

aacccgtgtt ttttgctaga tggaacagca agcaccggat cccgcaatgc gggcggcgct 11880

gcagagccag ccgtccggca ttaactcctc ggacgattgg acccaggcca tgcaacgtat 11940

catggcgttg acgactcgca accccgaagc ctttagacag caaccccagg ccaaccgtct 12000

atcggccatc atggaagctg tagtgccttc ccgctctaat cccactcatg agaaggtcct 12060

ggccatcgtg aacgcgttgg tggagaacaa agctattcgt ccagatgagg ccggactggt 12120

atacaacgct ctcttagaac gcgtggctcg ctacaacagt agcaatgtgc aaaccaattt 12180

ggaccgtatg ataacagatg tacgcgaagc cgtgtctcag cgcgaaaggt tccagcgtga 12240

tgccaacctg ggttcgctgg tggcgttaaa tgctttcttg agtactcagc ctgctaatgt 12300

gccgcgtggt caacaggatt atactaactt tttaagtgct ttgagactga tggtatcaga 12360

agtacctcag agcgaagtgt atcagtccgg tcctgattac ttctttcaga ctagcagaca 12420

gggcttgcag acggtaaatc tgagccaagc ttttaaaaac cttaaaggtt tgtggggagt 12480

gcatgccccg gtaggagaaa gagcaaccgt gtctagcttg ttaactccga actcccgcct 12540

attattactg ttggtagctc ctttcaccga cagcggtagc atcgaccgta attcctattt 12600

gggttaccta ctaaacctgt atcgcgaagc catagggcaa agtcaggtgg acgagcagac 12660

ctatcaagaa attacccaag tcagtcgcgc tttgggacag gaagacactg gcagtttgga 12720

agccactctg aacttcttgc ttaccaatcg gtctcaaaag atccctcctc aatatgctct 12780

tactgcggag gaggagagga tccttagata tgtgcagcag agcgtgggat tgtttctgat 12840

gcaagagggg gcaactccga ctgcagcact ggacatgaca gcgcgaaata tggagcccag 12900

catgtatgcc agtaaccgac ctttcattaa caaactgctg gactacttgc acagagctgc 12960

cgctatgaac tctgattatt tcaccaatgc catcttaaac ccgcactggc tgcccccacc 13020

tggtttctac acgggcgaat atgacatgcc cgaccctaat gacggatttc tgtgggacga 13080

cgtggacagc gatgtttttt cacctctttc tgatcatcgc acgtggaaaa aggaaggcgg 13140

cgatagaatg cattcttctg catcgctgtc cggggtcatg ggtgctaccg cggctgagcc 13200

cgagtctgca agtccttttc ctagtctacc cttttctcta cacagtgtac gtagcagcga 13260

agtgggtaga ataagtcgcc cgagtttaat gggcgaagag gagtatctaa acgattcctt 13320

gctcagaccg gcaagagaaa aaaatttccc aaacaatgga atagaaagtt tggtggataa 13380

aatgagtaga tggaagactt atgctcagga tcacagagac gagcctggga tcatggggat 13440

tacaagtaga gcgagccgta gacgccagcg ccatgacaga cagaggggtc ttgtgtggga 13500

cgatgaggat tcggccgatg atagcagcgt gctggacttg ggtgggagag gaaggggcaa 13560

cccgtttgct catttgcgcc ctcgcttggg tggtatgttg taaaaaaaaa taaaaaaaaa 13620

actcaccaag gccatggcga cgagcgtacg ttcgttcttc tttattatct gtgtctagta 13680

taatgaggcg agtcgtgcta ggcggagcgg tggtgtatcc ggagggtcct cctccttcgt 13740

acgagagcgt gatgcagcag cagcaggcga cggcggtgat gcaatcccca ctggaggctc 13800

cctttgtgcc tccgcgatac ctggcaccta cggagggcag aaacagcatt cgttattcgg 13860

aactggcacc tcagtacgat accaccaggt tgtatctggt ggacaacaag tcggcggaca 13920

ttgcttctct gaactatcag aatgaccaca gcaacttctt gaccacggtg gtgcaaaaca 13980

atgactttac ccctacggaa gccagcaccc agaccattaa ctttgatgaa cgatcgcggt 14040

ggggcggtca gctaaagacc atcatgcata ctaacatgcc aaacgtgaac gagtatatgt 14100

ttagtaacaa gttcaaagcg cgtgtgatgg tgtccagaaa acctcccgac ggtgctgcag 14160

ttggggatac ttatgatcac aagcaggata ttttgaaata tgagtggttc gagtttactt 14220

tgccagaagg caacttttca gttactatga ctattgattt gatgaacaat gccatcatag 14280

ataattactt gaaagtgggt agacagaatg gagtgcttga aagtgacatt ggtgttaagt 14340

tcgacaccag gaacttcaag ctgggatggg atcccgaaac caagttgatc atgcctggag 14400

tgtatacgta tgaagccttc catcctgaca ttgtcttact gcctggctgc ggagtggatt 14460

ttaccgagag tcgtttgagc aaccttcttg gtatcagaaa aaaacagcca tttcaagagg 14520

gttttaagat tttgtatgaa gatttagaag gtggtaatat tccggccctc ttggatgtag 14580

atgcctatga gaacagtaag aaagaacaaa aagccaaaat agaagctgct acagctgctg 14640

cagaagctaa ggcaaacata gttgccagcg actctacaag ggttgctaac gctggagagg 14700

tcagaggaga caattttgcg ccaacacctg ttccgactgc agaatcatta ttggccgatg 14760

tgtctgaagg aacggacgtg aaactcacta ttcaacctgt agaaaaagat agtaagaata 14820

gaagctataa tgtgttggaa gacaaaatca acacagccta tcgcagttgg tatctttcgt 14880

acaattatgg cgatcccgaa aaaggagtgc gttcctggac attgctcacc acctcagatg 14940

tcacctgcgg agcagagcag gtctactggt cgcttccaga catgatgaag gatcctgtca 15000

ctttccgctc cactagacaa gtcagtaact accctgtggt gggtgcagag cttatgcccg 15060

tcttctcaaa gagcttctac aacgaacaag ctgtgtactc ccagcagctc cgccagtcca 15120

cctcgcttac gcacgtcttc aaccgctttc ctgagaacca gattttaatc cgtccgccgg 15180

cgcccaccat taccaccgtc agtgaaaacg ttcctgctct cacagatcac gggaccctgc 15240

cgttgcgcag cagtatccgg ggagtccaac gtgtgaccgt tactgacgcc agacgccgca 15300

cctgtcccta cgtgtacaag gcactgggca tagtcgcacc gcgcgtcctt tcaagccgca 15360

ctttctaaaa aaaaaaaaaa tgtccattct tatctcgccc agtaataaca ccggttgggg 15420

tctgcgcgct ccaagcaaga tgtacggagg cgcacgcaaa cgttctaccc aacatcctgt 15480

ccgtgttcgc ggacattttc gcgctccatg gggcgccctc aagggccgca ctcgcgttcg 15540

aaccaccgtc gatgatgtaa tcgatcaggt ggttgccgac gcccgtaatt atactcctac 15600

tgcgcctaca tctactgtgg atgcagttat tgacagtgta gtggctgacg ctcgcaacta 15660

tgctcgacgt aagagccggc gaaggcgcat tgccagacgc caccgagcta ccactgccat 15720

gcgagccgca agagctctgc tacgaagagc tagacgcgtg gggcgaagag ccatgcttag 15780

ggcggccaga cgtgcagctt cgggcgccag cgccggcagg tcccgcaggc aagcagccgc 15840

tgtcgcagcg gcgactattg ccgacatggc ccaatcgcga agaggcaatg tatactgggt 15900

gcgtgacgct gccaccggtc aacgtgtacc cgtgcgcacc cgtccccctc gcacttagaa 15960

gatactgagc agtctccgat gttgtgtccc agcggcgagg atgtccaagc gcaaatacaa 16020

ggaagaaatg ctgcaggtta tcgcacctga agtctacggc caaccgttga aggatgaaaa 16080

aaaaccccgc aaaatcaagc gggttaaaaa ggacaaaaaa gaagaggaag atggcgatga 16140

tgggctggcg gagtttgtgc gcgagtttgc cccacggcga cgcgtgcaat ggcgtgggcg 16200

caaagttcga catgtgttga gacctggaac ttcggtggtc tttacacccg gcgagcgttc 16260

aagcgctact tttaagcgtt cctatgatga ggtgtacggg gatgatgata ttcttgagca 16320

ggcggctgac cgattaggcg agtttgctta tggcaagcgt agtagaataa cttccaagga 16380

tgagacagtg tcgataccct tggatcatgg aaatcccacc cctagtctta aaccggtcac 16440

tttgcagcaa gtgttacccg taactccgcg aacaggtgtt aaacgcgaag gtgaagattt 16500

gtatcccact atgcaactga tggtacccaa acgccagaag ttggaggacg ttttggagaa 16560

agtaaaagtg gatccagata ttcaacctga ggttaaagtg agacccatta agcaggtagc 16620

gcctggtctg ggggtacaaa ctgtagacat taagattccc actgaaagta tggaagtgca 16680

aactgaaccc gcaaagccta ctgccacctc cactgaagtg caaacggatc catggatgcc 16740

catgcctatt acaactgacg ccgccggtcc cactcgaaga tcccgacgaa agtacggtcc 16800

agcaagtctg ttgatgccca attatgttgt acacccatct attattccta ctcctggtta 16860

ccgaggcact cgctactatc gcagccgaaa cagtacctcc cgccgtcgcc gcaagacacc 16920

tgcaaatcgc agtcgtcgcc gtagacgcac aagcaaaccg actcccggcg ccctggtgcg 16980

gcaagtgtac cgcaatggta gtgcggaacc tttgacactg ccgcgtgcgc gttaccatcc 17040

gagtatcatc acttaatcaa tgttgccgct gcctccttgc agatatggcc ctcacttgtc 17100

gccttcgcgt tcccatcact ggttaccgag gaagaaactc gcgccgtaga agagggatgt 17160

tgggacgcgg aatgcgacgc tacaggcgac ggcgtgctat ccgcaagcaa ttgcggggtg 17220

gtttttacc agccttaatt ccaattatcg ctgctgcaat tggcgcgata ccaggcatag 17280

cttccgtggc ggttcaggcc tcgcaacgac attgacattg gaaaaaaacg tataaataaa 17340

aaaaaaaaaa tacaatggac tctgacactc ctggtcctgt gactatgttt tcttagagat 17400

ggaagacatc aatttttcat ccttggctcc gcgacacggc acgaagccgt acatgggcac 17460

ctggagcgac atcggcacga gccaactgaa cgggggcgcc ttcaattgga gcagtatctg 17520

gagcgggctt aaaaattttg gctcaaccat aaaaacatac gggaacaaag cttggaacag 17580

cagtacagga caggcgctta gaaataaact taaagaccag aacttccaac aaaaagtagt 17640

cgatgggata gcttccggca tcaatggagt ggtagatttg gctaaccagg ctgtgcagaa 17700

aaagataaac agtcgtttgg acccgccgcc agcaacccca ggtgaaatgc aagtggagga 17760

agaaattcct ccgccagaaa aacgaggcga caagcgtccg cgtcccgatt tggaagagac 17820

gctggtgacg cgcgtagatg aaccgccttc ttatgaggaa gcaacgaagc ttggaatgcc 17880

caccactaga ccgatagccc caatggccac cggggtgatg aaaccttctc agttgcatcg 17940

acccgtcacc ttggatttgc cccctccccc tgctgctact gctgtacccg cttctaagcc 18000

tgtcgctgcc ccgaaaccag tcgccgtagc caggtcacgt cccgggggcg ctcctcgtcc 18060

aaatgcgcac tggcaaaata ctctgaacag catcgtgggt ctaggcgtgc aaagtgtaaa 18120

acgccgtcgc tgcttttaat taaatatgga gtagcgctta acttgcctat ctgtgtatat 18180

gtgtcattac acgccgtcac agcagcagag gaaaaaagga agaggtcgtg cgtcgacgct 18240

gagttacttt caagatggcc accccatcga tgctgcccca atgggcatac atgcacatcg 18300

ccggacagga tgcttcggag tacctgagtc cgggtctggt gcagttcgcc cgcgccacag 18360

acacctactt caatctggga aataagttta gaaatcccac cgtagcgccg acccacgatg 18420

tgaccaccga ccgtagccag cggctcatgt tgcgcttcgt gcccgttgac cgggaggaca 18480

atacatactc ttacaaagtg cggtacaccc tggccgtggg cgacaacaga gtgctggata 18540

tggccagcac gttctttgac attaggggtg tgttggacag aggtcccagt ttcaaaccct 18600

attctggtac ggcttacaac tccctggctc ctaaaggcgc tccaaataca tctcagtgga 18660

ttgcagaagg tgtaaaaaat acaactggtg aggaacacgt aacagaagag gaaaccaata 18720

ctactactta cacttttggc aatgctcctg taaaagctga agctgaaatt acaaaagaag 18780

gactcccagt aggtttggaa gtttcagatg aagaaagtaa accgatttat gctgataaaa 18840

catatcagcc agaacctcag ctgggagatg aaacttggac tgaccttgat ggaaaaaccg 18900

aaaagtatgg aggcagggct ctcaaacccg atactaagat gaaaccatgc tacgggtcct 18960

ttgccaaacc tactaatgtg aaaggcggtc aggcaaaaca aaaaacaacg gagcagccaa 19020

atcagaaagt cgaatatgat atcgacatgg agtttttga tgcggcatcg cagaaaacaa 19080

acttaagtcc taaaattgtc atgtatgcag aaaatgtaaa tttggaaact ccagacactc 19140

atgtagtgta caaacctgga acagaagaca caagttccga agctaatttg ggacaacaat 19200

ctatgcccaa cagacccaac tacattggct tcagagataa ctttattgga cttatgtact 19260

ataacagtac tggtaacatg ggggtgctgg ctggtcaagc gtctcagtta aatgcagtgg 19320

ttgacttgca ggacagaaac acagaacttt cttaccaact cttgcttgac tctctgggcg 19380

acagaaccag atactttagc atgtggaatc aggctgtgga cagttatgat cctgatgtac 19440

gtgttattga aaatcatggt gtggaagatg aacttcccaa ctactgtttt ccactggacg 19500

gcataggtgt tccaacaacc agttacaaat caatagttcc aaatggagac aatgcgccta 19560

attggaagga acctgaagta aatggaacaa gtgagatcgg acagggtaat ttgtttgcca 19620

tggaaattaa ccttcaagcc aatctatggc gaagtttcct ttattccaat gtggctctat 19680

atctcccaga ctcgtacaaa tacaccccgt ccaatgtcac tcttccagaa aacaaaaaca 19740

cctacgacta catgaacggg cgggtggtgc cgccatctct agtagacacc tatgtgaaca 19800

ttggtgccag gtggtctctg gatgccatgg acaatgtcaa cccattcaac caccaccgta 19860

acgctggctt gcgttaccga tccatgcttc tgggtaacgg acgttatgtg cctttccaca 19920

tacaagtgcc tcaaaaattc ttcgctgtta aaaacctgct gcttctccca ggctcctaca 19980

cttatgagtg gaactttagg aaggatgtga acatggttct acagagttcc ctcggtaacg 20040

acctgcgggt agatggcgcc agcatcagtt tcacgagcat caacctctat gctacttttt 20100

tccccatggc tcacaacacc gcttccaccc ttgaagccat gctgcggaat gacaccaatg 20160

atcagtcatt caacgactac ctatctgcag ctaacatgct ctaccccatt cctgccaatg 20220

caaccaatat tcccatttcc attccttctc gcaactgggc ggctttcaga ggctggtcat 20280

ttaccagact gaaaaccaaa gaaactccct ctttggggtc tggatttgac ccctactttg 20340

tctattctgg ttctattccc tacctggatg gtaccttcta cctgaaccac acttttaaga 20400

aggtttccat catgtttgac tcttcagtga gctggcctgg aaatgacagg ttactatctc 20460

ctaacgaatt tgaaataaag cgcactgtgg atggcgaagg ctacaacgta gcccaatgca 20520

acatgaccaa agactggttc ttggtacaga tgctcgccaa ctacaacatc ggctatcagg 20580

gcttctacat tccagaagga tacaaagatc gcatgtattc atttttcaga aacttccagc 20640

ccatgagcag gcaggtggtt gatgaggtca attacaaaga cttcaaggcc gtcgccatac 20700

cctaccaaca caacaactct ggctttgtgg gttacatggc tccgaccatg cgccaaggtc 20760

aaccctatcc cgctaactat ccctatccac tcattggaac aactgccgta aatagtgtta 20820

cgcagaaaaa gttcttgtgt gacagaacca tgtggcgcat accgttctcg agcaacttca 20880

tgtctatggg ggcccttaca gacttgggac agaatatgct ctatgccaac tcagctcatg 20940

ctctggacat gacctttgag gtggatccca tggatgagcc caccctgctt tatcttctct 21000

tcgaagtttt cgacgtggtc agagtgcatc agccacaccg cggcatcatc gaggcagtct 21060

acctgcgtac accgttctcg gccggtaacg ctaccacgta agaagcttct tgcttcttgc 21120

aaatagcagc tgcaaccatg gcctgcggat cccaaaacgg ctccagcgag caagagctca 21180

gagccattgt ccaagacctg ggttgcggac cctatttttt gggaacctac gataagcgct 21240

tcccggggtt catggccccc gataagctcg cctgtgccat tgtaaatacg gccggacgtg 21300

agacgggggg agagcactgg ttggctttcg gttggaaccc acgttctaac acctgctacc 21360

tttttgatcc ttttggattc tcggatgatc gtctcaaaca gatttaccag tttgaatatg 21420

agggtctcct gcgccgcagc gctcttgcta ccaaggaccg ctgtattacg ctggaaaaat 21480

ctacccagac cgtgcagggt ccccgttctg ccgcctgcgg acttttctgc tgcatgttcc 21540

ttcacgcctt tgtgcactgg cctgaccgtc ccatggacgg aaaccccacc atgaaattgc 21600

taactggagt gccaaacaac atgcttcatt ctcctaaagt ccagcccacc ctgtgtgaca 21660

atcaaaaagc actctaccat tttcttaata cccattcgcc ttattttcgc tcccatcgta 21720

cacacatcga aagggccact gcgttcgacc gtatggatgt tcaataatga ctcatgtaaa 21780

caacgtgttc aataaacatc actttatttt tttacatgta tcaaggctct gcattactta 21840

tttatttaca agtcgaatgg gttctgacga gaatcagaat gacccgcagg cagtgatacg 21900

ttgcggaact gatacttggg ttgccacttg aattcgggaa tcaccaactt gggaaccggt 21960

atatcgggca ggatgtcact ccacagcttt ctggtcagct gcaaagctcc aagcaggtca 22020

ggagccgaaa tcttgaaatc acaattagga ccagtgcttt gagcgcgaga gttgcggtac 22080

accggattgc agcactgaaa caccatcagc gacggatgtc tcacgcttgc cagcacggtg 22140

ggatctgcaa tcatgcccac atccagatct tcagcattgg caatgctgaa cggggtcatc 22200

ttgcaggtct gcctacccat ggcgggcacc caattaggct tgtggttgca atcgcagtgc 22260

aggggggatca gtatcatctt ggcctgatcc tgtctgattc ctggatacac ggctctcatg 22320

aaagcatcat attgcttgaa agcctgctgg gctttactac cctcggtata aaacatcccg 22380

caggacctgc tcgaaaactg gttagctgca cagccggcat cattcacaca gcagcgggcg 22440

tcattgttag ctatttgcac cacacttctg ccccagcggt tttgggtgat tttggttcgc 22500

tcgggattct cctttaaggc tcgttgtccg ttctcgctgg ccacatccat ctcgataatc 22560

tgctccttct gaatcataat attgccatgc aggcacttca gcttgccctc ataatcattg 22620

cagccatgag gccacaacgc acagcctgta cattcccaat tatggtgggc gatctgagaa 22680

aaagaatgta tcattccctg cagaaatctt cccatcatcg tgctcagtgt cttgtgacta 22740

gtgaaagtta actggatgcc tcggtgctcc tcgtttacgt actggtgaca gatgcgcttg 22800

tattgttcgt gttgctcagg cattagttta aaagaggttc taagttcgtt atccagcctg 22860

tacttctcca tcagcagaca catcacttcc atgcctttct cccaagcaga caccaggggc 22920

aagctaatcg gattcttaac agtgcaggca gcagctcctt tagccagagg gtcatcttta 22980

gcgatcttct caatgcttct tttgccatcc ttctcaacga tgcgcacggg cgggtagctg 23040

aaacccactg ctacaagttg cgcctcttct ctttcttctt cgctgtcttg actgatgtct 23100

tgcatgggga tatgtttggt cttccttggc ttctttttgg ggggtatcgg aggaggagga 23160

ctgtcgctcc gttccggaga cagggaggat tgtgacgttt cgctcaccat taccaactga 23220

ctgtcggtag aagaacctga ccccacacgg cgacaggtgt ttctcttcgg gggcagaggt 23280

ggaggcgatt gcgaagggct gcggtccgac ctggaaggcg gatgactggc agaacccctt 23340

ccgcgttcgg gggtgtgctc cctgtggcgg tcgcttaact gatttccttc gcggctggcc 23400

attgtgttct cctaggcaga gaaacaacag acatggaaac tcagccattg ctgtcaacat 23460

cgccacgagt gccatcacat ctcgtcctca gcgacgagga aaaggagcag agcttaagca 23520

ttccaccgcc cagtcctgcc accacctcta ccctagaaga taaggaggtc gacgcatctc 23580

atgacatgca gaataaaaaa gcgaaagagt ctgagacaga catcgagcaa gacccgggct 23640

atgtgacacc ggtggaacac gaggaagagt tgaaacgctt tctagagaga gaggatgaaa 23700

actgcccaaa acaacgagca gataactatc accaagatgc tggaaatagg gatcagaaca 23760

ccgactacct catagggctt gacggggaag acgcgctcct taaacatcta gcaagacagt 23820

cgctcatagt caaggatgca ttattggaca gaactgaagt gcccatcagt gtggaagagc 23880

tcagccgcgc ctacgagctt aacctctttt cacctcgtac tccccccaaa cgtcagccaa 23940

acggcacctg cgagccaaat cctcgcttaa acttttatcc agcttttgct gtgccagaag 24000

tactggctac ctatcacatc ttttttaaaa atcaaaaaat tccagtctcc tgccgcgcta 24060

atcgcacccg cgccgatgcc ctactcaatc tgggacctgg ttcacgctta cctgatatag 24120

cttccttgga agaggttcca aagatcttcg agggtctggg caataatgag actcgggccg 24180

caaatgctct gcaaaaggga gaaaatggca tggatgagca tcacagcgtt ctggtggaat 24240

tggaaggcga taatgccaga ctcgcagtac tcaagcgaag catcgaggtc acacacttcg 24300

catatcccgc tgtcaacctg ccccctaaag tcatgacggc ggtcatggac cagttactca 24360

ttaagcgcgc aagtcccctt tcagaagaca tgcatgaccc agatgcctgt gatgagggta 24420

aaccagtggt cagtgatgag cagctaaccc gatggctggg caccgactct cccagggatt 24480

tggaagagcg tcgcaagctt atgatggccg tggtgctggt taccgtagaa ctagagtgtc 24540

tccgacgttt ctttaccgat tcagaaacct tgcgcaaact cgaagagaat ctgcactaca 24600

cttttagaca cggctttgtg cggcaggcat gcaagatatc taacgtggaa ctcaccaacc 24660

tggtttccta catgggtatt ctgcatgaga atcgcctagg acaaagcgtg ctgcacagca 24720

ccctgaaggg ggaagcccgc cgtgattaca tccgcgattg tgtctatctg tacctgtgcc 24780

acacgtggca aaccggcatg ggtgtatggc agcaatgttt agaagaacag aacttgaaag 24840

agcttgacaa gctcttacag aaatctctta aggttctgtg gacagggttc gacgagcgca 24900

ccgtcgcttc cgacctggca gacctcatct tcccagagcg tctcagggtt actttgcgaa 24960

acggattgcc tgactttatg agccagagca tgcttaacaa ttttcgctct ttcatcctgg 25020

aacgctccgg tatcctgccc gccacctgct gcgcactgcc ctccgacttt gtgcctctca 25080

cctaccgcga gtgcccccg ccgctatgga gtcactgcta cctgttccgt ctggccaact 25140

atctctccta ccactcggat gtgatcgagg atgtgagcgg agacggcttg ctggagtgtc 25200

actgccgctg caatctgtgc acgccccacc ggtccctagc ttgcaacccc cagttgatga 25260

gcgaaaccca gataataggc acctttgaat tgcaaggccc cagcagccaa ggcgatgggt 25320

cttctcctgg gcaaagttta aaactgaccc cgggactgtg gacctccgcc tacttgcgca 25380

agtttgctcc ggaagattac cacccctatg aaatcaagtt ctatgaggac caatcacagc 25440

ctccaaaggc cgaactttcg gcctgcgtca tcacccaggg ggcaattctg gcccaattgc 25500

aagccatcca aaaatcccgc caagaatttc tactgaaaaa gggtaagggg gtctaccttg 25560

acccccagac cggcgaggaa ctcaacacaa ggttccctca ggatgtccca acgacgagaa 25620

aacaagaagt tgaaggtgca gccgccgccc ccagaagata tggaggaaga ttgggacagt 25680

caggcagagg aggcggagga ggacagtctg gaggacagtc tggaggaaga cagtttggag 25740

gaggaaaacg aggaggcaga ggaggtggaa gaagtaaccg ccgacaaaca gttatcctcg 25800

gctgcggaga caagcaacag cgctaccatc tccgctccga gtcgaggaac ccggcggcgt 25860

cccagcagta gatgggacga gaccggacgc ttcccgaacc caaccagcgc ttccaagacc 25920

ggtaagaagg atcggcaggg atacaagtcc tggcgggggc ataagaatgc catcatctcc 25980

tgcttgcatg agtgcggggg caacatatcc ttcacgcggc gctacttgct attccaccat 26040

ggggtgaact ttccgcgcaa tgttttgcat tactaccgtc acctccacag cccctactat 26100

agccagcaaa tcccggcagt ctcgacagat aaagacagcg gcggcgacct ccaacagaaa 26160

accagcagcg gcagttagaa aatacacaac aagtgcagca acaggaggat taaagattac 26220

agccaacgag ccagcgcaaa cccgagagtt aagaaatcgg atctttccaa ccctgtatgc 26280

catcttccag cagagtcggg gtcaagagca ggaactgaaa ataaaaaacc gatctctgcg 26340

ttcgctcacc agaagttgtt tgtatcacaa gagcgaagat caacttcagc gcactctcga 26400

ggacgccgag gctctcttca acaagtactg cgcgctgact cttaaagagt aggcagcgac 26460

cgcgcttatt caaaaaaggc gggaattaca tcatcctcga catgagtaaa gaaattccca 26520

cgccttacat gtggagttat caaccccaaa tgggattggc ggcaggcgcc tcccaggact 26580

actccacccg catgaattgg ctcagcgccg ggccttctat gatttctcga gttaatgata 26640

tacgcgccta ccgaaaccaa atacttttgg aacagtcagc tcttaccacc acgccccgcc 26700

aacaccttaa tcccagaaat tggcccgccg ccctagtgta ccaggaaagt cccgctccca 26760

ccactgtatt acttcctcga gacgcccagg ccgaagtcca aatgactaat gcaggtgcgc 26820

agttagctgg cggctccacc ctatgtcgtc acaggcctcg gcataatata aaacgcctga 26880

tgatcagagg ccgaggtatc cagctcaacg acgagtcggt gagctctccg cttggtctac 26940

gaccagacgg aatctttcag attgccggct gcgggagatc ttccttcacc cctcgtcagg 27000

ctgttctgac tttggaaagt tcgtcttcgc aaccccgctc gggcggaatc gggaccgttc 27060

aatttgtgga ggagtttact ccctctgtct acttcaaccc cttctccgga tctcctgggc 27120

attacccgga cgagttcata ccgaacttcg acgcgattag cgagtcagtg gacggctacg 27180

attgatgtct ggtgacgcgg ctgagctatc tcggctgcga catctagacc actgccgccg 27240

ctttcgctgc tttgcccggg aactcattga gttcatctac ttcgaactcc ccaaggatca 27300

ccctcaaggt ccggcccacg gagtgcggat ttctatcgaa ggcaaaatag actctcgcct 27360

gcaacgaatt ttctcccagc ggcccgtgct gatcgagcga gaccagggaa acaccacggt 27420

ttccatctac tgcatttgta atcaccccgg attgcatgaa agcctttgct gtcttatgtg 27480

tactgagttt aataaaaact gaattaagac tctcctacgg actgccgctt cttcaacccg 27540

gattttacaa ccagaagaac gaaacttttc ctgtcgtcca ggactctgtt aacttcacct 27600

ttcctactca caaactagaa gctcaacgac tacaccgctt ttccagaagc attttcccta 27660

ctaatactac tttcaaaacc ggaggtgagc tccaaggtct tcctacagaa aacccttggg 27720

tggaagcggg ccttgtagtg ctaggaattc ttgcgggtgg gcttgtgatt attctttgct 27780

acctatacac accttgcttc actttcttag tggtgttgtg gtattggttt aaaaaatggg 27840

gcccatacta gtcttgcttg ttttactttc gcttttggaa ccgggttctg ccaattacga 27900

tccatgtcta gacttcgacc cagaaaactg cacacttact tttgcacccg acacaagccg 27960

catctgtgga gttcatcgcc tctcttacga acttggcccc caacgacaaa aatttacctg 28020

catggtggga atcaacccca tagttatcac ccagcaaagt ggagatacta agggttgcat 28080

tcactgctcc tgcgattcca tcgagtgcac ctacaccctg ctgaagaccc tatgcggcct 28140

aagagacctg ctaccaatga attaaaaaat gattaataaa aaatcactta cttgaaatca 28200

gcaataaggt ctctgttgaa attttctccc agcagcacct cacttccctc ttcccaactc 28260

tggtattcta aaccccgttc agcggcatac tttctccata ctttaaaggg gatgtcaaat 28320

tttagctcct ctcctgtacc cacaatcttc atgtctttct tcccagatga ccaagagagt 28380

ccggctcagt gactccttca accctgtcta cccctatgaa gatgaaagca cctcccaaca 28440

ccccttttata aacccagggt ttatttcccc aaatggcttc acacaaagcc caaacggagt 28500

tcttacttta aaatgtttaa ccccactaac aaccacaggc ggatctctac agctaaaagt 28560

gggaggggga cttacagtgg atgacaccaa cggttttttg aaagaaaaca taagtgccac 28620

cacaccactc gttaagactg gtcactctat aggtttacca ctaggagccg gattgggaac 28680

gaatgaaaat aaactttgta tcaaattagg acaaggactt acattcaatt caaacaacat 28740

ttgcattgat gacaatatta acaccttatg gacaggagtc aaccccaccg aagccaactg 28800

tcaaatcatg aactccagtg aatctaatga ttgcaaatta attctaacac tagttaaaac 28860

tggagcacta gtcactgcat ttgtttatgt tataggagta tctaacaatt ttaatatgct 28920

aactacacac agaaatataa attttactgc agagctgttt ttcgattcta ctggtaattt 28980

actaactaga ctctcatccc tcaaaactcc acttaatcat aaatcaggac aaaacatggc 29040

tactggtgcc attactaatg ctaaaggttt catgcccagc acgactgcct atcctttcaa 29100

tgataattct agagaaaaag aaaactacat ttacggaact tgttactaca cagctagtga 29160

tcgcactgct tttcccattg acatatctgt catgcttaac cgaagagcaa taaatgacga 29220

gacatcatat tgtattcgta taacttggtc ctggaacaca ggagatgccc cagaggtgca 29280

aacctctgct acaaccctag tcacctcccc atttaccttt tactacatca gagaagacga 29340

ctgacaaata aagtttgcga tcgccaggcc caccatgggc tggagctgca tcatcttgtt 29400

cctggtcgca actgctaccg gagtccattc ggacatcgtc atgacccaaa gccctgactc 29460

gctcgctgtg tcactgggag agcgggcgac tatcaactgc aaatcatccc agagcctgct 29520

gtattcacgc aatcagaaaa actacctggc ctggtatcag cagaagccgg gccagcctcc 29580

caagctgctg atcttctggg cctccacccg cgaaagcggc gtgccggacc gcttcagcgg 29640

aagcggattc ggaactgact ttactctgac cattagctcc ttgcaggcgg aggacgtggc 29700

cgtctactac tgccagcagt atttctccta tccgctcacc tttgggcaag gcaccaaggt 29760

ggagattaag ggaggggcg gcagcggggg aggcggcagc ggcggcgggg gatcgcaggt 29820

ccagctcgtc caatccggag ccgaagtcaa gaagccggga gcgtcggtca aggtcagctg 29880

caaaacttcg cgctacacct tcactgagta cacgatccac tgggtccgcc aggcgcccgg 29940

ccagcggctg gagtggatcg gcgggatcaa cccaaacaac ggaatcccaa attacaatca 30000

gaaatttaaa gggcgggtga ctatcaccgt ggatacctcg gcctccacgg cgtacatgga 30060

gctctcatca ctcagatcgg aggacaccgc ggtctattac tgcgcccgcc gccggatcgc 30120

ttatggatac gatgaaggac atgcgatgga ttactggggc cagggcaccc tcgtcacggt 30180

gtcgtcagga ggcggcggtt cagatgtgca actcgtgcag tccggtgcgg aagtgaaaaa 30240

gccgggcgcg agcgtcaaag tgtcatgcaa ggcgtcagga tatacgttta ctagatacac 30300

tatgcactgg gtgcgccagg cacctggtca gggccttgaa tggatcggct acatcaatcc 30360

gtcgagaggc tacactaatt acgcggactc agtcaaaggg cgcttcacga ttacgaccga 30420

caagtccacc tcgactgcat acatggaact gtcctcgctg agaagcgagg acaccgctac 30480

ttactactgc gctagatact acgatgatca ctactgcctc gattactggg gccagggaac 30540

cactgtcacg gtgtcatcgg gagagggcac ctcaaccgga tcaggggggat cgggaggctc 30600

gggcggcgca gacgacatcg tcctgaccca gtcgcccgcc accttgtcgc tgtccccagg 30660

agaaagagcg accctgtcat gccgggcgtc gcaaagcgtg agctatatga attggtatca 30720

gcagaagcca ggaaaggcgc cgaagagatg gatctacgac acctccaagg tcgcttcagg 30780

tgtcccggct agattctcag gatcgggatc aggaacggac tactccctga ccatcaattc 30840

actggaagca gaagatgcgg ccacctacta ctgtcagcag tggtcctcca acccgctgac 30900

tttcggaggc ggaactaagg tcgagatcaa gtaggctagc ttgactgact gagatacagc 30960

gtaccttcag ctcacagaca tgataagata cattgatgag tttggacaaa ccacaactag 31020

aatgcagtga aaaaaatgct ttatttgtga aatttgtgat gctattgctt tatttgtaac 31080

cattataagc tgcaataaac aagttaacaa caacaattgc attcatttta tgtttcaggt 31140

tcaggggggag gtgtgggagg ttttttaaag caagtaaaac ctctacaaat gtggtagtcg 31200

tcagctatcc tgcaggaact tgtttatttg aaaatcaatt cacaaaatcc gagtagttat 31260

tttgcctccc ccttcccatt taacagaata caccaatctc tccccacgca cagctttaaa 31320

catttggata ccattagata tagacatggt tttagattcc acattccaaa cagtttcaga 31380

gcgagccaat ctggggtcag tgatagataa aaatccatcg ggatagtctt ttaaagcgct 31440

ttcacagtcc aactgctgcg gatgcgactc cggagtctgg atcacggtca tctggaagaa 31500

gaacgatggg aatcataatc cgaaaacggt atcggacgat tgtgtctcat caaacccaca 31560

agcagccgct gtctgcgtcg ctccgtgcga ctgctgttta tgggatcagg gtccacagtg 31620

tcctgaagca tgattttaat agcccttaac atcaactttc tggtgcgatg cgcgcagcaa 31680

cgcattctga tttcactcaa atctttgcag taggtacaac acattattac aatattgttt 31740

aataaaccat aattaaaagc gctccagcca aaactcatat ctgatataat cgcccctgca 31800

tgaccatcat accaaagttt aatataaatt aaatgacgtt ccctcaaaaa cacactaccc 31860

acatacatga tctcttttgg catgtgcata ttaacaatct gtctgtacca tggacaacgt 31920

tggttaatca tgcaacccaa tataaccttc cggaaccaca ctgccaacac cgctccccca 31980

gccatgcatt gaagtgaacc ctgctgatta caatgacaat gaagaaccca attctctcga 32040

ccgtgaatca cttgagaatg aaaaatatct atagtggcac aacatagaca taaatgcatg 32100

catcttctca taatttttaa ctcctcagga tttagaaaca tatcccaggg aataggaagc 32160

tcttgcagaa cagtaaagct ggcagaacaa ggaagaccac gaacacaact tacactatgc 32220

atagtcatag tatcacaatc tggcaacagc gggtggtctt cagtcataga agctcgggtt 32280

tcattttcct cacaacgtgg taactgggct ctggtgtaag ggtgatgtct ggcgcatgat 32340

gtcgagcgtg cgcgcaacct tgtcataatg gagttgcttc ctgacattct cgtattttgt 32400

atagcaaaac gcggccctgg cagaacacac tcttcttcgc cttctatcct gccgcttagc 32460

gtgttccgtg tgatagttca agtacaacca cactcttaag ttggtcaaaa gaatgctggc 32520

ttcagttgta atcaaaactc catcgcatct aatcgttctg aggaaatcat ccaagcaatg 32580

caactggatt gtgtttcaag caggagagga gagggaagag acggaagaac catgttaatt 32640

tttattccaa acgatctcgc agtacttcaa attgtagatc gcgcagatgg catctctcgc 32700

ccccactgtg ttggtgaaaa agcacagcta gatcaaaaga aatgcgattt tcaaggtgct 32760

caacggtggc ttccagcaaa gcctccacgc gcacatccaa gaacaaaaga ataccaaaag 32820

aaggagcatt ttctaactcc tcaatcatca tattacattc ctgcaccatt cccagataat 32880

tttcagcttt ccagccttga attattcgtg tcagttcttg tggtaaatcc aatccacaca 32940

ttacaaacag gtcccggagg gcgccctcca ccaccattct taaacacacc ctcataatga 33000

caaaatatct tgctcctgtg tcacctgtag cgaattgaga atggcaacat caattgacat 33060

gcccttggct ctaagttctt ctttaagttc tagttgtaaa aactctctca tattatcacc 33120

aaactgctta gccagaagcc ccccgggaac aagagcaggg gacgctacag tgcagtacaa 33180

gcgcagacct ccccaattgg ctccagcaaa aacaagattg gaataagcat attgggaacc 33240

gccagtaata tcatcgaagt tgctggaaat ataatcaggc agagtttctt gtaaaaattg 33300

aataaaagaa aaatttgcca aaaaaacatt caaaacctct gggatgcaaa tgcaataggt 33360

taccgcgctg cgctccaaca ttgttagttt tgaattagtc tgcaaaaata aaaaaaaaaa 33420

caagcgtcat atcatagtag cctgacgaac agatggataa atcagtcttt ccatcacaag 33480

acaagccaca gggtctccag ctcgaccctc gtaaaacctg tcatcatgat taaacaacag 33540

caccgaaagt tcctcgcggt gaccagcatg aataattctt gatgaagcat acaatccaga 33600

catgttagca tcagttaacg agaaaaaaca gccaacatag cctttgggta taattatgct 33660

taatcgtaag tatagcaaag ccacccctcg cggatacaaa gtaaaaggca caggagaata 33720

aaaaatataa ttatttctct gctgctgttc aggcaacgtc gcccccggtc cctctaaata 33780

cacatacaaa gcctcatcag ccatggctta ccagacaaag tacagcgggc acacaaagca 33840

caagctctaa agtgactctc caacctctcc acaatatata tatacacaag ccctaaactg 33900

acgtaatggg agtaaagtgt aaaaaatccc gccaaaccca acacacaccc cgaaactgcg 33960

tcaccaggga aaagtacagt ttcacttccg caatcccaac aggcgtaact tcctctttct 34020

cacggtacgt gatatcccac taacttgcaa cgtcattttc ccacggtcgc accgcccctt 34080

ttagccgtta accccacagc caatcaccac acgatccaca ctttttaaaa tcacctcatt 34140

tacatattgg caccattcca tctataaggt atattatata gataga 34186

<210> 68
<211> 1551
<212> DNA
<213> Artificial Sequence

<220>
<223> FAP BiTE nucleic acid sequence (OKT3)

<400> 68
atgggctgga gctgcatcat cttgttcctg gtcgcaactg ctaccggagt ccattcggac 60

atcgtcatga cccaaagccc tgactcgctc gctgtgtcac tgggagagcg ggcgactatc 120

aactgcaaat catcccagag cctgctgtat tcacgcaatc agaaaaacta cctggcctgg 180

tatcagcaga agccgggcca gcctcccaag ctgctgatct tctgggcctc cacccgcgaa 240

agcggcgtgc cggaccgctt cagcggaagc ggattcggaa ctgactttac tctgaccatt 300

agctccttgc aggcggagga cgtggccgtc tactactgcc agcagtattt ctcctatccg 360

ctcacctttg ggcaaggcac caaggtggag attaagggag ggggcggcag cgggggaggc 420

ggcagcggcg gcgggggatc gcaggtccag ctcgtccaat ccggagccga agtcaagaag 480

ccgggagcgt cggtcaaggt cagctgcaaa acttcgcgct acaccttcac tgagtacacg 540

atccactggg tccgccaggc gcccggccag cggctggagt ggatcggcgg gatcaaccca 600

aacaacggaa tcccaaatta caatcagaaa tttaaagggc gggtgactat caccgtggat 660

acctcggcct ccacggcgta catggagctc tcatcactca gatcggagga caccgcggtc 720

tattactgcg cccgccgccg gatcgcttat ggatacgatg aaggacatgc gatggattac 780

tggggccagg gcaccctcgt cacggtgtcg tcaggaggcg gcggttcaca ggtgcagctg 840

cagcagtctg gggctgaact ggcaagacct ggggcctcag tgaagatgtc ctgcaaggct 900

tctggctaca cctttactag gtacacgatg cactgggtaa aacagaggcc tggacagggt 960

ctggaatgga ttggatacat taatcctagc cgtggttata ctaattacaa tcagaagttc 1020

aaggacaagg ccacattgac tacagacaaa tcctccagca cagcctacat gcaactgagc 1080

agcctgacat ctgaggactc tgcagtctat tactgtgcaa gatattatga tgatcattac 1140

tgccttgact actggggcca aggcaccact ctcacagtct cctcaggtgg cggtggctcg 1200

ggcggtggtg gatctggtgg cggcggatct gatatcgtgc tcactcagtc tccagcaatc 1260

atgtctgcat ctccagggga gaaggtcacc atgacctgca gtgccagctc aagtgtaagt 1320

tacatgaact ggtaccagca gaagtcaggc acctccccca aaagatggat ttatgacaca 1380

tccaaactgg cttctggagt ccctgctcac ttcaggggca gtgggtctgg gacctcttac 1440

tctctcacaa tcagcggcat ggaggctgaa gatgctgcca cttattactg ccagcagtgg 1500

agtagtaacc cattcacgtt cggctcgggg acaaagttgg aaataaaccg g 1551

<210> 69
<211> 1557
<212> DNA
<213> Artificial Sequence

<220>
<223> FAP BiTE nucleic acid sequence (aCD3)

<400> 69
atgggctgga gctgcatcat cttgttcctg gtcgcaactg ctaccggagt ccattcggac 60

atcgtcatga cccaaagccc tgactcgctc gctgtgtcac tgggagagcg ggcgactatc 120

aactgcaaat catcccagag cctgctgtat tcacgcaatc agaaaaacta cctggcctgg 180

tatcagcaga agccgggcca gcctcccaag ctgctgatct tctgggcctc cacccgcgaa 240

agcggcgtgc cggaccgctt cagcggaagc ggattcggaa ctgactttac tctgaccatt 300

agctccttgc aggcggagga cgtggccgtc tactactgcc agcagtattt ctcctatccg 360

ctcacctttg ggcaaggcac caaggtggag attaagggag ggggcggcag cgggggaggc 420

ggcagcggcg gcgggggatc gcaggtccag ctcgtccaat ccggagccga agtcaagaag 480

ccgggagcgt cggtcaaggt cagctgcaaa acttcgcgct acaccttcac tgagtacacg 540

atccactggg tccgccaggc gcccggccag cggctggagt ggatcggcgg gatcaaccca 600

aacaacggaa tcccaaatta caatcagaaa tttaaagggc gggtgactat caccgtggat 660

acctcggcct ccacggcgta catggagctc tcatcactca gatcggagga caccgcggtc 720

tattactgcg cccgccgccg gatcgcttat ggatacgatg aaggacatgc gatggattac 780

tggggccagg gcaccctcgt cacggtgtcg tcaggaggcg gcggttcaga tgtgcaactc 840

gtgcagtccg gtgcggaagt gaaaaagccg ggcgcgagcg tcaaagtgtc atgcaaggcg 900

tcaggatata cgtttactag atacactatg cactgggtgc gccaggcacc tggtcagggc 960

cttgaatgga tcggctacat caatccgtcg agaggctaca ctaattacgc ggactcagtc 1020

aaagggcgct tcacgattac gaccgacaag tccacctcga ctgcatacat ggaactgtcc 1080

tcgctgagaa gcgaggacac cgctacttac tactgcgcta gatactacga tgatcactac 1140

tgcctcgatt actggggcca gggaaccact gtcacggtgt catcgggaga gggcacctca 1200

accggatcag ggggatcggg aggctcgggc ggcgcagacg acatcgtcct gacccagtcg 1260

cccgccacct tgtcgctgtc cccaggagaa agagcgaccc tgtcatgccg ggcgtcgcaa 1320

agcgtgagct atatgaattg gtatcagcag aagccaggaa aggcgccgaa gagatggatc 1380

tacgacacct ccaaggtcgc ttcaggtgtc ccggctagat tctcaggatc gggatcagga 1440

acggactact ccctgaccat caattcactg gaagcagaag atgcggccac ctactactgt 1500

cagcagtggt cctccaaccc gctgactttc ggaggcggaa ctaaggtcga gatcaag 1557

<210> 70
<211> 1856
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-611 Transgene cassette

<400> 70
caggcccacc atgggatgga gctgcatcat cctattcctc gtggcgacgg ccactggagt 60

gcatagcgaa ctggtgatga ctcagtcccc gtcatccctg acggtgaccg ccggcgagaa 120

ggtcaccatg tcgtgcaagt cctcgcaaag cctgcttaac agcggcaacc agaaaaacta 180

cctcacgtgg tatcagcaaa agccaggtca acccccaaaa ctgctcatct actgggcgag 240

cacccgcgag tcgggggtgc cagaccggtt caccggctcc gggtcaggaa ctgatttcac 300

cctaaccatc agctcggtgc aagcggagga cctggccgtg tactactgcc aaaatgatta 360

ctcgtaccct ctgacctttg gagcgggcac caagctcgaa atcaagggcg gtggaggaag 420

cggcggggga ggctcaggtg ggggaggatc agaagtccaa ctgctggagc agtcaggagc 480

cgaactggtc cgcccgggaa cctccgtcaa gatttcctgt aaggcttccg gctacgcttt 540

taccaattac tggctgggct gggtcaagca aagaccgggg catggcctgg agtggatcgg 600

cgacatcttc ccagggagcg gcaacatcca ctacaacgag aagttcaagg ggaaagcgac 660

tctgactgcc gacaaatcat ccagcaccgc ctacatgcag ctgtcgtcgc tcactttcga 720

agacagcgcg gtgtactttt gtgctcggct ccggaactgg gatgaaccaa tggactactg 780

gggacaagga actaccgtga ccgtctcctc cggcggcggt ggaagccagg tgcagctgca 840

gcagtctggg gctgaactgg caagacctgg ggcctcagtg aagatgtcct gcaaggcttc 900

tggctacacc tttactaggt acacgatgca ctgggtaaaa cagaggcctg gacagggtct 960

ggaatggatt ggatacatta atcctagccg tggttatact aattacaatc agaagttcaa 1020

ggacaaggcc acattgacta cagacaaatc ctccagcaca gcctacatgc aactgagcag 1080

cctgacatct gaggactctg cagtctatta ctgtgcaaga tattatgatg atcattactg 1140

ccttgactac tggggccaag gcaccactct cacagtctcc tcaggtggcg gtggctcggg 1200

cggtggtgga tctggtggcg gcggatctga tatcgtgctc actcagtctc cagcaatcat 1260

gtctgcatct ccaggggaga aggtcaccat gacctgcagt gccagctcaa gtgtaagtta 1320

catgaactgg taccagcaga agtcaggcac ctcccccaaa agatggattt atgacacatc 1380

caaactggct tctggagtcc ctgctcactt caggggcagt gggtctggga cctcttactc 1440

tctcacaatc agcggcatgg aggctgaaga tgctgccact tattactgcc agcagtggag 1500

tagtaaccca ttcacgttcg gctcggggac aaagttggaa ataaaccggc atcaccatca 1560

ccatcaccac catcaccatt aggctagctt gactgactga gatacagcgt accttcagct 1620

cacagacatg ataagataca ttgatgagtt tggacaaacc acaactagaa tgcagtgaaa 1680

aaaatgcttt atttgtgaaa tttgtgatgc tattgcttta tttgtaacca ttataagctg 1740

caataaacaa gttaacaaca acaattgcat tcattttatg tttcaggttc agggggaggt 1800

gtgggaggtt ttttaaagca agtaaaacct ctacaaatgt ggtagtcgtc agctat 1856

<210> 71
<211> 1868
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-612 Transgene cassette

<400> 71
caggcccacc atgggctgga gctgcatcat cttgttcctg gtcgcaactg ctaccggagt 60

ccattcggac atcgtcatga cccaaagccc tgactcgctc gctgtgtcac tgggagagcg 120

ggcgactatc aactgcaaat catcccagag cctgctgtat tcacgcaatc agaaaaacta 180

cctggcctgg tatcagcaga agccgggcca gcctcccaag ctgctgatct tctgggcctc 240

cacccgcgaa agcggcgtgc cggaccgctt cagcggaagc ggattcggaa ctgactttac 300

tctgaccatt agctccttgc aggcggagga cgtggccgtc tactactgcc agcagtattt 360

ctcctatccg ctcacctttg ggcaaggcac caaggtggag attaagggag ggggcggcag 420

cgggggaggc ggcagcggcg gcgggggatc gcaggtccag ctcgtccaat ccggagccga 480

agtcaagaag ccgggagcgt cggtcaaggt cagctgcaaa acttcgcgct acaccttcac 540

tgagtacacg atccactggg tccgccaggc gcccggccag cggctggagt ggatcggcgg 600

gatcaaccca aacaacggaa tcccaaatta caatcagaaa tttaaagggc gggtgactat 660

caccgtggat acctcggcct ccacggcgta catggagctc tcatcactca gatcggagga 720

caccgcggtc tattactgcg cccgccgccg gatcgcttat ggatacgatg aaggacatgc 780

gatggattac tggggccagg gcaccctcgt cacggtgtcg tcaggaggcg gcggttcaca 840

ggtgcagctg cagcagtctg gggctgaact ggcaagacct ggggcctcag tgaagatgtc 900

ctgcaaggct tctggctaca cctttactag gtacacgatg cactgggtaa aacagaggcc 960

tggacagggt ctggaatgga ttggatacat taatcctagc cgtggttata ctaattacaa 1020

tcagaagttc aaggacaagg ccacattgac tacagacaaa tcctccagca cagcctacat 1080

gcaactgagc agcctgacat ctgaggactc tgcagtctat tactgtgcaa gatattatga 1140

tgatcattac tgccttgact actggggcca aggcaccact ctcacagtct cctcaggtgg 1200

cggtggctcg ggcggtggtg gatctggtgg cggcggatct gatatcgtgc tcactcagtc 1260

tccagcaatc atgtctgcat ctccagggga gaaggtcacc atgacctgca gtgccagctc 1320

aagtgtaagt tacatgaact ggtaccagca gaagtcaggc acctccccca aaagatggat 1380

ttatgacaca tccaaactgg cttctggagt ccctgctcac ttcaggggca gtgggtctgg 1440

gacctcttac tctctcacaa tcagcggcat ggaggctgaa gatgctgcca cttattactg 1500

ccagcagtgg agtagtaacc cattcacgtt cggctcgggg acaaagttgg aaataaaccg 1560

gcatcaccat caccatcacc accatcacca ttaggctagc ttgactgact gagatacagc 1620

gtaccttcag ctcacagaca tgataagata cattgatgag tttggacaaa ccacaactag 1680

aatgcagtga aaaaaatgct ttatttgtga aatttgtgat gctattgctt tatttgtaac 1740

cattataagc tgcaataaac aagttaacaa caacaattgc attcatttta tgtttcaggt 1800

tcaggggggag gtgtgggagg ttttttaaag caagtaaaac ctctacaaat gtggtagtcg 1860

tcagctat 1868

<210> 72
<211> 1878
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-613 Transgene cassette

<400> 72
tttctctctt caggcccacc atgggctgga gctgcatcat cttgttcctg gtcgcaactg 60

ctaccggagt ccattcggac atcgtcatga cccaaagccc tgactcgctc gctgtgtcac 120

tgggagagcg ggcgactatc aactgcaaat catcccagag cctgctgtat tcacgcaatc 180

agaaaaacta cctggcctgg tatcagcaga agccgggcca gcctcccaag ctgctgatct 240

tctgggcctc cacccgcgaa agcggcgtgc cggaccgctt cagcggaagc ggattcggaa 300

ctgactttac tctgaccatt agctccttgc aggcggagga cgtggccgtc tactactgcc 360

agcagtattt ctcctatccg ctcacctttg ggcaaggcac caaggtggag attaagggag 420

ggggcggcag cgggggaggc ggcagcggcg gcgggggatc gcaggtccag ctcgtccaat 480

ccggagccga agtcaagaag ccgggagcgt cggtcaaggt cagctgcaaa acttcgcgct 540

acaccttcac tgagtacacg atccactggg tccgccaggc gcccggccag cggctggagt 600

ggatcggcgg gatcaaccca aacaacggaa tcccaaatta caatcagaaa tttaaagggc 660

gggtgactat caccgtggat acctcggcct ccacggcgta catggagctc tcatcactca 720

gatcggagga caccgcggtc tattactgcg cccgccgccg gatcgcttat ggatacgatg 780

aaggacatgc gatggattac tggggccagg gcaccctcgt cacggtgtcg tcaggaggcg 840

gcggttcaca ggtgcagctg cagcagtctg gggctgaact ggcaagacct ggggcctcag 900

tgaagatgtc ctgcaaggct tctggctaca cctttactag gtacacgatg cactgggtaa 960

aacagaggcc tggacagggt ctggaatgga ttggatacat taatcctagc cgtggttata 1020

ctaattacaa tcagaagttc aaggacaagg ccacattgac tacagacaaa tcctccagca 1080

cagcctacat gcaactgagc agcctgacat ctgaggactc tgcagtctat tactgtgcaa 1140

gatattatga tgatcattac tgccttgact actggggcca aggcaccact ctcacagtct 1200

cctcaggtgg cggtggctcg ggcggtggtg gatctggtgg cggcggatct gatatcgtgc 1260

tcactcagtc tccagcaatc atgtctgcat ctccagggga gaaggtcacc atgacctgca 1320

gtgccagctc aagtgtaagt tacatgaact ggtaccagca gaagtcaggc acctccccca 1380

aaagatggat ttatgacaca tccaaactgg cttctggagt ccctgctcac ttcaggggca 1440

gtgggtctgg gacctcttac tctctcacaa tcagcggcat ggaggctgaa gatgctgcca 1500

cttattactg ccagcagtgg agtagtaacc cattcacgtt cggctcgggg acaaagttgg 1560

aaataaaccg gcatcaccat caccatcacc accatcacca ttaggctagc ttgactgact 1620

gagatacagc gtaccttcag ctcacagaca tgataagata cattgatgag tttggacaaa 1680

ccacaactag aatgcagtga aaaaaatgct ttatttgtga aatttgtgat gctattgctt 1740

tatttgtaac cattataagc tgcaataaac aagttaacaa caacaattgc attcatttta 1800

tgtttcaggt tcaggggggag gtgtgggagg ttttttaaag caagtaaaac ctctacaaat 1860

gtggtagtcg tcagctat 1878

<210> 73
<211> 1884
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-614 Transgene cassette

<400> 73
tttctctctt caggcccacc atgggctgga gctgcatcat cttgttcctg gtcgcaactg 60

ctaccggagt ccattcggac atcgtcatga cccaaagccc tgactcgctc gctgtgtcac 120

tgggagagcg ggcgactatc aactgcaaat catcccagag cctgctgtat tcacgcaatc 180

agaaaaacta cctggcctgg tatcagcaga agccgggcca gcctcccaag ctgctgatct 240

tctgggcctc cacccgcgaa agcggcgtgc cggaccgctt cagcggaagc ggattcggaa 300

ctgactttac tctgaccatt agctccttgc aggcggagga cgtggccgtc tactactgcc 360

agcagtattt ctcctatccg ctcacctttg ggcaaggcac caaggtggag attaagggag 420

ggggcggcag cgggggaggc ggcagcggcg gcgggggatc gcaggtccag ctcgtccaat 480

ccggagccga agtcaagaag ccgggagcgt cggtcaaggt cagctgcaaa acttcgcgct 540

acaccttcac tgagtacacg atccactggg tccgccaggc gcccggccag cggctggagt 600

ggatcggcgg gatcaaccca aacaacggaa tcccaaatta caatcagaaa tttaaagggc 660

gggtgactat caccgtggat acctcggcct ccacggcgta catggagctc tcatcactca 720

gatcggagga caccgcggtc tattactgcg cccgccgccg gatcgcttat ggatacgatg 780

aaggacatgc gatggattac tggggccagg gcaccctcgt cacggtgtcg tcaggaggcg 840

gcggttcaga tgtgcaactc gtgcagtccg gtgcggaagt gaaaaagccg ggcgcgagcg 900

tcaaagtgtc atgcaaggcg tcaggatata cgtttactag atacactatg cactgggtgc 960

gccaggcacc tggtcagggc cttgaatgga tcggctacat caatccgtcg agaggctaca 1020

ctaattacgc ggactcagtc aaagggcgct tcacgattac gaccgacaag tccacctcga 1080

ctgcatacat ggaactgtcc tcgctgagaa gcgaggacac cgctacttac tactgcgcta 1140

gatactacga tgatcactac tgcctcgatt actggggcca gggaaccact gtcacggtgt 1200

catcgggaga gggcacctca accggatcag ggggatcggg aggctcgggc ggcgcagacg 1260

acatcgtcct gacccagtcg cccgccacct tgtcgctgtc cccaggagaa agagcgaccc 1320

tgtcatgccg ggcgtcgcaa agcgtgagct atatgaattg gtatcagcag aagccaggaa 1380

aggcgccgaa gagatggatc tacgacacct ccaaggtcgc ttcaggtgtc ccggctagat 1440

tctcaggatc gggatcagga acggactact ccctgaccat caattcactg gaagcagaag 1500

atgcggccac ctactactgt cagcagtggt cctccaaccc gctgactttc ggaggcggaa 1560

ctaaggtcga gatcaagcat caccatcacc atcaccacca tcaccattag gctagcttga 1620

ctgactgaga tacagcgtac cttcagctca cagacatgat aagatacatt gatgagtttg 1680

gacaaaccac aactagaatg cagtgaaaaa aatgctttat ttgtgaaatt tgtgatgcta 1740

ttgctttatt tgtaaccatt ataagctgca ataaacaagt taacaacaac aattgcattc 1800

attttatgtt tcaggttcag ggggaggtgt gggaggtttt ttaaagcaag taaaacctct 1860

acaaatgtgg tagtcgtcag ctat 1884

<210> 74
<211> 1838
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-617 Transgene cassette

<400> 74
caggcccacc atgggctgga gctgcatcat cttgttcctg gtcgcaactg ctaccggagt 60

ccattcggac atcgtcatga cccaaagccc tgactcgctc gctgtgtcac tgggagagcg 120

ggcgactatc aactgcaaat catcccagag cctgctgtat tcacgcaatc agaaaaacta 180

cctggcctgg tatcagcaga agccgggcca gcctcccaag ctgctgatct tctgggcctc 240

cacccgcgaa agcggcgtgc cggaccgctt cagcggaagc ggattcggaa ctgactttac 300

tctgaccatt agctccttgc aggcggagga cgtggccgtc tactactgcc agcagtattt 360

ctcctatccg ctcacctttg ggcaaggcac caaggtggag attaagggag ggggcggcag 420

cgggggaggc ggcagcggcg gcgggggatc gcaggtccag ctcgtccaat ccggagccga 480

agtcaagaag ccgggagcgt cggtcaaggt cagctgcaaa acttcgcgct acaccttcac 540

tgagtacacg atccactggg tccgccaggc gcccggccag cggctggagt ggatcggcgg 600

gatcaaccca aacaacggaa tcccaaatta caatcagaaa tttaaagggc gggtgactat 660

caccgtggat acctcggcct ccacggcgta catggagctc tcatcactca gatcggagga 720

caccgcggtc tattactgcg cccgccgccg gatcgcttat ggatacgatg aaggacatgc 780

gatggattac tggggccagg gcaccctcgt cacggtgtcg tcaggaggcg gcggttcaca 840

ggtgcagctg cagcagtctg gggctgaact ggcaagacct ggggcctcag tgaagatgtc 900

ctgcaaggct tctggctaca cctttactag gtacacgatg cactgggtaa aacagaggcc 960

tggacagggt ctggaatgga ttggatacat taatcctagc cgtggttata ctaattacaa 1020

tcagaagttc aaggacaagg ccacattgac tacagacaaa tcctccagca cagcctacat 1080

gcaactgagc agcctgacat ctgaggactc tgcagtctat tactgtgcaa gatattatga 1140

tgatcattac tgccttgact actggggcca aggcaccact ctcacagtct cctcaggtgg 1200

cggtggctcg ggcggtggtg gatctggtgg cggcggatct gatatcgtgc tcactcagtc 1260

tccagcaatc atgtctgcat ctccagggga gaaggtcacc atgacctgca gtgccagctc 1320

aagtgtaagt tacatgaact ggtaccagca gaagtcaggc acctccccca aaagatggat 1380

ttatgacaca tccaaactgg cttctggagt ccctgctcac ttcaggggca gtgggtctgg 1440

gacctcttac tctctcacaa tcagcggcat ggaggctgaa gatgctgcca cttattactg 1500

ccagcagtgg agtagtaacc cattcacgtt cggctcgggg acaaagttgg aaataaaccg 1560

gtaggctagc ttgactgact gagatacagc gtaccttcag ctcacagaca tgataagata 1620

cattgatgag tttggacaaa ccacaactag aatgcagtga aaaaaatgct ttatttgtga 1680

aatttgtgat gctattgctt tatttgtaac cattataagc tgcaataaac aagttaacaa 1740

caacaattgc attcatttta tgtttcaggt tcaggggggag gtgtgggagg ttttttaaag 1800

caagtaaaac ctctacaaat gtggtagtcg tcagctat 1838

<210> 75
<211> 517
<212> PRT
<213> Artificial Sequence

<220>
<223> FAP BiTE amino acid sequence (OKT3)

<400> 75

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
1 5 10 15

Val His Ser Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val
20 25 30

Ser Leu Gly Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu
35 40 45

Leu Tyr Ser Arg Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys
50 55 60

Pro Gly Gln Pro Pro Lys Leu Leu Ile Phe Trp Ala Ser Thr Arg Glu
65 70 75 80

```
Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Phe Gly Thr Asp Phe
                85                  90                  95

Thr Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr
            100                 105                 110

Cys Gln Gln Tyr Phe Ser Tyr Pro Leu Thr Phe Gly Gln Gly Thr Lys
        115                 120                 125

Val Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
    130                 135                 140

Gly Gly Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
145                 150                 155                 160

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Thr Ser Arg Tyr Thr Phe
                165                 170                 175

Thr Glu Tyr Thr Ile His Trp Val Arg Gln Ala Pro Gly Gln Arg Leu
            180                 185                 190

Glu Trp Ile Gly Gly Ile Asn Pro Asn Asn Gly Ile Pro Asn Tyr Asn
        195                 200                 205

Gln Lys Phe Lys Gly Arg Val Thr Ile Thr Val Asp Thr Ser Ala Ser
    210                 215                 220

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
225                 230                 235                 240

Tyr Tyr Cys Ala Arg Arg Arg Ile Ala Tyr Gly Tyr Asp Glu Gly His
                245                 250                 255

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly
            260                 265                 270

Gly Gly Gly Ser Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Ala
        275                 280                 285
```

```
Arg Pro Gly Ala Ser Val Lys Met Ser Cys Lys Ala Ser Gly Tyr Thr
    290                 295                 300

Phe Thr Arg Tyr Thr Met His Trp Val Lys Gln Arg Pro Gly Gln Gly
305                 310                 315                 320

Leu Glu Trp Ile Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr
                325                 330                 335

Asn Gln Lys Phe Lys Asp Lys Ala Thr Leu Thr Thr Asp Lys Ser Ser
            340                 345                 350

Ser Thr Ala Tyr Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala
        355                 360                 365

Val Tyr Tyr Cys Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr
    370                 375                 380

Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser Gly Gly Gly Gly Ser
385                 390                 395                 400

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Ile Val Leu Thr Gln
                405                 410                 415

Ser Pro Ala Ile Met Ser Ala Ser Pro Gly Glu Lys Val Thr Met Thr
            420                 425                 430

Cys Ser Ala Ser Ser Ser Val Ser Tyr Met Asn Trp Tyr Gln Gln Lys
        435                 440                 445

Ser Gly Thr Ser Pro Lys Arg Trp Ile Tyr Asp Thr Ser Lys Leu Ala
    450                 455                 460

Ser Gly Val Pro Ala His Phe Arg Gly Ser Gly Ser Gly Thr Ser Tyr
465                 470                 475                 480

Ser Leu Thr Ile Ser Gly Met Glu Ala Glu Asp Ala Ala Thr Tyr Tyr
                485                 490                 495

Cys Gln Gln Trp Ser Ser Asn Pro Phe Thr Phe Gly Ser Gly Thr Lys
            500                 505                 510
```

Leu Glu Ile Asn Arg
515

<210> 76
<211> 519
<212> PRT
<213> Artificial Sequence

<220>
<223> FAP BiTE amino acid sequence (aCD3)

<400> 76

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
1 5 10 15

Val His Ser Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val
20 25 30

Ser Leu Gly Glu Arg Ala Thr Ile Asn Cys Lys Ser Ser Gln Ser Leu
35 40 45

Leu Tyr Ser Arg Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys
50 55 60

Pro Gly Gln Pro Pro Lys Leu Leu Ile Phe Trp Ala Ser Thr Arg Glu
65 70 75 80

Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Phe Gly Thr Asp Phe
85 90 95

Thr Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr
100 105 110

Cys Gln Gln Tyr Phe Ser Tyr Pro Leu Thr Phe Gly Gln Gly Thr Lys
115 120 125

Val Glu Ile Lys Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly
130 135 140

Gly Gly Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
145 150 155 160

```
Pro Gly Ala Ser Val Lys Val Ser Cys Lys Thr Ser Arg Tyr Thr Phe
                165                 170                 175

Thr Glu Tyr Thr Ile His Trp Val Arg Gln Ala Pro Gly Gln Arg Leu
            180                 185                 190

Glu Trp Ile Gly Gly Ile Asn Pro Asn Asn Gly Ile Pro Asn Tyr Asn
        195                 200                 205

Gln Lys Phe Lys Gly Arg Val Thr Ile Thr Val Asp Thr Ser Ala Ser
    210                 215                 220

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
225                 230                 235                 240

Tyr Tyr Cys Ala Arg Arg Arg Ile Ala Tyr Gly Tyr Asp Glu Gly His
                245                 250                 255

Ala Met Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly
            260                 265                 270

Gly Gly Gly Ser Asp Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys
        275                 280                 285

Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr
    290                 295                 300

Phe Thr Arg Tyr Thr Met His Trp Val Arg Gln Ala Pro Gly Gln Gly
305                 310                 315                 320

Leu Glu Trp Ile Gly Tyr Ile Asn Pro Ser Arg Gly Tyr Thr Asn Tyr
                325                 330                 335

Ala Asp Ser Val Lys Gly Arg Phe Thr Ile Thr Thr Asp Lys Ser Thr
            340                 345                 350

Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala
        355                 360                 365
```

```
Thr Tyr Tyr Cys Ala Arg Tyr Tyr Asp Asp His Tyr Cys Leu Asp Tyr
    370                 375                 380

Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Glu Gly Thr Ser
385                 390                 395                 400

Thr Gly Ser Gly Gly Ser Gly Gly Ser Gly Gly Ala Asp Asp Ile Val
                405                 410                 415

Leu Thr Gln Ser Pro Ala Thr Leu Ser Leu Ser Pro Gly Glu Arg Ala
            420                 425                 430

Thr Leu Ser Cys Arg Ala Ser Gln Ser Val Ser Tyr Met Asn Trp Tyr
        435                 440                 445

Gln Gln Lys Pro Gly Lys Ala Pro Lys Arg Trp Ile Tyr Asp Thr Ser
    450                 455                 460

Lys Val Ala Ser Gly Val Pro Ala Arg Phe Ser Gly Ser Gly Ser Gly
465                 470                 475                 480

Thr Asp Tyr Ser Leu Thr Ile Asn Ser Leu Glu Ala Glu Asp Ala Ala
                485                 490                 495

Thr Tyr Tyr Cys Gln Gln Trp Ser Ser Asn Pro Leu Thr Phe Gly Gly
            500                 505                 510

Gly Thr Lys Val Glu Ile Lys
        515
```

<210> 77
<211> 34198
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-611 Genome

<400> 77
tctatctata taatatacct tatagatgga atggtgccaa tatgtaaatg aggtgatttt 60

aaaaagtgtg gatcgtgtgg tgattggctg tggggttaac ggctaaaagg ggcggtgcga 120

ccgtgggaaa atgacgtttt gtgggggtgg agttttttg caagttgtcg cgggaaatgt 180

gacgcataaa aaggcttttt tctcacggaa ctacttagtt ttcccacggt atttaacagg 240

aaatgaggta gttttgaccg gatgcaagtg aaaattgttg attttcgcgc gaaaactgaa 300

tgaggaagtg tttttctgaa taatgtggta tttatggcag ggtggagtat ttgttcaggg 360

ccaggtagac tttgacccat tacgtggagg tttcgattac cgtgtttttt acctgaattt 420

ccgcgtaccg tgtcaaagtc ttctgttttt acgtaggtgt cagctgatcg ctagggtatt 480

tatacctcag ggtttgtgtc aagaggccac tcttgagtgc cagcgagaag agttttctcc 540

tctgcgccgg cagtttaata ataaaaaaat gagagatttg cgatttctgc ctcaggaaat 600

aatctctgct gagactggaa atgaaatatt ggagcttgtg gtgcacgccc tgatgggaga 660

cgatccggag ccacctgtgc agctttttga gcctcctacg cttcaggaac tgtatgattt 720

agaggtagag ggatcggagg attctaatga ggaagctgta aatggctttt ttaccgattc 780

tatgctttta gctgctaatg aagggttaga attagatccg cctttggaca cttttgatac 840

tccaggggta attgtggaaa gcggtacagg tgtaagaaaa ttacctgatt tgagttccgt 900

ggactgtgat ttgcactgct atgaagacgg gtttcctccg agtgatgagg aggaccatga 960

aaaggagcag tccatgcaga ctgcagcggg tgagggagtg aaggctgcca atgttggttt 1020

tcagttggat tgcccggagc ttcctggaca tggctgtaag tcttgtgaat ttcacaggaa 1080

aaatactgga gtaaaggaac tgttatgttc gctttgttat atgagaacgc actgccactt 1140

tatttacagt aagtgtgttt aagttaaaat ttaaaggaat atgctgtttt tcacatgtat 1200

attgagtgtg agttttgtgc ttcttattat aggtcctgtg tctgatgctg atgaatcacc 1260

atctcctgat tctactacct cacctcctga gattcaagca cctgttcctg tggacgtgcg 1320

caagcccatt cctgtgaagc ttaagcctgg gaaacgtcca gcagtggaaa aacttgagga 1380

cttgttacag ggtggggacg gacctttgga cttgagtaca cggaaacgtc caagacaata 1440

agtgttccat atccgtgttt acttaaggtg acgtcaatat ttgtgtgaca gtgcaatgta 1500

ataaaaatat gttaactgtt cactggtttt tattgctttt tgggcgggga ctcaggtata 1560

taagtagaag cagacctgtg tggttagctc ataggagctg gctttcatcc atggaggttt 1620

gggccatttt ggaagacctt aggaagacta ggcaactgtt agagaacgct tcggacggag 1680

tctccggttt ttggagattc tggttcgcta gtgaattagc tagggtagtt tttaggataa 1740

aacaggacta taaacaagaa tttgaaaagt tgttggtaga ttgcccagga ctttttgaag 1800

ctcttaattt gggccatcag gttcacttta aagaaaaagt tttatcagtt ttagactttt 1860

caaccccagg tagaactgct gctgctgtgg cttttcttac ttttatatta gataaatgga 1920

tcccgcagac tcatttcagc aggggatacg ttttggattt catagccaca gcattgtgga 1980

gaacatggaa ggttcgcaag atgaggacaa tcttaggtta ctggccagtg cagcctttgg 2040

gtgtagcggg aatcctgagg catccaccgg tcatgccagc ggttctggag gaggaacagc 2100

aagaggacaa cccgagagcc ggcctggacc ctccagtgga ggaggcggag tagctgactt 2160

gtctcctgaa ctgcaacggg tgcttactgg atctacgtcc actggacggg ataggggcgt 2220

taagagggag agggcatcta gtggtactga tgctagatct gagttggctt taagtttaat 2280

gagtcgcaga cgtcctgaaa ccatttggtg gcatgaggtt cagaaagagg gaagggatga 2340

agtttctgta ttgcaggaga aatattcact ggaacaggtg aaaacatgtt ggttggagcc 2400

tgaggatgat tgggaggtgg ccattaaaaa ttatgccaag atagctttga ggcctgataa 2460

acagtataag attactagac ggattaatat ccggaatgct tgttacatat ctggaaatgg 2520

ggctgaggtg gtaatagata ctcaagacaa ggcagttatt agatgctgca tgatggatat 2580

gtggcctggg gtagtcggta tggaagcagt aacttttgta aatgttaagt ttaggggaga 2640

tggttataat ggaatagtgt ttatggccaa taccaaactt atattgcatg gttgtagctt 2700

ttttggtttc aacaatacct gtgtagatgc ctggggacag gttagtgtac ggggatgtag 2760

tttctatgcg tgttggattg ccacagctgg cagaaccaag agtcaattgt ctctgaagaa 2820

atgcatattt caaagatgta acctgggcat tctgaatgaa ggcgaagcaa gggtccgcca 2880

ctgcgcttct acagatactg gatgttttat tttgattaag ggaaatgcca gcgtaaagca 2940

taacatgatt tgcggtgctt ccgatgagag gccttatcaa atgctcactt gtgctggtgg 3000

gcattgtaat atgctggcta ctgtgcatat tgtttcccat caacgcaaaa aatggcctgt 3060

ttttgatcac aatgtgatga cgaagtgtac catgcatgca ggtgggcgta gaggaatgtt 3120

tatgccttac cagtgtaaca tgaatcatgt gaaagtgttg ttggaaccag atgccttttc 3180

cagaatgagc ctaacaggaa tttttgacat gaacatgcaa atctggaaga tcctgaggta 3240

tgatgatacg agatcgaggg tacgcgcatg cgaatgcgga ggcaagcatg ccaggttcca 3300

gccggtgtgt gtagatgtga ctgaagatct cagaccggat catttggtta ttgcccgcac 3360

tggagcagag ttcggatcca gtggagaaga aactgactaa ggtgagtatt gggaaaactt 3420

tggggtggga ttttcagatg gacagattga gtaaaaattt gtttttttctg tcttgcagct 3480

gtcatgagtg gaaacgcttc ttttaagggg ggagtcttca gcccttatct gacagggcgt 3540

ctcccatcct gggcaggagt tcgtcagaat gttatgggat ctactgtgga tggaagaccc 3600

gtccaacccg ccaattcttc aacgctgacc tatgctactt taagttcttc acctttggac 3660

gcagctgcag ctgccgccgc cgcttctgtt gccgctaaca ctgtgcttgg aatgggttac 3720

tatggaagca tcatggctaa ttccacttcc tctaataacc cttctaccct gactcaggac 3780

aagttacttg tccttttggc ccagctggag gctttgaccc aacgtctggg tgaactttct 3840

cagcaggtgg tcgagttgcg agtacaaact gagtctgctg tcggcacggc aaagtctaaa 3900

taaaaaaatc ccagaatcaa tgaataaata aacaagcttg ttgttgattt aaaatcaagt 3960

gtttttattt catttttcgc gcacggtatg ccctagacca ccgatctcta tcattgagaa 4020

ctcggtggat tttttccagg atcctataga ggtgggattg aatgtttaga tacatgggca 4080

ttaggccgtc tttggggtgg agatagctcc attgaaggga ttcatgctcc ggggtagtgt 4140

tgtaaatcac ccagtcataa caaggtcgca gtgcatggtg ttgcacaata tcttttagaa 4200

gtaggctgat tgccacagat aagcccttgg tgtaggtgtt tacaaaccgg ttgagctggg 4260

atgggtgcat tcggggtgaa attatgtgca ttttggattg gatttttaag ttggcaatat 4320

tgccgccaag atcccgtctt gggttcatgt tatgaaggac caccaagacg gtgtatccgg 4380

tacatttagg aaatttatcg tgcagcttgg atggaaaagc gtggaaaaat ttggagacac 4440

ccttgtgtcc tccaagattt tccatgcact catccatgat aatagcaatg gggccgtggg 4500

cagcggcgcg ggcaaacacg ttccgtgggt ctgacacatc atagttatgt tcctgagtta 4560

aatcatcata agccatttta atgaatttgg ggcggagagt accagattgg ggtatgaatg 4620

ttccttcggg ccccggagca tagttcccct cacagatttg catttcccaa gctttcagtt 4680

ccgagggtgg aatcatgtcc acctgggggg ctatgaaaaa caccgtttct ggggcggggg 4740

tgattaattg tgatgatagc aaatttctga gcaattgaga tttgccacat ccggtggggc 4800

cataaatgat tccgattacg ggttgcaggt ggtagtttag ggaacggcaa ctgccgtctt 4860

ctcgaagcaa gggggccacc tcgttcatca tttcccttac atgcatattt tcccgcacca 4920

aatccattag gaggcgctct cctcctagtg atagaagttc ttgtagtgag gaaaagtttt 4980

tcagcggttt cagaccgtca gccatgggca ttttggagag agtttgctgc aaaagttcta 5040

gtctgttcca cagttcagtg atgtgttcta tggcatctcg atccagcaga cctcctcgtt 5100

tcgcgggttt ggacggctcc tggaataggg tatgagacga tgggcgtcca gcgctgccag 5160

ggttcggtcc ttccagggtc tcagtgttcg agtcagggtt gtttccgtca cagtgaaggg 5220

gtgtgcgcct gcttgggcgc ttgccagggt gcgcttcaga ctcatcctgc tggtcgaaaa 5280

cttctgtcgc ttggcgccct gtatgtcggc caagtagcag tttaccatga gttcgtagtt 5340

gagcgcctcg gctgcgtggc ctttggcgcg gagcttacct ttggaagttt tcttgcatac 5400

cgggcagtat aggcatttca gcgcatacaa cttgggcgca aggaaaacgg attctgggga 5460

gtatgcatct gcgccgcagg aggcgcaaac agtttcacat tccaccagcc aggttaaatc 5520

cggttcattg gggtcaaaaa caagttttcc gccatatttt ttgatgcgtt tcttaccttt 5580

ggtctccatg agttcgtgtc ctcgttgagt gacaaacagg ctgtccgtgt ccccgtagac 5640

tgattttaca ggcctcttct ccagtggagt gcctcggtct tcttcgtaca ggaactctga 5700

ccactctgat acaaaggcgc gcgtccaggc cagcacaaag gaggctatgt gggaggggta 5760

gcgatcgttg tcaaccaggg ggtccacctt ttccaaagta tgcaaacaca tgtcaccctc 5820

ttcaacatcc aggaatgtga ttggcttgta ggtgtatttc acgtgacctg gggtccccgc 5880

tgggggggta taaaaggggg cggttctttg ctcttcctca ctgtcttccg gatcgctgtc 5940

caggaacgtc agctgttggg gtaggtattc cctctcgaag gcgggcatga cctctgcact 6000

caggttgtca gtttctaaga acgaggagga tttgatattg acagtgccgg ttgagatgcc 6060

tttcatgagg ttttcgtcca tctggtcaga aaacacaatt tttttattgt caagtttggt 6120

ggcaaatgat ccatacaggg cgttggataa aagtttggca atggatcgca tggtttggtt 6180

cttttccttg tccgcgcgct ctttggcggc gatgttgagt tggacatact cgcgtgccag 6240

gcacttccat tcggggaaga tagttgttaa ttcatctggc acgattctca cttgccaccc 6300

tcgattatgc aaggtaatta aatccacact ggtggccacc tcgcctcgaa ggggttcatt 6360

ggtccaacag agcctacctc ctttcctaga acagaaaggg ggaagtgggt ctagcataag 6420

ttcatcggga gggtctgcat ccatggtaaa gattcccgga agtaaatcct tatcaaaata 6480

gctgatggga gtggggtcat ctaaggccat ttgccattct cgagctgcca gtgcgcgctc 6540

atatgggtta aggggactgc cccatggcat gggatgggtg agtgcagagg catacatgcc 6600

acagatgtca tagacgtaga tgggatcctc aaagatgcct atgtaggttg gatagcatcg 6660

ccccccctctg atacttgctc gcacatagtc atatagttca tgtgatggcg ctagcagccc 6720

cggacccaag ttggtgcgat tgggtttttc tgttctgtag acgatctggc gaaagatggc 6780

gtgagaattg gaagagatgg tgggtctttg aaaaatgttg aaatgggcat gaggtagacc 6840

tacagagtct ctgacaaagt gggcataaga ttcttgaagc ttggttacca gttcggcggt 6900

gacaagtacg tctagggcgc agtagtcaag tgtttcttga atgatgtcat aacctggttg 6960

gtttttcttt tcccacagtt cgcggttgag aaggtattct tcgcgatcct tccagtactc 7020

ttctagcgga aacccgtctt tgtctgcacg gtaagatcct agcatgtaga actgattaac 7080

tgccttgtaa gggcagcagc ccttctctac gggtagagag tatgcttgag cagcttttcg 7140

tagcgaagcg tgagtaaggg caaaggtgtc tctgaccatg actttgagga attggtattt 7200

gaagtcgatg tcgtcacagg ctccctgttc ccagagttgg aagtctaccc gtttcttgta 7260

ggcggggttg ggcaaagcga aagtaacatc attgaagaga atcttgccgg ccctgggcat 7320

gaaattgcga gtgatgcgaa aaggctgtgg tacttccgct cggttattga taacctgggc 7380

agctaggacg atctcgtcga aaccgttgat gttgtgtcct acgatgtata attctatgaa 7440

acgcggcgtg cctctgacgt gaggtagctt actgagctca tcaaaggtta ggtctgtggg 7500

gtcagataag gcgtagtgtt cgagagccca ttcgtgcagg tgaggattcg ctttaaggaa 7560

ggaggaccag aggtccactg ccagtgctgt ttgtaactgg tcccggtact gacgaaaatg 7620

ccgtccgact gccatttttt ctggggtgac gcaatagaag gtttgggggt cctgccgcca 7680

gcgatcccac ttgagtttta tggcgaggtc ataggcgatg ttgacgagcc gctggtctcc 7740

agagagtttc atgaccagca tgaaggggat tagctgcttg ccaaaggacc ccatccaggt 7800

gtaggtttcc acatcgtagg tgagaaagag cctttctgtg cgaggatgag agccaatcgg 7860

gaagaactgg atctcctgcc accagttgga ggaatggctg ttgatgtgat ggaagtagaa 7920

ctccctgcga cgcgccgagc attcatgctt gtgcttgtac agacggccgc agtagtcgca 7980

gcgttgcacg ggttgtatct cgtgaatgag ttgtacctgg cttcccttga cgagaaattt 8040

cagtgggaag ccgaggcctg gcgattgtat ctcgtgcttt actatgttgt ctgcatcggc 8100

ctgttcatct tctgtctcga tggtggtcat gctgacgagc cctcgcggga ggcaagtcca 8160

gacctcggcg cggcaggggc ggagctcgag gacgagagcg cgcaggctgg agctgtccag 8220

ggtcctgaga cgctgcggac tcaggttagt aggcagtgtc aggagattaa cttgcatgat 8280

ctttggagg gcgtgcggga ggttcagata gtacttgatc tcaacgggtc cgttggtgga 8340

gatgtcgatg gcttgcaggg ttccgtgtcc cttgggcgct accaccgtgc ccttgttttt 8400

cattttggac ggcggtggct ctgttgcttc ttgcatgttt agaagcggtg tcgagggcgc 8460

gcaccgggcg gcaggggcgg ctcgggaccc ggcggcatgg ctggcagtgg tacgtcggcg 8520

ccgcgcgcgg gtaggttctg gtactgcgcc ctgagaagac tcgcatgcgc gacgacgcgg 8580

cggttgacat cctggatctg acgcctctgg gtgaaagcta ccggccccgt gagcttgaac 8640

ctgaaagaga gttcaacaga atcaatctcg gtatcgttga cggcggcttg cctaaggatt 8700

tcttgcacgt caccagagtt gtcctggtag gcgatctccg ccatgaactg ctcgatctct 8760

tcctcttgaa gatctccgcg gcccgctctc tcgacggtgg ccgcgaggtc gttggagatg 8820

cgcccaatga gttgagagaa tgcattcatg cccgcctcgt tccagacgcg gctgtagacc 8880

acggccccca cgggatctct cgcgcgcatg accacctggg cgaggttgag ctccacgtgg 8940

cgggtgaaga ccgcatagtt gcataggcgc tggaaaaggt agttgagtgt ggtggcgatg 9000

tgctcggtga cgaagaaata catgatccat cgtctcagcg gcatctcgct gacatcgccc 9060

agagcttcca agcgctccat ggcctcgtag aagtccacgg caaaattaaa aaactgggag 9120

tttcgcgcgg acacggtcaa ctcctcttcc agaagacgga taagttcggc gatggtggtg 9180

cgcacctcgc gctcgaaagc ccctgggatt tcttcctcaa tctcttcttc ttccactaac 9240

atctcttcct cttcaggtgg ggctgcagga ggagggggaa cgcggcgacg ccggcggcgc 9300

acgggcagac ggtcgatgaa tctttcaatg acctctccgc ggcggcggcg catggtttca 9360

gtgacggcgc ggccgttctc gcgcggtcgc agagtaaaaa caccgccgcg catctcctta 9420

aagtggtgac tgggaggttc tccgtttggg agggagaggg cgctgattat acattttatt 9480

aattggcccg tagggactgc acgcagagat ctgatcgtgt caagatccac gggatctgaa 9540

aacctttcga cgaaagcgtc taaccagtca cagtcacaag gtaggctgag tacggcttct 9600

tgtgggcggg ggtggttatg tgttcggtct gggtcttctg tttcttcttc atctcgggaa 9660

ggtgagacga tgctgctggt gatgaaatta aagtaggcag ttctaagacg gcggatggtg 9720

gcgaggagca ccaggtcttt gggtccggct tgctggatac gcaggcgatt ggccattccc 9780

caagcattat cctgacatct agcaagatct ttgtagtagt cttgcatgag ccgttctacg 9840

ggcacttctt cctcacccgt tctgccatgc atacgtgtga gtccaaatcc gcgcattggt 9900

tgtaccagtg ccaagtcagc tacgactctt tcggcgagga tggcttgctg tacttgggta 9960

agggtggctt gaaagtcatc aaaatccaca aagcggtggt aagctcctgt attaatggtg 10020

taagcacagt tggccatgac tgaccagtta actgtctggt gaccagggcg cacgagctcg 10080

gtgtatttaa ggcgcgaata ggcgcgggtg tcaaagatgt aatcgttgca ggtgcgcacc 10140

agatactggt accctataag aaaatgcggc ggtggttggc ggtagagagg ccatcgttct 10200

gtagctggag cgccaggggc gaggtcttcc aacataaggc ggtgatagcc gtagatgtac 10260

ctggacatcc aggtgattcc tgcggcggta gtagaagccc gaggaaactc gcgtacgcgg 10320

ttccaaatgt tgcgtagcgg catgaagtag ttcattgtag gcacggtttg accagtgagg 10380

cgcgcgcagt cattgatgct ctatagacac ggagaaaatg aaagcgttca gcgactcgac 10440

tccgtagcct ggaggaacgt gaacgggttg ggtcgcggtg taccccggtt cgagacttgt 10500

actcgagccg gccggagccg cggctaacgt ggtattggca ctcccgtctc gacccagcct 10560

acaaaaatcc aggatacgga atcgagtcgt tttgctggtt tccgaatggc agggaagtga 10620

gtcctatttt tttttttgc cgctcagatg catcccgtgc tgcgacagat gcgcccccaa 10680

caacagcccc cctcgcagca gcagcagcag caatcacaaa aggctgtccc tgcaactact 10740

gcaactgccg ccgtgagcgg tgcgggacag cccgcctatg atctggactt ggaagagggc 10800

gaaggactgg cacgtctagg tgcgccttca cccgagcggc atccgcgagt tcaactgaaa 10860

aaagattctc gcgaggcgta tgtgccccaa cagaacctat ttagagacag aagcggcgag 10920

gagccggagg agatgcgagc ttcccgcttt aacgcgggtc gtgagctgcg tcacggtttg 10980

gaccgaagac gagtgttgcg ggacgaggat ttcgaagttg atgaaatgac agggatcagt 11040

cctgccaggg cacacgtggc tgcagccaac cttgtatcgg cttacgagca gacagtaaag 11100

gaagagcgta acttccaaaa gtcttttaat aatcatgtgc gaaccctgat tgcccgcgaa 11160

gaagttaccc ttggtttgat gcatttgtgg gatttgatgg aagctatcat tcagaaccct 11220

actagcaaac ctctgaccgc ccagctgttt ctggtggtgc aacacagcag agacaatgag 11280

gctttcagag aggcgctgct gaacatcacc gaacccgagg ggagatggtt gtatgatctt 11340

atcaacattc tacagagtat catagtgcag gagcggagcc tgggcctggc cgagaaggtg 11400

gctgccatca attactcggt tttgagcttg ggaaaatatt acgctcgcaa aatctacaag 11460

actccatacg ttcccataga caaggaggtg aagatagatg ggttctacat gcgcatgacg 11520

ctcaaggtct tgaccctgag cgatgatctt ggggtgtatc gcaatgacag aatgcatcgc 11580

gcggttagcg ccagcaggag gcgcgagtta agcgacaggg aactgatgca cagtttgcaa 11640

agagctctga ctggagctgg aaccgagggt gagaattact tcgacatggg agctgacttg 11700

cagtggcagc ctagtcgcag ggctctgagc gccgcgacgg caggatgtga gcttccttac 11760

atagaagagg cggatgaagg cgaggaggaa gagggcgagt acttggaaga ctgatggcac 11820

aacccgtgtt ttttgctaga tggaacagca agcaccggat cccgcaatgc gggcggcgct 11880

gcagagccag ccgtccggca ttaactcctc ggacgattgg acccaggcca tgcaacgtat 11940

catggcgttg acgactcgca accccgaagc ctttagacag caaccccagg ccaaccgtct 12000

atcggccatc atggaagctg tagtgccttc ccgctctaat cccactcatg agaaggtcct 12060

ggccatcgtg aacgcgttgg tggagaacaa agctattcgt ccagatgagg ccggactggt 12120

atacaacgct ctcttagaac gcgtggctcg ctacaacagt agcaatgtgc aaaccaattt 12180

ggaccgtatg ataacagatg tacgcgaagc cgtgtctcag cgcgaaaggt tccagcgtga 12240

tgccaacctg ggttcgctgg tggcgttaaa tgctttcttg agtactcagc ctgctaatgt 12300

gccgcgtggt caacaggatt atactaactt tttaagtgct ttgagactga tggtatcaga 12360

agtacctcag agcgaagtgt atcagtccgg tcctgattac ttctttcaga ctagcagaca 12420

gggcttgcag acggtaaatc tgagccaagc ttttaaaaac cttaaaggtt tgtggggagt 12480

gcatgccccg gtaggagaaa gagcaaccgt gtctagcttg ttaactccga actcccgcct 12540

attattactg ttggtagctc ctttcaccga cagcggtagc atcgaccgta attcctattt 12600

gggttaccta ctaaacctgt atcgcgaagc catagggcaa agtcaggtgg acgagcagac 12660

ctatcaagaa attacccaag tcagtcgcgc tttgggacag gaagacactg gcagtttgga 12720

agccactctg aacttcttgc ttaccaatcg gtctcaaaag atccctcctc aatatgctct 12780

tactgcggag gaggagagga tccttagata tgtgcagcag agcgtgggat tgtttctgat 12840

gcaagagggg gcaactccga ctgcagcact ggacatgaca gcgcgaaata tggagcccag 12900

catgtatgcc agtaaccgac ctttcattaa caaactgctg gactacttgc acagagctgc 12960

cgctatgaac tctgattatt tcaccaatgc catcttaaac ccgcactggc tgcccccacc 13020

tggtttctac acgggcgaat atgacatgcc cgaccctaat gacggatttc tgtgggacga 13080

cgtggacagc gatgtttttt cacctctttc tgatcatcgc acgtggaaaa aggaaggcgg 13140

cgatagaatg cattcttctg catcgctgtc cggggtcatg ggtgctaccg cggctgagcc 13200

cgagtctgca agtccttttc ctagtctacc cttttctcta cacagtgtac gtagcagcga 13260

agtgggtaga ataagtcgcc cgagtttaat gggcgaagag gagtatctaa acgattcctt 13320

gctcagaccg gcaagagaaa aaaatttccc aaacaatgga atagaaagtt tggtggataa 13380

aatgagtaga tggaagactt atgctcagga tcacagagac gagcctggga tcatggggat 13440

tacaagtaga gcgagccgta gacgccagcg ccatgacaga cagaggggtc ttgtgtggga 13500

cgatgaggat tcggccgatg atagcagcgt gctggacttg ggtgggagag gaaggggcaa 13560

cccgtttgct catttgcgcc ctcgcttggg tggtatgttg taaaaaaaaa taaaaaaaaa 13620

actcaccaag gccatggcga cgagcgtacg ttcgttcttc tttattatct gtgtctagta 13680

taatgaggcg agtcgtgcta ggcggagcgg tggtgtatcc ggagggtcct cctccttcgt 13740

acgagagcgt gatgcagcag cagcaggcga cggcggtgat gcaatcccca ctggaggctc 13800

cctttgtgcc tccgcgatac ctggcaccta cggagggcag aaacagcatt cgttattcgg 13860

aactggcacc tcagtacgat accaccaggt tgtatctggt ggacaacaag tcggcggaca 13920

ttgcttctct gaactatcag aatgaccaca gcaacttctt gaccacggtg gtgcaaaaca 13980

atgactttac ccctacggaa gccagcaccc agaccattaa ctttgatgaa cgatcgcggt 14040

ggggcggtca gctaaagacc atcatgcata ctaacatgcc aaacgtgaac gagtatatgt 14100

ttagtaacaa gttcaaagcg cgtgtgatgg tgtccagaaa acctcccgac ggtgctgcag 14160

ttggggatac ttatgatcac aagcaggata ttttgaaata tgagtggttc gagtttactt 14220

tgccagaagg caacttttca gttactatga ctattgattt gatgaacaat gccatcatag 14280

ataattactt gaaagtgggt agacagaatg gagtgcttga aagtgacatt ggtgttaagt 14340

tcgacaccag gaacttcaag ctgggatggg atcccgaaac caagttgatc atgcctggag 14400

tgtatacgta tgaagccttc catcctgaca ttgtcttact gcctggctgc ggagtggatt 14460

ttaccgagag tcgtttgagc aaccttcttg gtatcagaaa aaaacagcca tttcaagagg 14520

gttttaagat tttgtatgaa gatttagaag gtggtaatat tccggccctc ttggatgtag 14580

atgcctatga gaacagtaag aaagaacaaa aagccaaaat agaagctgct acagctgctg 14640

cagaagctaa ggcaaacata gttgccagcg actctacaag ggttgctaac gctggagagg 14700

tcagaggaga caattttgcg ccaacacctg ttccgactgc agaatcatta ttggccgatg 14760

tgtctgaagg aacggacgtg aaactcacta ttcaacctgt agaaaaagat agtaagaata 14820

gaagctataa tgtgttggaa gacaaaatca acacagccta tcgcagttgg tatctttcgt 14880

acaattatgg cgatcccgaa aaaggagtgc gttcctggac attgctcacc acctcagatg 14940

tcacctgcgg agcagagcag gtctactggt cgcttccaga catgatgaag gatcctgtca 15000

ctttccgctc cactagacaa gtcagtaact accctgtggt gggtgcagag cttatgcccg 15060

tcttctcaaa gagcttctac aacgaacaag ctgtgtactc ccagcagctc cgccagtcca 15120

cctcgcttac gcacgtcttc aaccgctttc ctgagaacca gattttaatc cgtccgccgg 15180

cgcccaccat taccaccgtc agtgaaaacg ttcctgctct cacagatcac gggaccctgc 15240

cgttgcgcag cagtatccgg ggagtccaac gtgtgaccgt tactgacgcc agacgccgca 15300

cctgtcccta cgtgtacaag gcactgggca tagtcgcacc gcgcgtcctt tcaagccgca 15360

ctttctaaaa aaaaaaaaaa tgtccattct tatctcgccc agtaataaca ccggttgggg 15420

tctgcgcgct ccaagcaaga tgtacggagg cgcacgcaaa cgttctaccc aacatcctgt 15480

ccgtgttcgc ggacattttc gcgctccatg gggcgccctc aagggccgca ctcgcgttcg 15540

aaccaccgtc gatgatgtaa tcgatcaggt ggttgccgac gcccgtaatt atactcctac 15600

tgcgcctaca tctactgtgg atgcagttat tgacagtgta gtggctgacg ctcgcaacta 15660

tgctcgacgt aagagccggc gaaggcgcat tgccagacgc caccgagcta ccactgccat 15720

gcgagccgca agagctctgc tacgaagagc tagacgcgtg gggcgaagag ccatgcttag 15780

ggcggccaga cgtgcagctt cgggcgccag cgccggcagg tcccgcaggc aagcagccgc 15840

tgtcgcagcg gcgactattg ccgacatggc ccaatcgcga agaggcaatg tatactgggt 15900

gcgtgacgct gccaccggtc aacgtgtacc cgtgcgcacc cgtccccctc gcacttagaa 15960

gatactgagc agtctccgat gttgtgtccc agcggcgagg atgtccaagc gcaaatacaa 16020

ggaagaaatg ctgcaggtta tcgcacctga agtctacggc caaccgttga aggatgaaaa 16080

aaaaccccgc aaaatcaagc gggttaaaaa ggacaaaaaa gaagaggaag atggcgatga 16140

tgggctggcg gagtttgtgc gcgagtttgc cccacggcga cgcgtgcaat ggcgtgggcg 16200

caaagttcga catgtgttga gacctggaac ttcggtggtc tttacacccg gcgagcgttc 16260

aagcgctact tttaagcgtt cctatgatga ggtgtacggg gatgatgata ttcttgagca 16320

ggcggctgac cgattaggcg agtttgctta tggcaagcgt agtagaataa cttccaagga 16380

tgagacagtg tcgataccct tggatcatgg aaatcccacc cctagtctta aaccggtcac 16440

tttgcagcaa gtgttacccg taactccgcg aacaggtgtt aaacgcgaag gtgaagattt 16500

gtatcccact atgcaactga tggtacccaa acgccagaag ttggaggacg ttttggagaa 16560

agtaaaagtg gatccagata ttcaacctga ggttaaagtg agacccatta agcaggtagc 16620

gcctggtctg ggggtacaaa ctgtagacat taagattccc actgaaagta tggaagtgca 16680

aactgaaccc gcaaagccta ctgccacctc cactgaagtg caaacggatc catggatgcc 16740

catgcctatt acaactgacg ccgccggtcc cactcgaaga tcccgacgaa agtacggtcc 16800

agcaagtctg ttgatgccca attatgttgt acacccatct attattccta ctcctggtta 16860

ccgaggcact cgctactatc gcagccgaaa cagtacctcc cgccgtcgcc gcaagacacc 16920

tgcaaatcgc agtcgtcgcc gtagacgcac aagcaaaccg actcccggcg ccctggtgcg 16980

gcaagtgtac cgcaatggta gtgcggaacc tttgacactg ccgcgtgcgc gttaccatcc 17040

gagtatcatc acttaatcaa tgttgccgct gcctccttgc agatatggcc ctcacttgtc 17100

gccttcgcgt tcccatcact ggttaccgag gaagaaactc gcgccgtaga agagggatgt 17160

tgggacgcgg aatgcgacgc tacaggcgac ggcgtgctat ccgcaagcaa ttgcggggtg 17220

gtttttttacc agccttaatt ccaattatcg ctgctgcaat tggcgcgata ccaggcatag 17280

cttccgtggc ggttcaggcc tcgcaacgac attgacattg gaaaaaaacg tataaataaa 17340

aaaaaaaaaa tacaatggac tctgacactc ctggtcctgt gactatgttt tcttagagat 17400

ggaagacatc aatttttcat ccttggctcc gcgacacggc acgaagccgt acatgggcac 17460

ctggagcgac atcggcacga gccaactgaa cgggggcgcc ttcaattgga gcagtatctg 17520

gagcgggctt aaaaattttg gctcaaccat aaaaacatac gggaacaaag cttggaacag 17580

cagtacagga caggcgctta gaaataaact taaagaccag aacttccaac aaaaagtagt 17640

cgatgggata gcttccggca tcaatggagt ggtagatttg gctaaccagg ctgtgcagaa 17700

aaagataaac agtcgtttgg acccgccgcc agcaacccca ggtgaaatgc aagtggagga 17760

agaaattcct ccgccagaaa aacgaggcga caagcgtccg cgtcccgatt tggaagagac 17820

gctggtgacg cgcgtagatg aaccgccttc ttatgaggaa gcaacgaagc ttggaatgcc 17880

caccactaga ccgatagccc caatggccac cggggtgatg aaaccttctc agttgcatcg 17940

acccgtcacc ttggatttgc ccctccccc tgctgctact gctgtacccg cttctaagcc 18000

tgtcgctgcc ccgaaaccag tcgccgtagc caggtcacgt cccgggggcg ctcctcgtcc 18060

aaatgcgcac tggcaaaata ctctgaacag catcgtgggt ctaggcgtgc aaagtgtaaa 18120

acgccgtcgc tgcttttaat taaatatgga gtagcgctta acttgcctat ctgtgtatat 18180

gtgtcattac acgccgtcac agcagcagag gaaaaaagga agaggtcgtg cgtcgacgct 18240

gagttacttt caagatggcc accccatcga tgctgcccca atgggcatac atgcacatcg 18300

ccggacagga tgcttcggag tacctgagtc cgggtctggt gcagttcgcc cgcgccacag 18360

acacctactt caatctggga aataagttta gaaatcccac cgtagcgccg acccacgatg 18420

tgaccaccga ccgtagccag cggctcatgt tgcgcttcgt gcccgttgac cgggaggaca 18480

atacatactc ttacaaagtg cggtacaccc tggccgtggg cgacaacaga gtgctggata 18540

tggccagcac gttctttgac attaggggtg tgttggacag aggtcccagt ttcaaaccct 18600

attctggtac ggcttacaac tccctggctc ctaaaggcgc tccaaataca tctcagtgga 18660

ttgcagaagg tgtaaaaaat acaactggtg aggaacacgt aacagaagag gaaaccaata 18720

ctactactta cacttttggc aatgctcctg taaaagctga agctgaaatt acaaaagaag 18780

gactcccagt aggtttggaa gtttcagatg aagaaagtaa accgatttat gctgataaaa 18840

catatcagcc agaacctcag ctgggagatg aaacttggac tgaccttgat ggaaaaaccg 18900

aaaagtatgg aggcagggct ctcaaacccg atactaagat gaaaccatgc tacgggtcct 18960

ttgccaaacc tactaatgtg aaaggcggtc aggcaaaaca aaaaacaacg gagcagccaa 19020

atcagaaagt cgaatatgat atcgacatgg agtttttga tgcggcatcg cagaaaacaa 19080

acttaagtcc taaaattgtc atgtatgcag aaaatgtaaa tttggaaact ccagacactc 19140

atgtagtgta caaacctgga acagaagaca caagttccga agctaatttg ggacaacaat 19200

ctatgcccaa cagacccaac tacattggct tcagagataa ctttattgga cttatgtact 19260

ataacagtac tggtaacatg ggggtgctgg ctggtcaagc gtctcagtta aatgcagtgg 19320

ttgacttgca ggacagaaac acagaacttt cttaccaact cttgcttgac tctctgggcg 19380

acagaaccag atactttagc atgtggaatc aggctgtgga cagttatgat cctgatgtac 19440

gtgttattga aaatcatggt gtggaagatg aacttcccaa ctactgtttt ccactggacg 19500

gcataggtgt tccaacaacc agttacaaat caatagttcc aaatggagac aatgcgccta 19560

attggaagga acctgaagta aatggaacaa gtgagatcgg acagggtaat ttgtttgcca 19620

tggaaattaa ccttcaagcc aatctatggc gaagtttcct ttattccaat gtggctctat 19680

atctcccaga ctcgtacaaa tacaccccgt ccaatgtcac tcttccagaa aacaaaaaca 19740

cctacgacta catgaacggg cgggtggtgc cgccatctct agtagacacc tatgtgaaca 19800

ttggtgccag gtggtctctg gatgccatgg acaatgtcaa cccattcaac caccaccgta 19860

acgctggctt gcgttaccga tccatgcttc tgggtaacgg acgttatgtg cctttccaca 19920

tacaagtgcc tcaaaaattc ttcgctgtta aaaacctgct gcttctccca ggctcctaca 19980

cttatgagtg gaactttagg aaggatgtga acatggttct acagagttcc ctcggtaacg 20040

acctgcgggt agatggcgcc agcatcagtt tcacgagcat caacctctat gctacttttt 20100

tccccatggc tcacaacacc gcttccaccc ttgaagccat gctgcggaat gacaccaatg 20160

atcagtcatt caacgactac ctatctgcag ctaacatgct ctaccccatt cctgccaatg 20220

caaccaatat tcccatttcc attccttctc gcaactgggc ggctttcaga ggctggtcat 20280

ttaccagact gaaaaccaaa gaaactccct ctttggggtc tggatttgac ccctactttg 20340

tctattctgg ttctattccc tacctggatg gtaccttcta cctgaaccac acttttaaga 20400

aggtttccat catgtttgac tcttcagtga gctggcctgg aaatgacagg ttactatctc 20460

ctaacgaatt tgaaataaag cgcactgtgg atggcgaagg ctacaacgta gcccaatgca 20520

acatgaccaa agactggttc ttggtacaga tgctcgccaa ctacaacatc ggctatcagg 20580

gcttctacat tccagaagga tacaaagatc gcatgtattc atttttcaga aacttccagc 20640

ccatgagcag gcaggtggtt gatgaggtca attacaaaga cttcaaggcc gtcgccatac 20700

cctaccaaca caacaactct ggctttgtgg gttacatggc tccgaccatg cgccaaggtc 20760

aaccctatcc cgctaactat ccctatccac tcattggaac aactgccgta aatagtgtta 20820

cgcagaaaaa gttcttgtgt gacagaacca tgtggcgcat accgttctcg agcaacttca 20880

tgtctatggg ggcccttaca gacttgggac agaatatgct ctatgccaac tcagctcatg 20940

ctctggacat gacctttgag gtggatccca tggatgagcc caccctgctt tatcttctct 21000

tcgaagtttt cgacgtggtc agagtgcatc agccacaccg cggcatcatc gaggcagtct 21060

acctgcgtac accgttctcg gccggtaacg ctaccacgta agaagcttct tgcttcttgc 21120

aaatagcagc tgcaaccatg gcctgcggat cccaaaacgg ctccagcgag caagagctca 21180

gagccattgt ccaagacctg ggttgcggac cctatttttt gggaacctac gataagcgct 21240

tcccggggtt catggccccc gataagctcg cctgtgccat tgtaaatacg gccggacgtg 21300

agacgggggg agagcactgg ttggctttcg gttggaaccc acgttctaac acctgctacc 21360

tttttgatcc ttttggattc tcggatgatc gtctcaaaca gatttaccag tttgaatatg 21420

agggtctcct gcgccgcagc gctcttgcta ccaaggaccg ctgtattacg ctggaaaaat 21480

ctacccagac cgtgcagggt ccccgttctg ccgcctgcgg acttttctgc tgcatgttcc 21540

ttcacgcctt tgtgcactgg cctgaccgtc ccatggacgg aaaccccacc atgaaattgc 21600

taactggagt gccaaacaac atgcttcatt ctcctaaagt ccagcccacc ctgtgtgaca 21660

atcaaaaagc actctaccat tttcttaata cccattcgcc ttattttcgc tcccatcgta 21720

cacacatcga aagggccact gcgttcgacc gtatggatgt tcaataatga ctcatgtaaa 21780

caacgtgttc aataaacatc actttatttt tttacatgta tcaaggctct gcattactta 21840

tttatttaca agtcgaatgg gttctgacga gaatcagaat gacccgcagg cagtgatacg 21900

ttgcggaact gatacttggg ttgccacttg aattcgggaa tcaccaactt gggaaccggt 21960

atatcgggca ggatgtcact ccacagcttt ctggtcagct gcaaagctcc aagcaggtca 22020

ggagccgaaa tcttgaaatc acaattagga ccagtgcttt gagcgcgaga gttgcggtac 22080

accggattgc agcactgaaa caccatcagc gacggatgtc tcacgcttgc cagcacggtg 22140

ggatctgcaa tcatgcccac atccagatct tcagcattgg caatgctgaa cggggtcatc 22200

ttgcaggtct gcctacccat ggcgggcacc caattaggct tgtggttgca atcgcagtgc 22260

agggggatca gtatcatctt ggcctgatcc tgtctgattc ctggatacac ggctctcatg 22320

aaagcatcat attgcttgaa agcctgctgg gctttactac cctcggtata aaacatcccg 22380

caggacctgc tcgaaaactg gttagctgca cagccggcat cattcacaca gcagcgggcg 22440

tcattgttag ctatttgcac cacacttctg ccccagcggt tttgggtgat tttggttcgc 22500

tcgggattct cctttaaggc tcgttgtccg ttctcgctgg ccacatccat ctcgataatc 22560

tgctccttct gaatcataat attgccatgc aggcacttca gcttgccctc ataatcattg 22620

cagccatgag gccacaacgc acagcctgta cattcccaat tatggtgggc gatctgagaa 22680

aaagaatgta tcattccctg cagaaatctt cccatcatcg tgctcagtgt cttgtgacta 22740

gtgaaagtta actggatgcc tcggtgctcc tcgtttacgt actggtgaca gatgcgcttg 22800

tattgttcgt gttgctcagg cattagttta aaagaggttc taagttcgtt atccagcctg 22860

tacttctcca tcagcagaca catcacttcc atgcctttct cccaagcaga caccaggggc 22920

aagctaatcg gattcttaac agtgcaggca gcagctcctt tagccagagg gtcatcttta 22980

gcgatcttct caatgcttct tttgccatcc ttctcaacga tgcgcacggg cgggtagctg 23040

aaacccactg ctacaagttg cgcctcttct ctttcttctt cgctgtcttg actgatgtct 23100

tgcatgggga tatgtttggt cttccttggc ttctttttgg ggggtatcgg aggaggagga 23160

ctgtcgctcc gttccggaga cagggaggat tgtgacgttt cgctcaccat taccaactga 23220

ctgtcggtag aagaacctga ccccacacgg cgacaggtgt ttctcttcgg gggcagaggt 23280

ggaggcgatt gcgaagggct gcggtccgac ctggaaggcg gatgactggc agaacccctt 23340

ccgcgttcgg gggtgtgctc cctgtggcgg tcgcttaact gatttccttc gcggctggcc 23400

attgtgttct cctaggcaga gaaacaacag acatggaaac tcagccattg ctgtcaacat 23460

cgccacgagt gccatcacat ctcgtcctca gcgacgagga aaaggagcag agcttaagca 23520

ttccaccgcc cagtcctgcc accacctcta ccctagaaga taaggaggtc gacgcatctc 23580

atgacatgca gaataaaaaa gcgaaagagt ctgagacaga catcgagcaa gacccgggct 23640

atgtgacacc ggtggaacac gaggaagagt tgaaacgctt tctagagaga gaggatgaaa 23700

actgcccaaa acaacgagca gataactatc accaagatgc tggaaatagg gatcagaaca 23760

ccgactacct catagggctt gacggggaag acgcgctcct taaacatcta gcaagacagt 23820

cgctcatagt caaggatgca ttattggaca gaactgaagt gcccatcagt gtggaagagc 23880

tcagccgcgc ctacgagctt aacctctttt cacctcgtac tccccccaaa cgtcagccaa 23940

acggcacctg cgagccaaat cctcgcttaa acttttatcc agcttttgct gtgccagaag 24000

tactggctac ctatcacatc ttttttaaaa atcaaaaaat tccagtctcc tgccgcgcta 24060

atcgcacccg cgccgatgcc ctactcaatc tgggacctgg ttcacgctta cctgatatag 24120

cttccttgga agaggttcca aagatcttcg agggtctggg caataatgag actcgggccg 24180

caaatgctct gcaaaaggga gaaaatggca tggatgagca tcacagcgtt ctggtggaat 24240

tggaaggcga taatgccaga ctcgcagtac tcaagcgaag catcgaggtc acacacttcg 24300

catatcccgc tgtcaacctg ccccctaaag tcatgacggc ggtcatggac cagttactca 24360

ttaagcgcgc aagtcccctt tcagaagaca tgcatgaccc agatgcctgt gatgagggta 24420

aaccagtggt cagtgatgag cagctaaccc gatggctggg caccgactct cccagggatt 24480

tggaagagcg tcgcaagctt atgatggccg tggtgctggt taccgtagaa ctagagtgtc 24540

tccgacgttt ctttaccgat tcagaaacct tgcgcaaact cgaagagaat ctgcactaca 24600

cttttagaca cggctttgtg cggcaggcat gcaagatatc taacgtggaa ctcaccaacc 24660

tggtttccta catgggtatt ctgcatgaga atcgcctagg acaaagcgtg ctgcacagca 24720

ccctgaaggg ggaagcccgc cgtgattaca tccgcgattg tgtctatctg tacctgtgcc 24780

acacgtggca aaccggcatg ggtgtatggc agcaatgttt agaagaacag aacttgaaag 24840

agcttgacaa gctcttacag aaatctctta aggttctgtg gacagggttc gacgagcgca 24900

ccgtcgcttc cgacctggca gacctcatct tcccagagcg tctcagggtt actttgcgaa 24960

acggattgcc tgactttatg agccagagca tgcttaacaa ttttcgctct ttcatcctgg 25020

aacgctccgg tatcctgccc gccacctgct gcgcactgcc ctccgacttt gtgcctctca 25080

cctaccgcga gtgcccccg ccgctatgga gtcactgcta cctgttccgt ctggccaact 25140

atctctccta ccactcggat gtgatcgagg atgtgagcgg agacggcttg ctggagtgtc 25200

actgccgctg caatctgtgc acgccccacc ggtccctagc ttgcaacccc cagttgatga 25260

gcgaaaccca gataataggc acctttgaat tgcaaggccc cagcagccaa ggcgatgggt 25320

cttctcctgg gcaaagttta aaactgaccc cgggactgtg gacctccgcc tacttgcgca 25380

agtttgctcc ggaagattac cacccctatg aaatcaagtt ctatgaggac caatcacagc 25440

ctccaaaggc cgaactttcg gcctgcgtca tcacccaggg ggcaattctg gcccaattgc 25500

aagccatcca aaaatcccgc caagaatttc tactgaaaaa gggtaagggg gtctaccttg 25560

acccccagac cggcgaggaa ctcaacacaa ggttccctca ggatgtccca acgacgagaa 25620

aacaagaagt tgaaggtgca gccgccgccc ccagaagata tggaggaaga ttgggacagt 25680

caggcagagg aggcggagga ggacagtctg gaggacagtc tggaggaaga cagtttggag 25740

gaggaaaacg aggaggcaga ggaggtggaa gaagtaaccg ccgacaaaca gttatcctcg 25800

gctgcggaga caagcaacag cgctaccatc tccgctccga gtcgaggaac ccggcggcgt 25860

cccagcagta gatgggacga gaccggacgc ttcccgaacc caaccagcgc ttccaagacc 25920

ggtaagaagg atcggcaggg atacaagtcc tggcgggggc ataagaatgc catcatctcc 25980

tgcttgcatg agtgcggggg caacatatcc ttcacgcggc gctacttgct attccaccat 26040

ggggtgaact ttccgcgcaa tgttttgcat tactaccgtc acctccacag cccctactat 26100

agccagcaaa tcccggcagt ctcgacagat aaagacagcg gcggcgacct ccaacagaaa 26160

accagcagcg gcagttagaa aatacacaac aagtgcagca acaggaggat taaagattac 26220

agccaacgag ccagcgcaaa cccgagagtt aagaaatcgg atctttccaa ccctgtatgc 26280

catcttccag cagagtcggg gtcaagagca ggaactgaaa ataaaaaacc gatctctgcg 26340

ttcgctcacc agaagttgtt tgtatcacaa gagcgaagat caacttcagc gcactctcga 26400

ggacgccgag gctctcttca acaagtactg cgcgctgact cttaaagagt aggcagcgac 26460

cgcgcttatt caaaaaaggc gggaattaca tcatcctcga catgagtaaa gaaattccca 26520

cgccttacat gtggagttat caaccccaaa tgggattggc ggcaggcgcc tcccaggact 26580

actccacccg catgaattgg ctcagcgccg ggccttctat gatttctcga gttaatgata 26640

tacgcgccta ccgaaaccaa atacttttgg aacagtcagc tcttaccacc acgccccgcc 26700

aacaccttaa tcccagaaat tggcccgccg ccctagtgta ccaggaaagt cccgctccca 26760

ccactgtatt acttcctcga gacgcccagg ccgaagtcca aatgactaat gcaggtgcgc 26820

agttagctgg cggctccacc ctatgtcgtc acaggcctcg gcataatata aaacgcctga 26880

tgatcagagg ccgaggtatc cagctcaacg acgagtcggt gagctctccg cttggtctac 26940

gaccagacgg aatctttcag attgccggct gcgggagatc ttccttcacc cctcgtcagg 27000

ctgttctgac tttggaaagt tcgtcttcgc aaccccgctc gggcggaatc gggaccgttc 27060

aatttgtgga ggagtttact ccctctgtct acttcaaccc cttctccgga tctcctgggc 27120

attacccgga cgagttcata ccgaacttcg acgcgattag cgagtcagtg gacggctacg 27180

attgatgtct ggtgacgcgg ctgagctatc tcggctgcga catctagacc actgccgccg 27240

ctttcgctgc tttgcccggg aactcattga gttcatctac ttcgaactcc ccaaggatca 27300

ccctcaaggt ccggcccacg gagtgcggat ttctatcgaa ggcaaaatag actctcgcct 27360

gcaacgaatt ttctcccagc ggcccgtgct gatcgagcga gaccagggaa acaccacggt 27420

ttccatctac tgcatttgta atcaccccgg attgcatgaa agcctttgct gtcttatgtg 27480

tactgagttt aataaaaact gaattaagac tctcctacgg actgccgctt cttcaacccg 27540

gattttacaa ccagaagaac gaaacttttc ctgtcgtcca ggactctgtt aacttcacct 27600

ttcctactca caaactagaa gctcaacgac tacaccgctt ttccagaagc attttcccta 27660

ctaatactac tttcaaaacc ggaggtgagc tccaaggtct tcctacagaa aacccttggg 27720

tggaagcggg ccttgtagtg ctaggaattc ttgcgggtgg gcttgtgatt attctttgct 27780

acctatacac accttgcttc actttcttag tggtgttgtg gtattggttt aaaaaatggg 27840

gcccatacta gtcttgcttg ttttactttc gcttttggaa ccgggttctg ccaattacga 27900

tccatgtcta gacttcgacc cagaaaactg cacacttact tttgcacccg acacaagccg 27960

catctgtgga gttcatcgcc tctcttacga acttggcccc caacgacaaa aatttacctg 28020

catggtggga atcaacccca tagttatcac ccagcaaagt ggagatacta agggttgcat 28080

tcactgctcc tgcgattcca tcgagtgcac ctacaccctg ctgaagaccc tatgcggcct 28140

aagagacctg ctaccaatga attaaaaaat gattaataaa aaatcactta cttgaaatca 28200

gcaataaggt ctctgttgaa attttctccc agcagcacct cacttccctc ttcccaactc 28260

tggtattcta aaccccgttc agcggcatac tttctccata ctttaaaggg gatgtcaaat 28320

tttagctcct ctcctgtacc cacaatcttc atgtctttct tcccagatga ccaagagagt 28380

ccggctcagt gactccttca accctgtcta cccctatgaa gatgaaagca cctcccaaca 28440

ccccttttata aacccagggt ttatttcccc aaatggcttc acacaaagcc caaacggagt 28500

tcttacttta aaatgtttaa ccccactaac aaccacaggc ggatctctac agctaaaagt 28560

gggaggggga cttacagtgg atgacaccaa cggttttttg aaagaaaaca taagtgccac 28620

cacaccactc gttaagactg gtcactctat aggtttacca ctaggagccg gattgggaac 28680

gaatgaaaat aaactttgta tcaaattagg acaaggactt acattcaatt caaacaacat 28740

ttgcattgat gacaatatta acaccttatg gacaggagtc aaccccaccg aagccaactg 28800

tcaaatcatg aactccagtg aatctaatga ttgcaaatta attctaacac tagttaaaac 28860

tggagcacta gtcactgcat ttgtttatgt tataggagta tctaacaatt ttaatatgct 28920

aactacacac agaaatataa attttactgc agagctgttt ttcgattcta ctggtaattt 28980

actaactaga ctctcatccc tcaaaactcc acttaatcat aaatcaggac aaaacatggc 29040

tactggtgcc attactaatg ctaaaggttt catgcccagc acgactgcct atcctttcaa 29100

tgataattct agagaaaaag aaaactacat ttacggaact tgttactaca cagctagtga 29160

tcgcactgct tttcccattg acatatctgt catgcttaac cgaagagcaa taaatgacga 29220

gacatcatat tgtattcgta taacttggtc ctggaacaca ggagatgccc cagaggtgca 29280

aacctctgct acaaccctag tcacctcccc atttaccttt tactacatca gagaagacga 29340

ctgacaaata aagtttgcga tcgccaggcc caccatggga tggagctgca tcatcctatt 29400

cctcgtggcg acggccactg gagtgcatag cgaactggtg atgactcagt ccccgtcatc 29460

cctgacggtg accgccggcg agaaggtcac catgtcgtgc aagtcctcgc aaagcctgct 29520

taacagcggc aaccagaaaa actacctcac gtggtatcag caaaagccag gtcaaccccc 29580

aaaactgctc atctactggg cgagcacccg cgagtcgggg gtgccagacc ggttcaccgg 29640

ctccgggtca ggaactgatt tcaccctaac catcagctcg gtgcaagcgg aggacctggc 29700

cgtgtactac tgccaaaatg attactcgta ccctctgacc tttggagcgg gcaccaagct 29760

cgaaatcaag ggcggtggag gaagcggcgg gggaggctca ggtgggggag gatcagaagt 29820

ccaactgctg gagcagtcag gagccgaact ggtccgcccg ggaacctccg tcaagatttc 29880

ctgtaaggct tccggctacg cttttaccaa ttactggctg ggctgggtca agcaaagacc 29940

ggggcatggc ctggagtgga tcggcgacat cttcccaggg agcggcaaca tccactacaa 30000

cgagaagttc aaggggaaag cgactctgac tgccgacaaa tcatccagca ccgcctacat 30060

gcagctgtcg tcgctcactt tcgaagacag cgcggtgtac ttttgtgctc ggctccggaa 30120

ctgggatgaa ccaatggact actggggaca aggaactacc gtgaccgtct cctccggcgg 30180

cggtggaagc caggtgcagc tgcagcagtc tggggctgaa ctggcaagac ctggggcctc 30240

agtgaagatg tcctgcaagg cttctggcta cacctttact aggtacacga tgcactgggt 30300

aaaacagagg cctggacagg gtctggaatg gattggatac attaatccta gccgtggtta 30360

tactaattac aatcagaagt tcaaggacaa ggccacattg actacagaca aatcctccag 30420

cacagcctac atgcaactga gcagcctgac atctgaggac tctgcagtct attactgtgc 30480

aagatattat gatgatcatt actgccttga ctactggggc caaggcacca ctctcacagt 30540

ctcctcaggt ggcggtggct cgggcggtgg tggatctggt ggcggcggat ctgatatcgt 30600

gctcactcag tctccagcaa tcatgtctgc atctccaggg gagaaggtca ccatgacctg 30660

cagtgccagc tcaagtgtaa gttacatgaa ctggtaccag cagaagtcag gcacctcccc 30720

caaaagatgg atttatgaca catccaaact ggcttctgga gtccctgctc acttcagggg 30780

cagtgggtct gggacctctt actctctcac aatcagcggc atggaggctg aagatgctgc 30840

cacttattac tgccagcagt ggagtagtaa cccattcacg ttcggctcgg ggacaaagtt 30900

ggaaataaac cggcatcacc atcaccatca ccaccatcac cattaggcta gcttgactga 30960

ctgagataca gcgtaccttc agctcacaga catgataaga tacattgatg agtttggaca 31020

aaccacaact agaatgcagt gaaaaaaatg ctttatttgt gaaatttgtg atgctattgc 31080

tttatttgta accattataa gctgcaataa acaagttaac aacaacaatt gcattcattt 31140

tatgtttcag gttcaggggg aggtgtggga ggtttttaa agcaagtaaa acctctacaa 31200

atgtggtagt cgtcagctat cctgcaggaa cttgtttatt tgaaaatcaa ttcacaaaat 31260

ccgagtagtt attttgcctc ccccttccca tttaacagaa tacaccaatc tctccccacg 31320

cacagcttta aacatttgga taccattaga tatagacatg gttttagatt ccacattcca 31380

aacagtttca gagcgagcca atctggggtc agtgatagat aaaaatccat cgggatagtc 31440

ttttaaagcg ctttcacagt ccaactgctg cggatgcgac tccggagtct ggatcacggt 31500

catctggaag aagaacgatg ggaatcataa tccgaaaacg gtatcggacg attgtgtctc 31560

atcaaaccca caagcagccg ctgtctgcgt cgctccgtgc gactgctgtt tatgggatca 31620

gggtccacag tgtcctgaag catgatttta atagccctta acatcaactt tctggtgcga 31680

tgcgcgcagc aacgcattct gatttcactc aaatctttgc agtaggtaca acacattatt 31740

acaatattgt ttaataaacc ataattaaaa gcgctccagc caaaactcat atctgatata 31800

atcgcccctg catgaccatc ataccaaagt ttaatataaa ttaaatgacg ttccctcaaa 31860

aacacactac ccacatacat gatctctttt ggcatgtgca tattaacaat ctgtctgtac 31920

catggacaac gttggttaat catgcaaccc aatataacct tccggaacca cactgccaac 31980

accgctcccc cagccatgca ttgaagtgaa ccctgctgat tacaatgaca atgaagaacc 32040

caattctctc gaccgtgaat cacttgagaa tgaaaaatat ctatagtggc acaacataga 32100

cataaatgca tgcatcttct cataattttt aactcctcag gatttagaaa catatcccag 32160

ggaataggaa gctcttgcag aacagtaaag ctggcagaac aaggaagacc acgaacacaa 32220

cttacactat gcatagtcat agtatcacaa tctggcaaca gcgggtggtc ttcagtcata 32280

gaagctcggg tttcattttc ctcacaacgt ggtaactggg ctctggtgta agggtgatgt 32340

ctggcgcatg atgtcgagcg tgcgcgcaac cttgtcataa tggagttgct tcctgacatt 32400

ctcgtatttt gtatagcaaa acgcggccct ggcagaacac actcttcttc gccttctatc 32460

ctgccgctta gcgtgttccg tgtgatagtt caagtacaac cacactctta agttggtcaa 32520

aagaatgctg gcttcagttg taatcaaaac tccatcgcat ctaatcgttc tgaggaaatc 32580

atccaagcaa tgcaactgga ttgtgtttca agcaggagag gagagggaag agacggaaga 32640

accatgttaa tttttattcc aaacgatctc gcagtacttc aaattgtaga tcgcgcagat 32700

ggcatctctc gcccccactg tgttggtgaa aaagcacagc tagatcaaaa gaaatgcgat 32760

tttcaaggtg ctcaacggtg gcttccagca aagcctccac gcgcacatcc aagaacaaaa 32820

gaataccaaa agaaggagca ttttctaact cctcaatcat catattacat tcctgcacca 32880

ttcccagata attttcagct ttccagcctt gaattattcg tgtcagttct tgtggtaaat 32940

ccaatccaca cattacaaac aggtcccgga gggcgccctc caccaccatt cttaaacaca 33000

ccctcataat gacaaaatat cttgctcctg tgtcacctgt agcgaattga gaatggcaac 33060

atcaattgac atgcccttgg ctctaagttc ttctttaagt tctagttgta aaaactctct 33120

catattatca ccaaactgct tagccagaag ccccccggga acaagagcag gggacgctac 33180

agtgcagtac aagcgcagac ctccccaatt ggctccagca aaaacaagat tggaataagc 33240

atattgggaa ccgccagtaa tatcatcgaa gttgctggaa atataatcag gcagagtttc 33300

ttgtaaaaat tgaataaaag aaaaatttgc caaaaaaaca ttcaaaacct ctgggatgca 33360

aatgcaatag gttaccgcgc tgcgctccaa cattgttagt tttgaattag tctgcaaaaa 33420

taaaaaaaaa aacaagcgtc atatcatagt agcctgacga acagatggat aaatcagtct 33480

ttccatcaca agacaagcca cagggtctcc agctcgaccc tcgtaaaacc tgtcatcatg 33540

attaaacaac agcaccgaaa gttcctcgcg gtgaccagca tgaataattc ttgatgaagc 33600

atacaatcca gacatgttag catcagttaa cgagaaaaaa cagccaacat agcctttggg 33660

tataattatg cttaatcgta agtatagcaa agccaccct cgcggataca aagtaaaagg 33720

cacaggagaa taaaaaatat aattatttct ctgctgctgt tcaggcaacg tcgcccccgg 33780

tccctctaaa tacacataca aagcctcatc agccatggct taccagacaa agtacagcgg 33840

gcacacaaag cacaagctct aaagtgactc tccaacctct ccacaatata tatatacaca 33900

agccctaaac tgacgtaatg ggagtaaagt gtaaaaaatc ccgccaaacc caacacacac 33960

cccgaaactg cgtcaccagg gaaaagtaca gtttcacttc cgcaatccca acaggcgtaa 34020

cttcctcttt ctcacggtac gtgatatccc actaacttgc aacgtcattt tcccacggtc 34080

gcaccgcccc ttttagccgt taaccccaca gccaatcacc acacgatcca cacttttaa 34140

aatcacctca tttacatatt ggcaccattc catctataag gtatattata tagataga 34198

<210> 78
<211> 34210
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-612 Genome

<400> 78
tctatctata taatatacct tatagatgga atggtgccaa tatgtaaatg aggtgatttt 60

aaaaagtgtg gatcgtgtgg tgattggctg tggggttaac ggctaaaagg ggcggtgcga 120

ccgtgggaaa atgacgtttt gtgggggtgg agtttttttg caagttgtcg cgggaaatgt 180

gacgcataaa aaggcttttt tctcacggaa ctacttagtt ttcccacggt atttaacagg 240

aaatgaggta gttttgaccg gatgcaagtg aaaattgttg attttcgcgc gaaaactgaa 300

tgaggaagtg tttttctgaa taatgtggta tttatggcag ggtggagtat ttgttcaggg 360

ccaggtagac tttgacccat tacgtggagg tttcgattac cgtgtttttt acctgaattt 420

ccgcgtaccg tgtcaaagtc ttctgttttt acgtaggtgt cagctgatcg ctagggtatt 480

tatacctcag ggtttgtgtc aagaggccac tcttgagtgc cagcgagaag agttttctcc 540

tctgcgccgg cagtttaata ataaaaaaat gagagatttg cgatttctgc ctcaggaaat 600

aatctctgct gagactggaa atgaaatatt ggagcttgtg gtgcacgccc tgatgggaga 660

cgatccggag ccacctgtgc agctttttga gcctcctacg cttcaggaac tgtatgattt 720

agaggtagag ggatcggagg attctaatga ggaagctgta aatggctttt ttaccgattc 780

tatgctttta gctgctaatg aagggttaga attagatccg cctttggaca cttttgatac 840

tccaggggta attgtggaaa gcggtacagg tgtaagaaaa ttacctgatt tgagttccgt 900

ggactgtgat ttgcactgct atgaagacgg gtttcctccg agtgatgagg aggaccatga 960

aaaggagcag tccatgcaga ctgcagcggg tgagggagtg aaggctgcca atgttggttt 1020

tcagttggat tgcccggagc ttcctggaca tggctgtaag tcttgtgaat ttcacaggaa 1080

aaatactgga gtaaaggaac tgttatgttc gctttgttat atgagaacgc actgccactt 1140

tatttacagt aagtgtgttt aagttaaaat ttaaaggaat atgctgtttt tcacatgtat 1200

attgagtgtg agttttgtgc ttcttattat aggtcctgtg tctgatgctg atgaatcacc 1260

atctcctgat tctactacct cacctcctga gattcaagca cctgttcctg tggacgtgcg 1320

caagcccatt cctgtgaagc ttaagcctgg gaaacgtcca gcagtggaaa aacttgagga 1380

cttgttacag ggtggggacg gacctttgga cttgagtaca cggaaacgtc caagacaata 1440

agtgttccat atccgtgttt acttaaggtg acgtcaatat ttgtgtgaca gtgcaatgta 1500

ataaaaatat gttaactgtt cactggtttt tattgctttt tgggcgggga ctcaggtata 1560

taagtagaag cagacctgtg tggttagctc ataggagctg gctttcatcc atggaggttt 1620

gggccatttt ggaagacctt aggaagacta ggcaactgtt agagaacgct tcggacggag 1680

tctccggttt ttggagattc tggttcgcta gtgaattagc tagggtagtt tttaggataa 1740

aacaggacta taaacaagaa tttgaaaagt tgttggtaga ttgcccagga ctttttgaag 1800

ctcttaattt gggccatcag gttcacttta aagaaaaagt tttatcagtt ttagactttt 1860

caaccccagg tagaactgct gctgctgtgg cttttcttac ttttatatta gataaatgga 1920

tcccgcagac tcatttcagc aggggatacg ttttggattt catagccaca gcattgtgga 1980

gaacatggaa ggttcgcaag atgaggacaa tcttaggtta ctggccagtg cagcctttgg 2040

gtgtagcggg aatcctgagg catccaccgg tcatgccagc ggttctggag gaggaacagc 2100

aagaggacaa cccgagagcc ggcctggacc ctccagtgga ggaggcggag tagctgactt 2160

gtctcctgaa ctgcaacggg tgcttactgg atctacgtcc actggacggg ataggggcgt 2220

taagagggag agggcatcta gtggtactga tgctagatct gagttggctt taagtttaat 2280

gagtcgcaga cgtcctgaaa ccatttggtg gcatgaggtt cagaaagagg gaagggatga 2340

agtttctgta ttgcaggaga aatattcact ggaacaggtg aaaacatgtt ggttggagcc 2400

tgaggatgat tgggaggtgg ccattaaaaa ttatgccaag atagctttga ggcctgataa 2460

acagtataag attactagac ggattaatat ccggaatgct tgttacatat ctggaaatgg 2520

ggctgaggtg gtaatagata ctcaagacaa ggcagttatt agatgctgca tgatggatat 2580

gtggcctggg gtagtcggta tggaagcagt aacttttgta aatgttaagt ttaggggaga 2640

tggttataat ggaatagtgt ttatggccaa taccaaactt atattgcatg gttgtagctt 2700

ttttggtttc aacaatacct gtgtagatgc ctggggacag gttagtgtac ggggatgtag 2760

tttctatgcg tgttggattg ccacagctgg cagaaccaag agtcaattgt ctctgaagaa 2820

atgcatattt caaagatgta acctgggcat tctgaatgaa ggcgaagcaa gggtccgcca 2880

ctgcgcttct acagatactg gatgttttat tttgattaag ggaaatgcca gcgtaaagca 2940

taacatgatt tgcggtgctt ccgatgagag gccttatcaa atgctcactt gtgctggtgg 3000

gcattgtaat atgctggcta ctgtgcatat tgtttcccat caacgcaaaa aatggcctgt 3060

ttttgatcac aatgtgatga cgaagtgtac catgcatgca ggtgggcgta gaggaatgtt 3120

tatgccttac cagtgtaaca tgaatcatgt gaaagtgttg ttggaaccag atgccttttc 3180

cagaatgagc ctaacaggaa tttttgacat gaacatgcaa atctggaaga tcctgaggta 3240

tgatgatacg agatcgaggg tacgcgcatg cgaatgcgga ggcaagcatg ccaggttcca 3300

gccggtgtgt gtagatgtga ctgaagatct cagaccggat catttggtta ttgcccgcac 3360

tggagcagag ttcggatcca gtggagaaga aactgactaa ggtgagtatt gggaaaactt 3420

tggggtggga ttttcagatg gacagattga gtaaaaattt gtttttttctg tcttgcagct 3480

gtcatgagtg gaaacgcttc ttttaagggg ggagtcttca gcccttatct gacagggcgt 3540

ctcccatcct gggcaggagt tcgtcagaat gttatgggat ctactgtgga tggaagaccc 3600

gtccaacccg ccaattcttc aacgctgacc tatgctactt taagttcttc acctttggac 3660

gcagctgcag ctgccgccgc cgcttctgtt gccgctaaca ctgtgcttgg aatgggttac 3720

tatggaagca tcatggctaa ttccacttcc tctaataacc cttctaccct gactcaggac 3780

aagttacttg tccttttggc ccagctggag gctttgaccc aacgtctggg tgaactttct 3840

cagcaggtgg tcgagttgcg agtacaaact gagtctgctg tcggcacggc aaagtctaaa 3900

taaaaaaatc ccagaatcaa tgaataaata aacaagcttg ttgttgattt aaaatcaagt 3960

gtttttattt catttttcgc gcacggtatg ccctagacca ccgatctcta tcattgagaa 4020

ctcggtggat tttttccagg atcctataga ggtgggattg aatgtttaga tacatgggca 4080

ttaggccgtc tttggggtgg agatagctcc attgaaggga ttcatgctcc ggggtagtgt 4140

tgtaaatcac ccagtcataa caaggtcgca gtgcatggtg ttgcacaata tcttttagaa 4200

gtaggctgat tgccacagat aagcccttgg tgtaggtgtt tacaaaccgg ttgagctggg 4260

atgggtgcat tcggggtgaa attatgtgca ttttggattg gatttttaag ttggcaatat 4320

tgccgccaag atcccgtctt gggttcatgt tatgaaggac caccaagacg gtgtatccgg 4380

tacatttagg aaatttatcg tgcagcttgg atggaaaagc gtggaaaaat ttggagacac 4440

ccttgtgtcc tccaagattt tccatgcact catccatgat aatagcaatg gggccgtggg 4500

cagcggcgcg ggcaaacacg ttccgtgggt ctgacacatc atagttatgt tcctgagtta 4560

aatcatcata agccatttta atgaatttgg ggcggagagt accagattgg ggtatgaatg 4620

ttccttcggg ccccggagca tagttcccct cacagatttg catttcccaa gctttcagtt 4680

ccgagggtgg aatcatgtcc acctgggggg ctatgaaaaa caccgtttct ggggcggggg 4740

tgattaattg tgatgatagc aaatttctga gcaattgaga tttgccacat ccggtggggc 4800

cataaatgat tccgattacg ggttgcaggt ggtagtttag ggaacggcaa ctgccgtctt 4860

ctcgaagcaa gggggccacc tcgttcatca tttcccttac atgcatattt tcccgcacca 4920

aatccattag gaggcgctct cctcctagtg atagaagttc ttgtagtgag gaaaagtttt 4980

tcagcggttt cagaccgtca gccatgggca ttttggagag agtttgctgc aaaagttcta 5040

gtctgttcca cagttcagtg atgtgttcta tggcatctcg atccagcaga cctcctcgtt 5100

tcgcgggttt ggacggctcc tggaataggg tatgagacga tgggcgtcca gcgctgccag 5160

ggttcggtcc ttccagggtc tcagtgttcg agtcagggtt gtttccgtca cagtgaaggg 5220

gtgtgcgcct gcttgggcgc ttgccagggt gcgcttcaga ctcatcctgc tggtcgaaaa 5280

cttctgtcgc ttggcgccct gtatgtcggc caagtagcag tttaccatga gttcgtagtt 5340

gagcgcctcg gctgcgtggc ctttggcgcg gagcttacct ttggaagttt tcttgcatac 5400

cgggcagtat aggcatttca gcgcatacaa cttgggcgca aggaaaacgg attctgggga 5460

gtatgcatct gcgccgcagg aggcgcaaac agtttcacat tccaccagcc aggttaaatc 5520

cggttcattg gggtcaaaaa caagttttcc gccatatttt ttgatgcgtt tcttaccttt 5580

ggtctccatg agttcgtgtc ctcgttgagt gacaaacagg ctgtccgtgt ccccgtagac 5640

tgattttaca ggcctcttct ccagtggagt gcctcggtct tcttcgtaca ggaactctga 5700

ccactctgat acaaaggcgc gcgtccaggc cagcacaaag gaggctatgt gggaggggta 5760

gcgatcgttg tcaaccaggg ggtccacctt ttccaaagta tgcaaacaca tgtcaccctc 5820

ttcaacatcc aggaatgtga ttggcttgta ggtgtatttc acgtgacctg gggtccccgc 5880

tgggggggta taaaaggggg cggttctttg ctcttcctca ctgtcttccg gatcgctgtc 5940

caggaacgtc agctgttggg gtaggtattc cctctcgaag gcgggcatga cctctgcact 6000

caggttgtca gtttctaaga acgaggagga tttgatattg acagtgccgg ttgagatgcc 6060

tttcatgagg ttttcgtcca tctggtcaga aaacacaatt tttttattgt caagtttggt 6120

ggcaaatgat ccatacaggg cgttggataa aagtttggca atggatcgca tggtttggtt 6180

ctttccttg tccgcgcgct ctttggcggc gatgttgagt tggacatact cgcgtgccag 6240

gcacttccat tcggggaaga tagttgttaa ttcatctggc acgattctca cttgccaccc 6300

tcgattatgc aaggtaatta aatccacact ggtggccacc tcgcctcgaa ggggttcatt 6360

ggtccaacag agcctacctc ctttcctaga acagaaaggg ggaagtgggt ctagcataag 6420

ttcatcggga gggtctgcat ccatggtaaa gattcccgga agtaaatcct tatcaaaata 6480

gctgatggga gtggggtcat ctaaggccat ttgccattct cgagctgcca gtgcgcgctc 6540

atatgggtta aggggactgc cccatggcat gggatgggtg agtgcagagg catacatgcc 6600

acagatgtca tagacgtaga tgggatcctc aaagatgcct atgtaggttg gatagcatcg 6660

ccccccctctg atacttgctc gcacatagtc atatagttca tgtgatggcg ctagcagccc 6720

cggacccaag ttggtgcgat tgggtttttc tgttctgtag acgatctggc gaaagatggc 6780

gtgagaattg gaagagatgg tgggtctttg aaaaatgttg aaatgggcat gaggtagacc 6840

tacagagtct ctgacaaagt gggcataaga ttcttgaagc ttggttacca gttcggcggt 6900

gacaagtacg tctagggcgc agtagtcaag tgtttcttga atgatgtcat aacctggttg 6960

gtttttcttt tcccacagtt cgcggttgag aaggtattct tcgcgatcct tccagtactc 7020

ttctagcgga aacccgtctt tgtctgcacg gtaagatcct agcatgtaga actgattaac 7080

tgccttgtaa gggcagcagc ccttctctac gggtagagag tatgcttgag cagcttttcg 7140

tagcgaagcg tgagtaaggg caaaggtgtc tctgaccatg actttgagga attggtattt 7200

gaagtcgatg tcgtcacagg ctccctgttc ccagagttgg aagtctaccc gtttcttgta 7260

ggcggggttg ggcaaagcga aagtaacatc attgaagaga atcttgccgg ccctgggcat 7320

gaaattgcga gtgatgcgaa aaggctgtgg tacttccgct cggttattga taacctgggc 7380

agctaggacg atctcgtcga aaccgttgat gttgtgtcct acgatgtata attctatgaa 7440

acgcggcgtg cctctgacgt gaggtagctt actgagctca tcaaaggtta ggtctgtggg 7500

gtcagataag gcgtagtgtt cgagagccca ttcgtgcagg tgaggattcg ctttaaggaa 7560

ggaggaccag aggtccactg ccagtgctgt ttgtaactgg tcccggtact gacgaaaatg 7620

ccgtccgact gccatttttt ctggggtgac gcaatagaag gtttgggggt cctgccgcca 7680

gcgatcccac ttgagtttta tggcgaggtc ataggcgatg ttgacgagcc gctggtctcc 7740

agagagtttc atgaccagca tgaaggggat tagctgcttg ccaaaggacc ccatccaggt 7800

gtaggtttcc acatcgtagg tgagaaagag cctttctgtg cgaggatgag agccaatcgg 7860

gaagaactgg atctcctgcc accagttgga ggaatggctg ttgatgtgat ggaagtagaa 7920

ctccctgcga cgcgccgagc attcatgctt gtgcttgtac agacggccgc agtagtcgca 7980

gcgttgcacg ggttgtatct cgtgaatgag ttgtacctgg cttcccttga cgagaaattt 8040

cagtgggaag ccgaggcctg gcgattgtat ctcgtgcttt actatgttgt ctgcatcggc 8100

ctgttcatct tctgtctcga tggtggtcat gctgacgagc cctcgcggga ggcaagtcca 8160

gacctcggcg cggcaggggc ggagctcgag gacgagagcg cgcaggctgg agctgtccag 8220

ggtcctgaga cgctgcggac tcaggttagt aggcagtgtc aggagattaa cttgcatgat 8280

cttttggagg gcgtgcggga ggttcagata gtacttgatc tcaacgggtc cgttggtgga 8340

gatgtcgatg gcttgcaggg ttccgtgtcc cttgggcgct accaccgtgc ccttgttttt 8400

cattttggac ggcggtggct ctgttgcttc ttgcatgttt agaagcggtg tcgagggcgc 8460

gcaccgggcg gcaggggcgg ctcgggaccc ggcggcatgg ctggcagtgg tacgtcggcg 8520

ccgcgcgcgg gtaggttctg gtactgcgcc ctgagaagac tcgcatgcgc gacgacgcgg 8580

cggttgacat cctggatctg acgcctctgg gtgaaagcta ccggccccgt gagcttgaac 8640

ctgaaagaga gttcaacaga atcaatctcg gtatcgttga cggcggcttg cctaaggatt 8700

tcttgcacgt caccagagtt gtcctggtag gcgatctccg ccatgaactg ctcgatctct 8760

tcctcttgaa gatctccgcg gcccgctctc tcgacggtgg ccgcgaggtc gttggagatg 8820

cgcccaatga gttgagagaa tgcattcatg cccgcctcgt tccagacgcg gctgtagacc 8880

acggccccca cgggatctct cgcgcgcatg accacctggg cgaggttgag ctccacgtgg 8940

cgggtgaaga ccgcatagtt gcataggcgc tggaaaaggt agttgagtgt ggtggcgatg 9000

tgctcggtga cgaagaaata catgatccat cgtctcagcg gcatctcgct gacatcgccc 9060

agagcttcca agcgctccat ggcctcgtag aagtccacgg caaaattaaa aaactgggag 9120

tttcgcgcgg acacggtcaa ctcctcttcc agaagacgga taagttcggc gatggtggtg 9180

cgcacctcgc gctcgaaagc ccctgggatt tcttcctcaa tctcttcttc ttccactaac 9240

atctcttcct cttcaggtgg ggctgcagga ggaggggggaa cgcggcgacg ccggcggcgc 9300

acgggcagac ggtcgatgaa tctttcaatg acctctccgc ggcggcggcg catggtttca 9360

gtgacggcgc ggccgttctc gcgcggtcgc agagtaaaaa caccgccgcg catctcctta 9420

aagtggtgac tgggaggttc tccgtttggg agggagaggg cgctgattat acattttatt 9480

aattggcccg tagggactgc acgcagagat ctgatcgtgt caagatccac gggatctgaa 9540

aacctttcga cgaaagcgtc taaccagtca cagtcacaag gtaggctgag tacggcttct 9600

tgtgggcggg ggtggttatg tgttcggtct gggtcttctg tttcttcttc atctcgggaa 9660

ggtgagacga tgctgctggt gatgaaatta aagtaggcag ttctaagacg gcggatggtg 9720

gcgaggagca ccaggtcttt gggtccggct tgctggatac gcaggcgatt ggccattccc 9780

caagcattat cctgacatct agcaagatct ttgtagtagt cttgcatgag ccgttctacg 9840

ggcacttctt cctcacccgt tctgccatgc atacgtgtga gtccaaatcc gcgcattggt 9900

tgtaccagtg ccaagtcagc tacgactctt tcggcgagga tggcttgctg tacttgggta 9960

agggtggctt gaaagtcatc aaaatccaca aagcggtggt aagctcctgt attaatggtg 10020

taagcacagt tggccatgac tgaccagtta actgtctggt gaccagggcg cacgagctcg 10080

gtgtatttaa ggcgcgaata ggcgcgggtg tcaaagatgt aatcgttgca ggtgcgcacc 10140

agatactggt accctataag aaaatgcggc ggtggttggc ggtagagagg ccatcgttct 10200

gtagctggag cgccaggggc gaggtcttcc aacataaggc ggtgatagcc gtagatgtac 10260

ctggacatcc aggtgattcc tgcggcggta gtagaagccc gaggaaactc gcgtacgcgg 10320

ttccaaatgt tgcgtagcgg catgaagtag ttcattgtag gcacggtttg accagtgagg 10380

cgcgcgcagt cattgatgct ctatagacac ggagaaaatg aaagcgttca gcgactcgac 10440

tccgtagcct ggaggaacgt gaacgggttg ggtcgcggtg taccccggtt cgagacttgt 10500

actcgagccg gccggagccg cggctaacgt ggtattggca ctcccgtctc gacccagcct 10560

acaaaaatcc aggatacgga atcgagtcgt tttgctggtt tccgaatggc agggaagtga 10620

gtcctatttt ttttttttgc cgctcagatg catcccgtgc tgcgacagat gcgcccccaa 10680

caacagcccc cctcgcagca gcagcagcag caatcacaaa aggctgtccc tgcaactact 10740

gcaactgccg ccgtgagcgg tgcgggacag cccgcctatg atctggactt ggaagagggc 10800

gaaggactgg cacgtctagg tgcgccttca cccgagcggc atccgcgagt tcaactgaaa 10860

aaagattctc gcgaggcgta tgtgccccaa cagaacctat ttagagacag aagcggcgag 10920

gagccggagg agatgcgagc ttcccgcttt aacgcgggtc gtgagctgcg tcacggtttg 10980

gaccgaagac gagtgttgcg ggacgaggat ttcgaagttg atgaaatgac agggatcagt 11040

cctgccaggg cacacgtggc tgcagccaac cttgtatcgg cttacgagca gacagtaaag 11100

gaagagcgta acttccaaaa gtcttttaat aatcatgtgc gaaccctgat tgcccgcgaa 11160

gaagttaccc ttggtttgat gcatttgtgg gatttgatgg aagctatcat tcagaaccct 11220

actagcaaac ctctgaccgc ccagctgttt ctggtggtgc aacacagcag agacaatgag 11280

gctttcagag aggcgctgct gaacatcacc gaacccgagg ggagatggtt gtatgatctt 11340

atcaacattc tacagagtat catagtgcag gagcggagcc tgggcctggc cgagaaggtg 11400

gctgccatca attactcggt tttgagcttg ggaaaatatt acgctcgcaa aatctacaag 11460

actccatacg ttcccataga caaggaggtg aagatagatg ggttctacat gcgcatgacg 11520

ctcaaggtct tgaccctgag cgatgatctt ggggtgtatc gcaatgacag aatgcatcgc 11580

gcggttagcg ccagcaggag gcgcgagtta agcgacaggg aactgatgca cagtttgcaa 11640

agagctctga ctggagctgg aaccgagggt gagaattact tcgacatggg agctgacttg 11700

cagtggcagc ctagtcgcag ggctctgagc gccgcgacgg caggatgtga gcttccttac 11760

atagaagagg cggatgaagg cgaggaggaa gagggcgagt acttggaaga ctgatggcac 11820

aacccgtgtt ttttgctaga tggaacagca agcaccggat cccgcaatgc gggcggcgct 11880

gcagagccag ccgtccggca ttaactcctc ggacgattgg acccaggcca tgcaacgtat 11940

catggcgttg acgactcgca accccgaagc ctttagacag caaccccagg ccaaccgtct 12000

atcggccatc atggaagctg tagtgccttc ccgctctaat cccactcatg agaaggtcct 12060

ggccatcgtg aacgcgttgg tggagaacaa agctattcgt ccagatgagg ccggactggt 12120

atacaacgct ctcttagaac gcgtggctcg ctacaacagt agcaatgtgc aaaccaattt 12180

ggaccgtatg ataacagatg tacgcgaagc cgtgtctcag cgcgaaaggt tccagcgtga 12240

tgccaacctg ggttcgctgg tggcgttaaa tgctttcttg agtactcagc ctgctaatgt 12300

gccgcgtggt caacaggatt atactaactt tttaagtgct ttgagactga tggtatcaga 12360

agtacctcag agcgaagtgt atcagtccgg tcctgattac ttctttcaga ctagcagaca 12420

gggcttgcag acggtaaatc tgagccaagc ttttaaaaac cttaaaggtt tgtggggagt 12480

gcatgccccg gtaggagaaa gagcaaccgt gtctagcttg ttaactccga actcccgcct 12540

attattactg ttggtagctc ctttcaccga cagcggtagc atcgaccgta attcctattt 12600

gggttaccta ctaaacctgt atcgcgaagc catagggcaa agtcaggtgg acgagcagac 12660

ctatcaagaa attacccaag tcagtcgcgc tttgggacag gaagacactg gcagtttgga 12720

agccactctg aacttcttgc ttaccaatcg gtctcaaaag atccctcctc aatatgctct 12780

tactgcggag gaggagagga tccttagata tgtgcagcag agcgtgggat tgtttctgat 12840

gcaagagggg gcaactccga ctgcagcact ggacatgaca gcgcgaaata tggagcccag 12900

catgtatgcc agtaaccgac ctttcattaa caaactgctg gactacttgc acagagctgc 12960

cgctatgaac tctgattatt tcaccaatgc catcttaaac ccgcactggc tgcccccacc 13020

tggtttctac acgggcgaat atgacatgcc cgaccctaat gacggatttc tgtgggacga 13080

cgtggacagc gatgtttttt cacctctttc tgatcatcgc acgtggaaaa aggaaggcgg 13140

cgatagaatg cattcttctg catcgctgtc cggggtcatg ggtgctaccg cggctgagcc 13200

cgagtctgca agtccttttc ctagtctacc cttttctcta cacagtgtac gtagcagcga 13260

agtgggtaga ataagtcgcc cgagtttaat gggcgaagag gagtatctaa acgattcctt 13320

gctcagaccg gcaagagaaa aaaatttccc aaacaatgga atagaaagtt tggtggataa 13380

aatgagtaga tggaagactt atgctcagga tcacagagac gagcctggga tcatggggat 13440

tacaagtaga gcgagccgta gacgccagcg ccatgacaga cagaggggtc ttgtgtggga 13500

cgatgaggat tcggccgatg atagcagcgt gctggacttg ggtgggagag gaaggggcaa 13560

cccgtttgct catttgcgcc ctcgcttggg tggtatgttg taaaaaaaaa taaaaaaaaa 13620

actcaccaag gccatggcga cgagcgtacg ttcgttcttc tttattatct gtgtctagta 13680

taatgaggcg agtcgtgcta ggcggagcgg tggtgtatcc ggagggtcct cctccttcgt 13740

acgagagcgt gatgcagcag cagcaggcga cggcggtgat gcaatcccca ctggaggctc 13800

cctttgtgcc tccgcgatac ctggcaccta cggagggcag aaacagcatt cgttattcgg 13860

aactggcacc tcagtacgat accaccaggt tgtatctggt ggacaacaag tcggcggaca 13920

ttgcttctct gaactatcag aatgaccaca gcaacttctt gaccacggtg gtgcaaaaca 13980

atgactttac ccctacggaa gccagcaccc agaccattaa ctttgatgaa cgatcgcggt 14040

ggggcggtca gctaaagacc atcatgcata ctaacatgcc aaacgtgaac gagtatatgt 14100

ttagtaacaa gttcaaagcg cgtgtgatgg tgtccagaaa acctcccgac ggtgctgcag 14160

ttggggatac ttatgatcac aagcaggata ttttgaaata tgagtggttc gagtttactt 14220

tgccagaagg caacttttca gttactatga ctattgattt gatgaacaat gccatcatag 14280

ataattactt gaaagtgggt agacagaatg gagtgcttga aagtgacatt ggtgttaagt 14340

tcgacaccag gaacttcaag ctgggatggg atcccgaaac caagttgatc atgcctggag 14400

tgtatacgta tgaagccttc catcctgaca ttgtcttact gcctggctgc ggagtggatt 14460

ttaccgagag tcgtttgagc aaccttcttg gtatcagaaa aaaacagcca tttcaagagg 14520

gttttaagat tttgtatgaa gatttagaag gtggtaatat tccggccctc ttggatgtag 14580

atgcctatga gaacagtaag aaagaacaaa aagccaaaat agaagctgct acagctgctg 14640

cagaagctaa ggcaaacata gttgccagcg actctacaag ggttgctaac gctggagagg 14700

tcagaggaga caattttgcg ccaacacctg ttccgactgc agaatcatta ttggccgatg 14760

tgtctgaagg aacggacgtg aaactcacta ttcaacctgt agaaaaagat agtaagaata 14820

gaagctataa tgtgttggaa gacaaaatca acacagccta tcgcagttgg tatctttcgt 14880

acaattatgg cgatcccgaa aaaggagtgc gttcctggac attgctcacc acctcagatg 14940

tcacctgcgg agcagagcag gtctactggt cgcttccaga catgatgaag gatcctgtca 15000

ctttccgctc cactagacaa gtcagtaact accctgtggt gggtgcagag cttatgcccg 15060

tcttctcaaa gagcttctac aacgaacaag ctgtgtactc ccagcagctc cgccagtcca 15120

cctcgcttac gcacgtcttc aaccgctttc ctgagaacca gattttaatc cgtccgccgg 15180

cgcccaccat taccaccgtc agtgaaaacg ttcctgctct cacagatcac gggaccctgc 15240

cgttgcgcag cagtatccgg ggagtccaac gtgtgaccgt tactgacgcc agacgccgca 15300

cctgtcccta cgtgtacaag gcactgggca tagtcgcacc gcgcgtcctt tcaagccgca 15360

ctttctaaaa aaaaaaaaaa tgtccattct tatctcgccc agtaataaca ccggttgggg 15420

tctgcgcgct ccaagcaaga tgtacggagg cgcacgcaaa cgttctaccc aacatcctgt 15480

ccgtgttcgc ggacattttc gcgctccatg gggcgccctc aagggccgca ctcgcgttcg 15540

aaccaccgtc gatgatgtaa tcgatcaggt ggttgccgac gcccgtaatt atactcctac 15600

tgcgcctaca tctactgtgg atgcagttat tgacagtgta gtggctgacg ctcgcaacta 15660

tgctcgacgt aagagccggc gaaggcgcat tgccagacgc caccgagcta ccactgccat 15720

gcgagccgca agagctctgc tacgaagagc tagacgcgtg gggcgaagag ccatgcttag 15780

ggcggccaga cgtgcagctt cgggcgccag cgccggcagg tcccgcaggc aagcagccgc 15840

tgtcgcagcg gcgactattg ccgacatggc ccaatcgcga agaggcaatg tatactgggt 15900

gcgtgacgct gccaccggtc aacgtgtacc cgtgcgcacc cgtccccctc gcacttagaa 15960

gatactgagc agtctccgat gttgtgtccc agcggcgagg atgtccaagc gcaaatacaa 16020

ggaagaaatg ctgcaggtta tcgcacctga agtctacggc caaccgttga aggatgaaaa 16080

aaaaccccgc aaaatcaagc gggttaaaaa ggacaaaaaa gaagaggaag atggcgatga 16140

tgggctggcg gagtttgtgc gcgagtttgc cccacggcga cgcgtgcaat ggcgtgggcg 16200

caaagttcga catgtgttga gacctggaac ttcggtggtc tttacacccg gcgagcgttc 16260

aagcgctact tttaagcgtt cctatgatga ggtgtacggg gatgatgata ttcttgagca 16320

ggcggctgac cgattaggcg agtttgctta tggcaagcgt agtagaataa cttccaagga 16380

tgagacagtg tcgataccct tggatcatgg aaatcccacc cctagtctta aaccggtcac 16440

tttgcagcaa gtgttacccg taactccgcg aacaggtgtt aaacgcgaag gtgaagattt 16500

gtatcccact atgcaactga tggtacccaa acgccagaag ttggaggacg ttttggagaa 16560

agtaaaagtg gatccagata ttcaacctga ggttaaagtg agacccatta agcaggtagc 16620

gcctggtctg ggggtacaaa ctgtagacat taagattccc actgaaagta tggaagtgca 16680

aactgaaccc gcaaagccta ctgccacctc cactgaagtg caaacggatc catggatgcc 16740

catgcctatt acaactgacg ccgccggtcc cactcgaaga tcccgacgaa agtacggtcc 16800

agcaagtctg ttgatgccca attatgttgt acacccatct attattccta ctcctggtta 16860

ccgaggcact cgctactatc gcagccgaaa cagtacctcc cgccgtcgcc gcaagacacc 16920

tgcaaatcgc agtcgtcgcc gtagacgcac aagcaaaccg actcccggcg ccctggtgcg 16980

gcaagtgtac cgcaatggta gtgcggaacc tttgacactg ccgcgtgcgc gttaccatcc 17040

gagtatcatc acttaatcaa tgttgccgct gcctccttgc agatatggcc ctcacttgtc 17100

gccttcgcgt tcccatcact ggttaccgag gaagaaactc gcgccgtaga agagggatgt 17160

tgggacgcgg aatgcgacgc tacaggcgac ggcgtgctat ccgcaagcaa ttgcggggtg 17220

gtttttacc agccttaatt ccaattatcg ctgctgcaat tggcgcgata ccaggcatag 17280

cttccgtggc ggttcaggcc tcgcaacgac attgacattg gaaaaaaacg tataaataaa 17340

aaaaaaaaaa tacaatggac tctgacactc ctggtcctgt gactatgttt tcttagagat 17400

ggaagacatc aatttttcat ccttggctcc gcgacacggc acgaagccgt acatgggcac 17460

ctggagcgac atcggcacga gccaactgaa cgggggcgcc ttcaattgga gcagtatctg 17520

gagcgggctt aaaaattttg gctcaaccat aaaaacatac gggaacaaag cttggaacag 17580

cagtacagga caggcgctta gaaataaact taaagaccag aacttccaac aaaaagtagt 17640

cgatgggata gcttccggca tcaatggagt ggtagatttg gctaaccagg ctgtgcagaa 17700

aaagataaac agtcgtttgg acccgccgcc agcaacccca ggtgaaatgc aagtggagga 17760

agaaattcct ccgccagaaa aacgaggcga caagcgtccg cgtcccgatt tggaagagac 17820

gctggtgacg cgcgtagatg aaccgccttc ttatgaggaa gcaacgaagc ttggaatgcc 17880

caccactaga ccgatagccc caatggccac cggggtgatg aaaccttctc agttgcatcg 17940

acccgtcacc ttggatttgc cccctccccc tgctgctact gctgtacccg cttctaagcc 18000

tgtcgctgcc ccgaaaccag tcgccgtagc caggtcacgt cccgggggcg ctcctcgtcc 18060

aaatgcgcac tggcaaaata ctctgaacag catcgtgggt ctaggcgtgc aaagtgtaaa 18120

acgccgtcgc tgcttttaat taaatatgga gtagcgctta acttgcctat ctgtgtatat 18180

gtgtcattac acgccgtcac agcagcagag gaaaaaagga agaggtcgtg cgtcgacgct 18240

gagttacttt caagatggcc accccatcga tgctgcccca atgggcatac atgcacatcg 18300

ccggacagga tgcttcggag tacctgagtc cgggtctggt gcagttcgcc cgcgccacag 18360

acacctactt caatctggga aataagttta gaaatcccac cgtagcgccg acccacgatg 18420

tgaccaccga ccgtagccag cggctcatgt tgcgcttcgt gcccgttgac cgggaggaca 18480

atacatactc ttacaaagtg cggtacaccc tggccgtggg cgacaacaga gtgctggata 18540

tggccagcac gttctttgac attaggggtg tgttggacag aggtcccagt ttcaaaccct 18600

attctggtac ggcttacaac tccctggctc ctaaaggcgc tccaaataca tctcagtgga 18660

ttgcagaagg tgtaaaaaat acaactggtg aggaacacgt aacagaagag gaaaccaata 18720

ctactactta cacttttggc aatgctcctg taaaagctga agctgaaatt acaaaagaag 18780

gactcccagt aggtttggaa gtttcagatg aagaaagtaa accgatttat gctgataaaa 18840

catatcagcc agaacctcag ctgggagatg aaacttggac tgaccttgat ggaaaaaccg 18900

aaaagtatgg aggcagggct ctcaaacccg atactaagat gaaaccatgc tacgggtcct 18960

ttgccaaacc tactaatgtg aaaggcggtc aggcaaaaca aaaaacaacg gagcagccaa 19020

atcagaaagt cgaatatgat atcgacatgg agtttttga tgcggcatcg cagaaaacaa 19080

acttaagtcc taaaattgtc atgtatgcag aaaatgtaaa tttggaaact ccagacactc 19140

atgtagtgta caaacctgga acagaagaca caagttccga agctaatttg ggacaacaat 19200

ctatgcccaa cagacccaac tacattggct tcagagataa ctttattgga cttatgtact 19260

ataacagtac tggtaacatg ggggtgctgg ctggtcaagc gtctcagtta aatgcagtgg 19320

ttgacttgca ggacagaaac acagaacttt cttaccaact cttgcttgac tctctgggcg 19380

acagaaccag atactttagc atgtggaatc aggctgtgga cagttatgat cctgatgtac 19440

gtgttattga aaatcatggt gtggaagatg aacttcccaa ctactgtttt ccactggacg 19500

gcataggtgt tccaacaacc agttacaaat caatagttcc aaatggagac aatgcgccta 19560

attggaagga acctgaagta aatggaacaa gtgagatcgg acagggtaat ttgtttgcca 19620

tggaaattaa ccttcaagcc aatctatggc gaagtttcct ttattccaat gtggctctat 19680

atctcccaga ctcgtacaaa tacaccccgt ccaatgtcac tcttccagaa aacaaaaaca 19740

cctacgacta catgaacggg cgggtggtgc cgccatctct agtagacacc tatgtgaaca 19800

ttggtgccag gtggtctctg gatgccatgg acaatgtcaa cccattcaac caccaccgta 19860

acgctggctt gcgttaccga tccatgcttc tgggtaacgg acgttatgtg cctttccaca 19920

tacaagtgcc tcaaaaattc ttcgctgtta aaaacctgct gcttctccca ggctcctaca 19980

cttatgagtg gaactttagg aaggatgtga acatggttct acagagttcc ctcggtaacg 20040

acctgcgggt agatggcgcc agcatcagtt tcacgagcat caacctctat gctacttttt 20100

tccccatggc tcacaacacc gcttccaccc ttgaagccat gctgcggaat gacaccaatg 20160

atcagtcatt caacgactac ctatctgcag ctaacatgct ctaccccatt cctgccaatg 20220

caaccaatat tcccatttcc attccttctc gcaactgggc ggctttcaga ggctggtcat 20280

ttaccagact gaaaaccaaa gaaactccct ctttggggtc tggatttgac ccctactttg 20340

tctattctgg ttctattccc tacctggatg gtaccttcta cctgaaccac acttttaaga 20400

aggtttccat catgtttgac tcttcagtga gctggcctgg aaatgacagg ttactatctc 20460

ctaacgaatt tgaaataaag cgcactgtgg atggcgaagg ctacaacgta gcccaatgca 20520

acatgaccaa agactggttc ttggtacaga tgctcgccaa ctacaacatc ggctatcagg 20580

gcttctacat tccagaagga tacaaagatc gcatgtattc atttttcaga aacttccagc 20640

ccatgagcag gcaggtggtt gatgaggtca attacaaaga cttcaaggcc gtcgccatac 20700

cctaccaaca caacaactct ggctttgtgg gttacatggc tccgaccatg cgccaaggtc 20760

aaccctatcc cgctaactat ccctatccac tcattggaac aactgccgta aatagtgtta 20820

cgcagaaaaa gttcttgtgt gacagaacca tgtggcgcat accgttctcg agcaacttca 20880

tgtctatggg ggcccttaca gacttgggac agaatatgct ctatgccaac tcagctcatg 20940

ctctggacat gacctttgag gtggatccca tggatgagcc caccctgctt tatcttctct 21000

tcgaagtttt cgacgtggtc agagtgcatc agccacaccg cggcatcatc gaggcagtct 21060

acctgcgtac accgttctcg gccggtaacg ctaccacgta agaagcttct tgcttcttgc 21120

aaatagcagc tgcaaccatg gcctgcggat cccaaaacgg ctccagcgag caagagctca 21180

gagccattgt ccaagacctg ggttgcggac cctatttttt gggaacctac gataagcgct 21240

tcccggggtt catggccccc gataagctcg cctgtgccat tgtaaatacg gccggacgtg 21300

agacgggggg agagcactgg ttggctttcg gttggaaccc acgttctaac acctgctacc 21360

tttttgatcc ttttggattc tcggatgatc gtctcaaaca gatttaccag tttgaatatg 21420

agggtctcct gcgccgcagc gctcttgcta ccaaggaccg ctgtattacg ctggaaaaat 21480

ctacccagac cgtgcagggt ccccgttctg ccgcctgcgg acttttctgc tgcatgttcc 21540

ttcacgcctt tgtgcactgg cctgaccgtc ccatggacgg aaaccccacc atgaaattgc 21600

taactggagt gccaaacaac atgcttcatt ctcctaaagt ccagcccacc ctgtgtgaca 21660

atcaaaaagc actctaccat tttcttaata cccattcgcc ttattttcgc tcccatcgta 21720

cacacatcga aagggccact gcgttcgacc gtatggatgt tcaataatga ctcatgtaaa 21780

caacgtgttc aataaacatc actttatttt tttacatgta tcaaggctct gcattactta 21840

tttatttaca agtcgaatgg gttctgacga gaatcagaat gacccgcagg cagtgatacg 21900

ttgcggaact gatacttggg ttgccacttg aattcgggaa tcaccaactt gggaaccggt 21960

atatcgggca ggatgtcact ccacagcttt ctggtcagct gcaaagctcc aagcaggtca 22020

ggagccgaaa tcttgaaatc acaattagga ccagtgcttt gagcgcgaga gttgcggtac 22080

accggattgc agcactgaaa caccatcagc gacggatgtc tcacgcttgc cagcacggtg 22140

ggatctgcaa tcatgcccac atccagatct tcagcattgg caatgctgaa cggggtcatc 22200

ttgcaggtct gcctacccat ggcgggcacc caattaggct tgtggttgca atcgcagtgc 22260

agggggatca gtatcatctt ggcctgatcc tgtctgattc ctggatacac ggctctcatg 22320

aaagcatcat attgcttgaa agcctgctgg gctttactac cctcggtata aaacatcccg 22380

caggacctgc tcgaaaactg gttagctgca cagccggcat cattcacaca gcagcgggcg 22440

tcattgttag ctatttgcac cacacttctg ccccagcggt tttgggtgat tttggttcgc 22500

tcgggattct cctttaaggc tcgttgtccg ttctcgctgg ccacatccat ctcgataatc 22560

tgctccttct gaatcataat attgccatgc aggcacttca gcttgccctc ataatcattg 22620

cagccatgag gccacaacgc acagcctgta cattcccaat tatggtgggc gatctgagaa 22680

aaagaatgta tcattccctg cagaaatctt cccatcatcg tgctcagtgt cttgtgacta 22740

gtgaaagtta actggatgcc tcggtgctcc tcgtttacgt actggtgaca gatgcgcttg 22800

tattgttcgt gttgctcagg cattagttta aaagaggttc taagttcgtt atccagcctg 22860

tacttctcca tcagcagaca catcacttcc atgcctttct cccaagcaga caccaggggc 22920

aagctaatcg gattcttaac agtgcaggca gcagctcctt tagccagagg gtcatcttta 22980

gcgatcttct caatgcttct tttgccatcc ttctcaacga tgcgcacggg cgggtagctg 23040

aaacccactg ctacaagttg cgcctcttct ctttcttctt cgctgtcttg actgatgtct 23100

tgcatgggga tatgtttggt cttccttggc ttctttttgg ggggtatcgg aggaggagga 23160

ctgtcgctcc gttccggaga cagggaggat tgtgacgttt cgctcaccat taccaactga 23220

ctgtcggtag aagaacctga ccccacacgg cgacaggtgt ttctcttcgg gggcagaggt 23280

ggaggcgatt gcgaagggct gcggtccgac ctggaaggcg gatgactggc agaacccctt 23340

ccgcgttcgg gggtgtgctc cctgtggcgg tcgcttaact gatttccttc gcggctggcc 23400

attgtgttct cctaggcaga gaaacaacag acatggaaac tcagccattg ctgtcaacat 23460

cgccacgagt gccatcacat ctcgtcctca gcgacgagga aaaggagcag agcttaagca 23520

ttccaccgcc cagtcctgcc accacctcta ccctagaaga taaggaggtc gacgcatctc 23580

atgacatgca gaataaaaaa gcgaaagagt ctgagacaga catcgagcaa gacccgggct 23640

atgtgacacc ggtggaacac gaggaagagt tgaaacgctt tctagagaga gaggatgaaa 23700

actgcccaaa acaacgagca gataactatc accaagatgc tggaaatagg gatcagaaca 23760

ccgactacct catagggctt gacggggaag acgcgctcct taaacatcta gcaagacagt 23820

cgctcatagt caaggatgca ttattggaca gaactgaagt gcccatcagt gtggaagagc 23880

tcagccgcgc ctacgagctt aacctctttt cacctcgtac tccccccaaa cgtcagccaa 23940

acggcacctg cgagccaaat cctcgcttaa acttttatcc agcttttgct gtgccagaag 24000

tactggctac ctatcacatc ttttttaaaa atcaaaaaat tccagtctcc tgccgcgcta 24060

atcgcacccg cgccgatgcc ctactcaatc tgggacctgg ttcacgctta cctgatatag 24120

cttccttgga agaggttcca aagatcttcg agggtctggg caataatgag actcgggccg 24180

caaatgctct gcaaaaggga gaaaatggca tggatgagca tcacagcgtt ctggtggaat 24240

tggaaggcga taatgccaga ctcgcagtac tcaagcgaag catcgaggtc acacacttcg 24300

catatcccgc tgtcaacctg ccccctaaag tcatgacggc ggtcatggac cagttactca 24360

ttaagcgcgc aagtcccctt tcagaagaca tgcatgaccc agatgcctgt gatgagggta 24420

aaccagtggt cagtgatgag cagctaaccc gatggctggg caccgactct cccagggatt 24480

tggaagagcg tcgcaagctt atgatggccg tggtgctggt taccgtagaa ctagagtgtc 24540

tccgacgttt ctttaccgat tcagaaacct tgcgcaaact cgaagagaat ctgcactaca 24600

cttttagaca cggctttgtg cggcaggcat gcaagatatc taacgtggaa ctcaccaacc 24660

tggtttccta catgggtatt ctgcatgaga atcgcctagg acaaagcgtg ctgcacagca 24720

ccctgaaggg ggaagcccgc cgtgattaca tccgcgattg tgtctatctg tacctgtgcc 24780

acacgtggca aaccggcatg ggtgtatggc agcaatgttt agaagaacag aacttgaaag 24840

agcttgacaa gctcttacag aaatctctta aggttctgtg gacagggttc gacgagcgca 24900

ccgtcgcttc cgacctggca gacctcatct tcccagagcg tctcagggtt actttgcgaa 24960

acggattgcc tgactttatg agccagagca tgcttaacaa ttttcgctct ttcatcctgg 25020

aacgctccgg tatcctgccc gccacctgct gcgcactgcc ctccgacttt gtgcctctca 25080

cctaccgcga gtgcccccg ccgctatgga gtcactgcta cctgttccgt ctggccaact 25140

atctctccta ccactcggat gtgatcgagg atgtgagcgg agacggcttg ctggagtgtc 25200

actgccgctg caatctgtgc acgccccacc ggtccctagc ttgcaacccc cagttgatga 25260

gcgaaaccca gataataggc acctttgaat tgcaaggccc cagcagccaa ggcgatgggt 25320

cttctcctgg gcaaagttta aaactgaccc cgggactgtg gacctccgcc tacttgcgca 25380

agtttgctcc ggaagattac cacccctatg aaatcaagtt ctatgaggac caatcacagc 25440

ctccaaaggc cgaactttcg gcctgcgtca tcacccaggg ggcaattctg gcccaattgc 25500

aagccatcca aaaatcccgc caagaatttc tactgaaaaa gggtaagggg gtctaccttg 25560

acccccagac cggcgaggaa ctcaacacaa ggttccctca ggatgtccca acgacgagaa 25620

aacaagaagt tgaaggtgca gccgccgccc ccagaagata tggaggaaga ttgggacagt 25680

caggcagagg aggcggagga ggacagtctg gaggacagtc tggaggaaga cagtttggag 25740

gaggaaaacg aggaggcaga ggaggtggaa gaagtaaccg ccgacaaaca gttatcctcg 25800

gctgcggaga caagcaacag cgctaccatc tccgctccga gtcgaggaac ccggcggcgt 25860

cccagcagta gatgggacga gaccggacgc ttcccgaacc caaccagcgc ttccaagacc 25920

ggtaagaagg atcggcaggg atacaagtcc tggcgggggc ataagaatgc catcatctcc 25980

tgcttgcatg agtgcggggg caacatatcc ttcacgcggc gctacttgct attccaccat 26040

ggggtgaact ttccgcgcaa tgttttgcat tactaccgtc acctccacag cccctactat 26100

agccagcaaa tcccggcagt ctcgacagat aaagacagcg gcggcgacct ccaacagaaa 26160

accagcagcg gcagttagaa aatacacaac aagtgcagca acaggaggat taaagattac 26220

agccaacgag ccagcgcaaa cccgagagtt aagaaatcgg atctttccaa ccctgtatgc 26280

catcttccag cagagtcggg gtcaagagca ggaactgaaa ataaaaaacc gatctctgcg 26340

ttcgctcacc agaagttgtt tgtatcacaa gagcgaagat caacttcagc gcactctcga 26400

ggacgccgag gctctcttca acaagtactg cgcgctgact cttaaagagt aggcagcgac 26460

cgcgcttatt caaaaaaggc gggaattaca tcatcctcga catgagtaaa gaaattccca 26520

cgccttacat gtggagttat caaccccaaa tgggattggc ggcaggcgcc tcccaggact 26580

actccacccg catgaattgg ctcagcgccg ggccttctat gatttctcga gttaatgata 26640

tacgcgccta ccgaaaccaa atacttttgg aacagtcagc tcttaccacc acgccccgcc 26700

aacaccttaa tcccagaaat tggcccgccg ccctagtgta ccaggaaagt cccgctccca 26760

ccactgtatt acttcctcga gacgcccagg ccgaagtcca aatgactaat gcaggtgcgc 26820

agttagctgg cggctccacc ctatgtcgtc acaggcctcg gcataatata aaacgcctga 26880

tgatcagagg ccgaggtatc cagctcaacg acgagtcggt gagctctccg cttggtctac 26940

gaccagacgg aatctttcag attgccggct gcgggagatc ttccttcacc cctcgtcagg 27000

ctgttctgac tttggaaagt tcgtcttcgc aaccccgctc gggcggaatc gggaccgttc 27060

aatttgtgga ggagtttact ccctctgtct acttcaaccc cttctccgga tctcctgggc 27120

attacccgga cgagttcata ccgaacttcg acgcgattag cgagtcagtg gacggctacg 27180

attgatgtct ggtgacgcgg ctgagctatc tcggctgcga catctagacc actgccgccg 27240

ctttcgctgc tttgcccggg aactcattga gttcatctac ttcgaactcc ccaaggatca 27300

ccctcaaggt ccggcccacg gagtgcggat ttctatcgaa ggcaaaatag actctcgcct 27360

gcaacgaatt ttctcccagc ggcccgtgct gatcgagcga gaccagggaa acaccacggt 27420

ttccatctac tgcatttgta atcaccccgg attgcatgaa agcctttgct gtcttatgtg 27480

tactgagttt aataaaaact gaattaagac tctcctacgg actgccgctt cttcaacccg 27540

gattttacaa ccagaagaac gaaacttttc ctgtcgtcca ggactctgtt aacttcacct 27600

ttcctactca caaactagaa gctcaacgac tacaccgctt ttccagaagc attttcccta 27660

ctaatactac tttcaaaacc ggaggtgagc tccaaggtct tcctacagaa aacccttggg 27720

tggaagcggg ccttgtagtg ctaggaattc ttgcgggtgg gcttgtgatt attctttgct 27780

acctatacac accttgcttc actttcttag tggtgttgtg gtattggttt aaaaaatggg 27840

gcccatacta gtcttgcttg ttttactttc gcttttggaa ccgggttctg ccaattacga 27900

tccatgtcta gacttcgacc cagaaaactg cacacttact tttgcacccg acacaagccg 27960

catctgtgga gttcatcgcc tctcttacga acttggcccc caacgacaaa aatttacctg 28020

catggtggga atcaacccca tagttatcac ccagcaaagt ggagatacta agggttgcat 28080

tcactgctcc tgcgattcca tcgagtgcac ctacaccctg ctgaagaccc tatgcggcct 28140

aagagacctg ctaccaatga attaaaaaat gattaataaa aaatcactta cttgaaatca 28200

gcaataaggt ctctgttgaa attttctccc agcagcacct cacttccctc ttcccaactc 28260

tggtattcta aaccccgttc agcggcatac tttctccata ctttaaaggg gatgtcaaat 28320

tttagctcct ctcctgtacc cacaatcttc atgtctttct tcccagatga ccaagagagt 28380

ccggctcagt gactccttca accctgtcta cccctatgaa gatgaaagca cctcccaaca 28440

ccccttttata aacccagggt ttatttcccc aaatggcttc acacaaagcc caaacggagt 28500

tcttacttta aaatgtttaa ccccactaac aaccacaggc ggatctctac agctaaaagt 28560

gggaggggga cttacagtgg atgacaccaa cggttttttg aaagaaaaca taagtgccac 28620

cacaccactc gttaagactg gtcactctat aggtttacca ctaggagccg gattgggaac 28680

gaatgaaaat aaactttgta tcaaattagg acaaggactt acattcaatt caaacaacat 28740

ttgcattgat gacaatatta acaccttatg gacaggagtc aaccccaccg aagccaactg 28800

tcaaatcatg aactccagtg aatctaatga ttgcaaatta attctaacac tagttaaaac 28860

tggagcacta gtcactgcat ttgtttatgt tataggagta tctaacaatt ttaatatgct 28920

aactacacac agaaatataa attttactgc agagctgttt ttcgattcta ctggtaattt 28980

actaactaga ctctcatccc tcaaaactcc acttaatcat aaatcaggac aaaacatggc 29040

tactggtgcc attactaatg ctaaaggttt catgcccagc acgactgcct atcctttcaa 29100

tgataattct agagaaaaag aaaactacat ttacggaact tgttactaca cagctagtga 29160

tcgcactgct tttcccattg acatatctgt catgcttaac cgaagagcaa taaatgacga 29220

gacatcatat tgtattcgta taacttggtc ctggaacaca ggagatgccc cagaggtgca 29280

aacctctgct acaaccctag tcacctcccc atttaccttt tactacatca gagaagacga 29340

ctgacaaata aagtttgcga tcgccaggcc caccatgggc tggagctgca tcatcttgtt 29400

cctggtcgca actgctaccg gagtccattc ggacatcgtc atgacccaaa gccctgactc 29460

gctcgctgtg tcactgggag agcgggcgac tatcaactgc aaatcatccc agagcctgct 29520

gtattcacgc aatcagaaaa actacctggc ctggtatcag cagaagccgg gccagcctcc 29580

caagctgctg atcttctggg cctccacccg cgaaagcggc gtgccggacc gcttcagcgg 29640

aagcggattc ggaactgact ttactctgac cattagctcc ttgcaggcgg aggacgtggc 29700

cgtctactac tgccagcagt atttctccta tccgctcacc tttgggcaag gcaccaaggt 29760

ggagattaag ggagggggcg gcagcggggg aggcggcagc ggcggcgggg gatcgcaggt 29820

ccagctcgtc caatccggag ccgaagtcaa gaagccggga gcgtcggtca aggtcagctg 29880

caaaacttcg cgctacacct tcactgagta cacgatccac tgggtccgcc aggcgcccgg 29940

ccagcggctg gagtggatcg gcgggatcaa cccaaacaac ggaatcccaa attacaatca 30000

gaaatttaaa gggcgggtga ctatcaccgt ggatacctcg gcctccacgg cgtacatgga 30060

gctctcatca ctcagatcgg aggacaccgc ggtctattac tgcgcccgcc gccggatcgc 30120

ttatggatac gatgaaggac atgcgatgga ttactggggc cagggcaccc tcgtcacggt 30180

gtcgtcagga ggcggcggtt cacaggtgca gctgcagcag tctggggctg aactggcaag 30240

acctggggcc tcagtgaaga tgtcctgcaa ggcttctggc tacaccttta ctaggtacac 30300

gatgcactgg gtaaaacaga ggcctggaca gggtctggaa tggattggat acattaatcc 30360

tagccgtggt tatactaatt acaatcagaa gttcaaggac aaggccacat tgactacaga 30420

caaatcctcc agcacagcct acatgcaact gagcagcctg acatctgagg actctgcagt 30480

ctattactgt gcaagatatt atgatgatca ttactgcctt gactactggg gccaaggcac 30540

cactctcaca gtctcctcag gtggcggtgg ctcgggcggt ggtggatctg gtggcggcgg 30600

atctgatatc gtgctcactc agtctccagc aatcatgtct gcatctccag gggagaaggt 30660

caccatgacc tgcagtgcca gctcaagtgt aagttacatg aactggtacc agcagaagtc 30720

aggcacctcc cccaaaagat ggatttatga cacatccaaa ctggcttctg gagtccctgc 30780

tcacttcagg ggcagtgggt ctgggacctc ttactctctc acaatcagcg gcatggaggc 30840

tgaagatgct gccacttatt actgccagca gtggagtagt aacccattca cgttcggctc 30900

ggggacaaag ttggaaataa accggcatca ccatcaccat caccaccatc accattaggc 30960

tagcttgact gactgagata cagcgtacct tcagctcaca gacatgataa gatacattga 31020

tgagtttgga caaaccacaa ctagaatgca gtgaaaaaaa tgctttattt gtgaaatttg 31080

tgatgctatt gctttatttg taaccattat aagctgcaat aaacaagtta acaacaacaa 31140

ttgcattcat tttatgtttc aggttcaggg ggaggtgtgg gaggtttttt aaagcaagta 31200

aaacctctac aaatgtggta gtcgtcagct atcctgcagg aacttgttta tttgaaaatc 31260

aattcacaaa atccgagtag ttattttgcc tccccccttcc catttaacag aatacaccaa 31320

tctctcccca cgcacagctt taaacatttg gataccatta gatatagaca tggttttaga 31380

ttccacattc caaacagttt cagagcgagc caatctgggg tcagtgatag ataaaaatcc 31440

atcgggatag tcttttaaag cgctttcaca gtccaactgc tgcggatgcg actccggagt 31500

ctggatcacg gtcatctgga agaagaacga tgggaatcat aatccgaaaa cggtatcgga 31560

cgattgtgtc tcatcaaacc cacaagcagc cgctgtctgc gtcgctccgt gcgactgctg 31620

tttatgggat cagggtccac agtgtcctga agcatgattt taatagccct taacatcaac 31680

tttctggtgc gatgcgcgca gcaacgcatt ctgatttcac tcaaatcttt gcagtaggta 31740

caacacatta ttacaatatt gtttaataaa ccataattaa aagcgctcca gccaaaactc 31800

atatctgata taatcgcccc tgcatgacca tcataccaaa gtttaatata aattaaatga 31860

cgttccctca aaaacacact acccacatac atgatctctt ttggcatgtg catattaaca 31920

atctgtctgt accatggaca acgttggtta atcatgcaac ccaatataac cttccggaac 31980

cacactgcca acaccgctcc cccagccatg cattgaagtg aaccctgctg attacaatga 32040

caatgaagaa cccaattctc tcgaccgtga atcacttgag aatgaaaaat atctatagtg 32100

gcacaacata gacataaatg catgcatctt ctcataattt ttaactcctc aggatttaga 32160

aacatatccc agggaatagg aagctcttgc agaacagtaa agctggcaga acaaggaaga 32220

ccacgaacac aacttacact atgcatagtc atagtatcac aatctggcaa cagcgggtgg 32280

tcttcagtca tagaagctcg ggtttcattt tcctcacaac gtggtaactg ggctctggtg 32340

taagggtgat gtctggcgca tgatgtcgag cgtgcgcgca accttgtcat aatggagttg 32400

cttcctgaca ttctcgtatt ttgtatagca aaacgcggcc ctggcagaac acactcttct 32460

tcgccttcta tcctgccgct tagcgtgttc cgtgtgatag ttcaagtaca accacactct 32520

taagttggtc aaaagaatgc tggcttcagt tgtaatcaaa actccatcgc atctaatcgt 32580

tctgaggaaa tcatccaagc aatgcaactg gattgtgttt caagcaggag aggagaggga 32640

agagacggaa gaaccatgtt aatttttatt ccaaacgatc tcgcagtact tcaaattgta 32700

gatcgcgcag atggcatctc tcgcccccac tgtgttggtg aaaaagcaca gctagatcaa 32760

aagaaatgcg attttcaagg tgctcaacgg tggcttccag caaagcctcc acgcgcacat 32820

ccaagaacaa aagaatacca aaagaaggag cattttctaa ctcctcaatc atcatattac 32880

attcctgcac cattcccaga taattttcag ctttccagcc ttgaattatt cgtgtcagtt 32940

cttgtggtaa atccaatcca cacattacaa acaggtcccg gagggcgccc tccaccacca 33000

ttcttaaaca caccctcata atgacaaaat atcttgctcc tgtgtcacct gtagcgaatt 33060

gagaatggca acatcaattg acatgccctt ggctctaagt tcttctttaa gttctagttg 33120

taaaaactct ctcatattat caccaaactg cttagccaga agccccccgg gaacaagagc 33180

aggggacgct acagtgcagt acaagcgcag acctccccaa ttggctccag caaaaacaag 33240

attggaataa gcatattggg aaccgccagt aatatcatcg aagttgctgg aaatataatc 33300

aggcagagtt tcttgtaaaa attgaataaa agaaaaattt gccaaaaaaa cattcaaaac 33360

ctctgggatg caaatgcaat aggttaccgc gctgcgctcc aacattgtta gttttgaatt 33420

agtctgcaaa aataaaaaaa aaaacaagcg tcatatcata gtagcctgac gaacagatgg 33480

ataaatcagt ctttccatca caagacaagc cacagggtct ccagctcgac cctcgtaaaa 33540

cctgtcatca tgattaaaca acagcaccga aagttcctcg cggtgaccag catgaataat 33600

tcttgatgaa gcatacaatc cagacatgtt agcatcagtt aacgagaaaa aacagccaac 33660

atagcctttg ggtataatta tgcttaatcg taagtatagc aaagccaccc ctcgcggata 33720

caaagtaaaa ggcacaggag aataaaaaat ataattattt ctctgctgct gttcaggcaa 33780

cgtcgccccc ggtccctcta aatacacata caaagcctca tcagccatgg cttaccagac 33840

aaagtacagc gggcacacaa agcacaagct ctaaagtgac tctccaacct ctccacaata 33900

tatatataca caagccctaa actgacgtaa tgggagtaaa gtgtaaaaaa tcccgccaaa 33960

cccaacacac accccgaaac tgcgtcacca gggaaaagta cagtttcact tccgcaatcc 34020

caacaggcgt aacttcctct ttctcacggt acgtgatatc ccactaactt gcaacgtcat 34080

tttcccacgg tcgcaccgcc ccttttagcc gttaacccca cagccaatca ccacacgatc 34140

cacacttttt aaaatcacct catttacata ttggcaccat tccatctata aggtatatta 34200

tatagataga 34210

<210> 79
<211> 34220
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-613 Genome

<400> 79
tctatctata taatatacct tatagatgga atggtgccaa tatgtaaatg aggtgatttt 60

aaaaagtgtg gatcgtgtgg tgattggctg tggggttaac ggctaaaagg ggcggtgcga 120

ccgtgggaaa atgacgtttt gtgggggtgg agttttttg caagttgtcg cgggaaatgt 180

gacgcataaa aaggcttttt tctcacggaa ctacttagtt ttcccacggt atttaacagg 240

aaatgaggta gttttgaccg gatgcaagtg aaaattgttg attttcgcgc gaaaactgaa 300

tgaggaagtg tttttctgaa taatgtggta tttatggcag ggtggagtat ttgttcaggg 360

ccaggtagac tttgacccat tacgtggagg tttcgattac cgtgtttttt acctgaattt 420

ccgcgtaccg tgtcaaagtc ttctgttttt acgtaggtgt cagctgatcg ctagggtatt 480

tatacctcag ggtttgtgtc aagaggccac tcttgagtgc cagcgagaag agttttctcc 540

tctgcgccgg cagtttaata ataaaaaaat gagagatttg cgatttctgc ctcaggaaat 600

aatctctgct gagactggaa atgaaatatt ggagcttgtg gtgcacgccc tgatgggaga 660

cgatccggag ccacctgtgc agctttttga gcctcctacg cttcaggaac tgtatgattt 720

agaggtagag ggatcggagg attctaatga ggaagctgta aatggctttt ttaccgattc 780

tatgctttta gctgctaatg aagggttaga attagatccg cctttggaca cttttgatac 840

tccaggggta attgtggaaa gcggtacagg tgtaagaaaa ttacctgatt tgagttccgt 900

ggactgtgat ttgcactgct atgaagacgg gtttcctccg agtgatgagg aggaccatga 960

aaaggagcag tccatgcaga ctgcagcggg tgagggagtg aaggctgcca atgttggttt 1020

tcagttggat tgcccggagc ttcctggaca tggctgtaag tcttgtgaat ttcacaggaa 1080

aaatactgga gtaaaggaac tgttatgttc gctttgttat atgagaacgc actgccactt 1140

tatttacagt aagtgtgttt aagttaaaat ttaaaggaat atgctgtttt tcacatgtat 1200

attgagtgtg agttttgtgc ttcttattat aggtcctgtg tctgatgctg atgaatcacc 1260

atctcctgat tctactacct cacctcctga gattcaagca cctgttcctg tggacgtgcg 1320

caagcccatt cctgtgaagc ttaagcctgg gaaacgtcca gcagtggaaa aacttgagga 1380

cttgttacag ggtggggacg gacctttgga cttgagtaca cggaaacgtc caagacaata 1440

agtgttccat atccgtgttt acttaaggtg acgtcaatat ttgtgtgaca gtgcaatgta 1500

ataaaaatat gttaactgtt cactggtttt tattgctttt tgggcgggga ctcaggtata 1560

taagtagaag cagacctgtg tggttagctc ataggagctg gctttcatcc atggaggttt 1620

gggccatttt ggaagacctt aggaagacta ggcaactgtt agagaacgct tcggacggag 1680

tctccggttt ttggagattc tggttcgcta gtgaattagc tagggtagtt tttaggataa 1740

aacaggacta taaacaagaa tttgaaaagt tgttggtaga ttgcccagga ctttttgaag 1800

ctcttaattt gggccatcag gttcacttta aagaaaaagt tttatcagtt ttagactttt 1860

caaccccagg tagaactgct gctgctgtgg cttttcttac ttttatatta gataaatgga 1920

tcccgcagac tcatttcagc aggggatacg ttttggattt catagccaca gcattgtgga 1980

gaacatggaa ggttcgcaag atgaggacaa tcttaggtta ctggccagtg cagcctttgg 2040

gtgtagcggg aatcctgagg catccaccgg tcatgccagc ggttctggag gaggaacagc 2100

aagaggacaa cccgagagcc ggcctggacc ctccagtgga ggaggcggag tagctgactt 2160

gtctcctgaa ctgcaacggg tgcttactgg atctacgtcc actggacggg ataggggcgt 2220

taagagggag agggcatcta gtggtactga tgctagatct gagttggctt taagtttaat 2280

gagtcgcaga cgtcctgaaa ccatttggtg gcatgaggtt cagaaagagg gaagggatga 2340

agtttctgta ttgcaggaga aatattcact ggaacaggtg aaaacatgtt ggttggagcc 2400

tgaggatgat tgggaggtgg ccattaaaaa ttatgccaag atagctttga ggcctgataa 2460

acagtataag attactagac ggattaatat ccggaatgct tgttacatat ctggaaatgg 2520

ggctgaggtg gtaatagata ctcaagacaa ggcagttatt agatgctgca tgatggatat 2580

gtggcctggg gtagtcggta tggaagcagt aacttttgta aatgttaagt ttaggggaga 2640

tggttataat ggaatagtgt ttatggccaa taccaaactt atattgcatg gttgtagctt 2700

ttttggtttc aacaatacct gtgtagatgc ctggggacag gttagtgtac ggggatgtag 2760

tttctatgcg tgttggattg ccacagctgg cagaaccaag agtcaattgt ctctgaagaa 2820

atgcatattt caaagatgta acctgggcat tctgaatgaa ggcgaagcaa gggtccgcca 2880

ctgcgcttct acagatactg gatgttttat tttgattaag ggaaatgcca gcgtaaagca 2940

taacatgatt tgcggtgctt ccgatgagag gccttatcaa atgctcactt gtgctggtgg 3000

gcattgtaat atgctggcta ctgtgcatat tgtttcccat caacgcaaaa aatggcctgt 3060

ttttgatcac aatgtgatga cgaagtgtac catgcatgca ggtgggcgta gaggaatgtt 3120

tatgccttac cagtgtaaca tgaatcatgt gaaagtgttg ttggaaccag atgccttttc 3180

cagaatgagc ctaacaggaa tttttgacat gaacatgcaa atctggaaga tcctgaggta 3240

tgatgatacg agatcgaggg tacgcgcatg cgaatgcgga ggcaagcatg ccaggttcca 3300

gccggtgtgt gtagatgtga ctgaagatct cagaccggat catttggtta ttgcccgcac 3360

tggagcagag ttcggatcca gtggagaaga aactgactaa ggtgagtatt gggaaaactt 3420

tggggtggga ttttcagatg gacagattga gtaaaaattt gtttttttctg tcttgcagct 3480

gtcatgagtg gaaacgcttc ttttaagggg ggagtcttca gcccttatct gacagggcgt 3540

ctcccatcct gggcaggagt tcgtcagaat gttatgggat ctactgtgga tggaagaccc 3600

gtccaacccg ccaattcttc aacgctgacc tatgctactt taagttcttc acctttggac 3660

gcagctgcag ctgccgccgc cgcttctgtt gccgctaaca ctgtgcttgg aatgggttac 3720

tatggaagca tcatggctaa ttccacttcc tctaataacc cttctaccct gactcaggac 3780

aagttacttg tccttttggc ccagctggag gctttgaccc aacgtctggg tgaactttct 3840

cagcaggtgg tcgagttgcg agtacaaact gagtctgctg tcggcacggc aaagtctaaa 3900

taaaaaaatc ccagaatcaa tgaataaata aacaagcttg ttgttgattt aaaatcaagt 3960

gtttttattt catttttcgc gcacggtatg ccctagacca ccgatctcta tcattgagaa 4020

ctcggtggat tttttccagg atcctataga ggtgggattg aatgtttaga tacatgggca 4080

ttaggccgtc tttggggtgg agatagctcc attgaaggga ttcatgctcc ggggtagtgt 4140

tgtaaatcac ccagtcataa caaggtcgca gtgcatggtg ttgcacaata tcttttagaa 4200

gtaggctgat tgccacagat aagcccttgg tgtaggtgtt tacaaaccgg ttgagctggg 4260

atgggtgcat tcggggtgaa attatgtgca ttttggattg gatttttaag ttggcaatat 4320

tgccgccaag atcccgtctt gggttcatgt tatgaaggac caccaagacg gtgtatccgg 4380

tacatttagg aaatttatcg tgcagcttgg atggaaaagc gtggaaaaat ttggagacac 4440

ccttgtgtcc tccaagattt tccatgcact catccatgat aatagcaatg gggccgtggg 4500

cagcggcgcg ggcaaacacg ttccgtgggt ctgacacatc atagttatgt tcctgagtta 4560

aatcatcata agccatttta atgaatttgg ggcggagagt accagattgg ggtatgaatg 4620

ttccttcggg ccccggagca tagttcccct cacagatttg catttcccaa gctttcagtt 4680

ccgagggtgg aatcatgtcc acctgggggg ctatgaaaaa caccgtttct ggggcggggg 4740

tgattaattg tgatgatagc aaatttctga gcaattgaga tttgccacat ccggtggggc 4800

cataaatgat tccgattacg ggttgcaggt ggtagtttag ggaacggcaa ctgccgtctt 4860

ctcgaagcaa gggggccacc tcgttcatca tttcccttac atgcatattt tcccgcacca 4920

aatccattag gaggcgctct cctcctagtg atagaagttc ttgtagtgag gaaaagtttt 4980

tcagcggttt cagaccgtca gccatgggca ttttggagag agtttgctgc aaaagttcta 5040

gtctgttcca cagttcagtg atgtgttcta tggcatctcg atccagcaga cctcctcgtt 5100

tcgcgggttt ggacggctcc tggaataggg tatgagacga tgggcgtcca gcgctgccag 5160

ggttcggtcc ttccagggtc tcagtgttcg agtcagggtt gtttccgtca cagtgaaggg 5220

gtgtgcgcct gcttgggcgc ttgccagggt gcgcttcaga ctcatcctgc tggtcgaaaa 5280

cttctgtcgc ttggcgccct gtatgtcggc caagtagcag tttaccatga gttcgtagtt 5340

gagcgcctcg gctgcgtggc ctttggcgcg gagcttacct ttggaagttt tcttgcatac 5400

cgggcagtat aggcatttca gcgcatacaa cttgggcgca aggaaaacgg attctgggga 5460

gtatgcatct gcgccgcagg aggcgcaaac agtttcacat tccaccagcc aggttaaatc 5520

cggttcattg gggtcaaaaa caagttttcc gccatatttt ttgatgcgtt tcttaccttt 5580

ggtctccatg agttcgtgtc ctcgttgagt gacaaacagg ctgtccgtgt ccccgtagac 5640

tgattttaca ggcctcttct ccagtggagt gcctcggtct tcttcgtaca ggaactctga 5700

ccactctgat acaaaggcgc gcgtccaggc cagcacaaag gaggctatgt gggaggggta 5760

gcgatcgttg tcaaccaggg ggtccacctt ttccaaagta tgcaaacaca tgtcaccctc 5820

ttcaacatcc aggaatgtga ttggcttgta ggtgtatttc acgtgacctg gggtccccgc 5880

tgggggggta taaaaggggg cggttctttg ctcttcctca ctgtcttccg gatcgctgtc 5940

caggaacgtc agctgttggg gtaggtattc cctctcgaag gcgggcatga cctctgcact 6000

caggttgtca gtttctaaga acgaggagga tttgatattg acagtgccgg ttgagatgcc 6060

tttcatgagg ttttcgtcca tctggtcaga aaacacaatt tttttattgt caagtttggt 6120

ggcaaatgat ccatacaggg cgttggataa aagtttggca atggatcgca tggtttggtt 6180

cttttccttg tccgcgcgct ctttggcggc gatgttgagt tggacatact cgcgtgccag 6240

gcacttccat tcggggaaga tagttgttaa ttcatctggc acgattctca cttgccaccc 6300

tcgattatgc aaggtaatta aatccacact ggtggccacc tcgcctcgaa ggggttcatt 6360

ggtccaacag agcctacctc ctttcctaga acagaaaggg ggaagtgggt ctagcataag 6420

ttcatcggga gggtctgcat ccatggtaaa gattcccgga agtaaatcct tatcaaaata 6480

gctgatggga gtggggtcat ctaaggccat ttgccattct cgagctgcca gtgcgcgctc 6540

atatgggtta aggggactgc cccatggcat gggatgggtg agtgcagagg catacatgcc 6600

acagatgtca tagacgtaga tgggatcctc aaagatgcct atgtaggttg gatagcatcg 6660

ccccccctctg atacttgctc gcacatagtc atatagttca tgtgatggcg ctagcagccc 6720

cggacccaag ttggtgcgat tgggtttttc tgttctgtag acgatctggc gaaagatggc 6780

gtgagaattg gaagagatgg tgggtctttg aaaaatgttg aaatgggcat gaggtagacc 6840

tacagagtct ctgacaaagt gggcataaga ttcttgaagc ttggttacca gttcggcggt 6900

gacaagtacg tctagggcgc agtagtcaag tgtttcttga atgatgtcat aacctggttg 6960

gtttttcttt tcccacagtt cgcggttgag aaggtattct tcgcgatcct tccagtactc 7020

ttctagcgga aacccgtctt tgtctgcacg gtaagatcct agcatgtaga actgattaac 7080

tgccttgtaa gggcagcagc ccttctctac gggtagagag tatgcttgag cagcttttcg 7140

tagcgaagcg tgagtaaggg caaaggtgtc tctgaccatg actttgagga attggtattt 7200

gaagtcgatg tcgtcacagg ctccctgttc ccagagttgg aagtctaccc gtttcttgta 7260

ggcggggttg ggcaaagcga aagtaacatc attgaagaga atcttgccgg ccctgggcat 7320

gaaattgcga gtgatgcgaa aaggctgtgg tacttccgct cggttattga taacctgggc 7380

agctaggacg atctcgtcga aaccgttgat gttgtgtcct acgatgtata attctatgaa 7440

acgcggcgtg cctctgacgt gaggtagctt actgagctca tcaaaggtta ggtctgtggg 7500

gtcagataag gcgtagtgtt cgagagccca ttcgtgcagg tgaggattcg ctttaaggaa 7560

ggaggaccag aggtccactg ccagtgctgt ttgtaactgg tcccggtact gacgaaaatg 7620

ccgtccgact gccatttttt ctggggtgac gcaatagaag gtttgggggt cctgccgcca 7680

gcgatcccac ttgagtttta tggcgaggtc ataggcgatg ttgacgagcc gctggtctcc 7740

agagagtttc atgaccagca tgaaggggat tagctgcttg ccaaaggacc ccatccaggt 7800

gtaggtttcc acatcgtagg tgagaaagag cctttctgtg cgaggatgag agccaatcgg 7860

gaagaactgg atctcctgcc accagttgga ggaatggctg ttgatgtgat ggaagtagaa 7920

ctccctgcga cgcgccgagc attcatgctt gtgcttgtac agacggccgc agtagtcgca 7980

gcgttgcacg ggttgtatct cgtgaatgag ttgtacctgg cttcccttga cgagaaattt 8040

cagtgggaag ccgaggcctg gcgattgtat ctcgtgcttt actatgttgt ctgcatcggc 8100

ctgttcatct tctgtctcga tggtggtcat gctgacgagc cctcgcggga ggcaagtcca 8160

gacctcggcg cggcaggggc ggagctcgag gacgagagcg cgcaggctgg agctgtccag 8220

ggtcctgaga cgctgcggac tcaggttagt aggcagtgtc aggagattaa cttgcatgat 8280

cttttggagg gcgtgcggga ggttcagata gtacttgatc tcaacgggtc cgttggtgga 8340

gatgtcgatg gcttgcaggg ttccgtgtcc cttgggcgct accaccgtgc ccttgttttt 8400

cattttggac ggcggtggct ctgttgcttc ttgcatgttt agaagcggtg tcgagggcgc 8460

gcaccgggcg gcaggggcgg ctcgggaccc ggcggcatgg ctggcagtgg tacgtcggcg 8520

ccgcgcgcgg gtaggttctg gtactgcgcc ctgagaagac tcgcatgcgc gacgacgcgg 8580

cggttgacat cctggatctg acgcctctgg gtgaaagcta ccggccccgt gagcttgaac 8640

ctgaaagaga gttcaacaga atcaatctcg gtatcgttga cggcggcttg cctaaggatt 8700

tcttgcacgt caccagagtt gtcctggtag gcgatctccg ccatgaactg ctcgatctct 8760

tcctcttgaa gatctccgcg gcccgctctc tcgacggtgg ccgcgaggtc gttggagatg 8820

cgcccaatga gttgagagaa tgcattcatg cccgcctcgt tccagacgcg gctgtagacc 8880

acggccccca cgggatctct cgcgcgcatg accacctggg cgaggttgag ctccacgtgg 8940

cgggtgaaga ccgcatagtt gcataggcgc tggaaaaggt agttgagtgt ggtggcgatg 9000

tgctcggtga cgaagaaata catgatccat cgtctcagcg gcatctcgct gacatcgccc 9060

agagcttcca agcgctccat ggcctcgtag aagtccacgg caaaattaaa aaactgggag 9120

tttcgcgcgg acacggtcaa ctcctcttcc agaagacgga taagttcggc gatggtggtg 9180

cgcacctcgc gctcgaaagc ccctgggatt tcttcctcaa tctcttcttc ttccactaac 9240

atctcttcct cttcaggtgg ggctgcagga ggagggggaa cgcggcgacg ccggcggcgc 9300

acgggcagac ggtcgatgaa tctttcaatg acctctccgc ggcggcggcg catggtttca 9360

gtgacggcgc ggccgttctc gcgcggtcgc agagtaaaaa caccgccgcg catctcctta 9420

aagtggtgac tgggaggttc tccgtttggg agggagaggg cgctgattat acattttatt 9480

aattggcccg tagggactgc acgcagagat ctgatcgtgt caagatccac gggatctgaa 9540

aacctttcga cgaaagcgtc taaccagtca cagtcacaag gtaggctgag tacggcttct 9600

tgtgggcggg ggtggttatg tgttcggtct gggtcttctg tttcttcttc atctcgggaa 9660

ggtgagacga tgctgctggt gatgaaatta aagtaggcag ttctaagacg gcggatggtg 9720

gcgaggagca ccaggtcttt gggtccggct tgctggatac gcaggcgatt ggccattccc 9780

caagcattat cctgacatct agcaagatct ttgtagtagt cttgcatgag ccgttctacg 9840

ggcacttctt cctcacccgt tctgccatgc atacgtgtga gtccaaatcc gcgcattggt 9900

tgtaccagtg ccaagtcagc tacgactctt tcggcgagga tggcttgctg tacttgggta 9960

agggtggctt gaaagtcatc aaaatccaca aagcggtggt aagctcctgt attaatggtg 10020

taagcacagt tggccatgac tgaccagtta actgtctggt gaccagggcg cacgagctcg 10080

gtgtatttaa ggcgcgaata ggcgcgggtg tcaaagatgt aatcgttgca ggtgcgcacc 10140

agatactggt accctataag aaaatgcggc ggtggttggc ggtagagagg ccatcgttct 10200

gtagctggag cgccaggggc gaggtcttcc aacataaggc ggtgatagcc gtagatgtac 10260

ctggacatcc aggtgattcc tgcggcggta gtagaagccc gaggaaactc gcgtacgcgg 10320

ttccaaatgt tgcgtagcgg catgaagtag ttcattgtag gcacggtttg accagtgagg 10380

cgcgcgcagt cattgatgct ctatagacac ggagaaaatg aaagcgttca gcgactcgac 10440

tccgtagcct ggaggaacgt gaacgggttg ggtcgcggtg taccccggtt cgagacttgt 10500

actcgagccg gccggagccg cggctaacgt ggtattggca ctcccgtctc gacccagcct 10560

acaaaaatcc aggatacgga atcgagtcgt tttgctggtt tccgaatggc agggaagtga 10620

gtcctatttt tttttttgc cgctcagatg catcccgtgc tgcgacagat gcgcccccaa 10680

caacagcccc cctcgcagca gcagcagcag caatcacaaa aggctgtccc tgcaactact 10740

gcaactgccg ccgtgagcgg tgcgggacag cccgcctatg atctggactt ggaagagggc 10800

gaaggactgg cacgtctagg tgcgccttca cccgagcggc atccgcgagt tcaactgaaa 10860

aaagattctc gcgaggcgta tgtgccccaa cagaacctat ttagagacag aagcggcgag 10920

gagccggagg agatgcgagc ttcccgcttt aacgcgggtc gtgagctgcg tcacggtttg 10980

gaccgaagac gagtgttgcg ggacgaggat ttcgaagttg atgaaatgac agggatcagt 11040

cctgccaggg cacacgtggc tgcagccaac cttgtatcgg cttacgagca gacagtaaag 11100

gaagagcgta acttccaaaa gtcttttaat aatcatgtgc gaaccctgat tgcccgcgaa 11160

gaagttaccc ttggtttgat gcatttgtgg gatttgatgg aagctatcat tcagaaccct 11220

actagcaaac ctctgaccgc ccagctgttt ctggtggtgc aacacagcag agacaatgag 11280

gctttcagag aggcgctgct gaacatcacc gaacccgagg ggagatggtt gtatgatctt 11340

atcaacattc tacagagtat catagtgcag gagcggagcc tgggcctggc cgagaaggtg 11400

gctgccatca attactcggt tttgagcttg ggaaaatatt acgctcgcaa aatctacaag 11460

actccatacg ttcccataga caaggaggtg aagatagatg ggttctacat gcgcatgacg 11520

ctcaaggtct tgaccctgag cgatgatctt ggggtgtatc gcaatgacag aatgcatcgc 11580

gcggttagcg ccagcaggag gcgcgagtta agcgacaggg aactgatgca cagtttgcaa 11640

agagctctga ctggagctgg aaccgagggt gagaattact tcgacatggg agctgacttg 11700

cagtggcagc ctagtcgcag ggctctgagc gccgcgacgg caggatgtga gcttccttac 11760

atagaagagg cggatgaagg cgaggaggaa gagggcgagt acttggaaga ctgatggcac 11820

aacccgtgtt ttttgctaga tggaacagca agcaccggat cccgcaatgc gggcggcgct 11880

gcagagccag ccgtccggca ttaactcctc ggacgattgg acccaggcca tgcaacgtat 11940

catggcgttg acgactcgca accccgaagc ctttagacag caaccccagg ccaaccgtct 12000

atcggccatc atggaagctg tagtgccttc ccgctctaat cccactcatg agaaggtcct 12060

ggccatcgtg aacgcgttgg tggagaacaa agctattcgt ccagatgagg ccggactggt 12120

atacaacgct ctcttagaac gcgtggctcg ctacaacagt agcaatgtgc aaaccaattt 12180

ggaccgtatg ataacagatg tacgcgaagc cgtgtctcag cgcgaaaggt tccagcgtga 12240

tgccaacctg ggttcgctgg tggcgttaaa tgctttcttg agtactcagc ctgctaatgt 12300

gccgcgtggt caacaggatt atactaactt tttaagtgct ttgagactga tggtatcaga 12360

agtacctcag agcgaagtgt atcagtccgg tcctgattac ttctttcaga ctagcagaca 12420

gggcttgcag acggtaaatc tgagccaagc ttttaaaaac cttaaaggtt tgtggggagt 12480

gcatgccccg gtaggagaaa gagcaaccgt gtctagcttg ttaactccga actcccgcct 12540

attattactg ttggtagctc ctttcaccga cagcggtagc atcgaccgta attcctattt 12600

gggttaccta ctaaacctgt atcgcgaagc catagggcaa agtcaggtgg acgagcagac 12660

ctatcaagaa attacccaag tcagtcgcgc tttgggacag gaagacactg gcagtttgga 12720

agccactctg aacttcttgc ttaccaatcg gtctcaaaag atccctcctc aatatgctct 12780

tactgcggag gaggagagga tccttagata tgtgcagcag agcgtgggat tgtttctgat 12840

gcaagagggg gcaactccga ctgcagcact ggacatgaca gcgcgaaata tggagcccag 12900

catgtatgcc agtaaccgac ctttcattaa caaactgctg gactacttgc acagagctgc 12960

cgctatgaac tctgattatt tcaccaatgc catcttaaac ccgcactggc tgcccccacc 13020

tggtttctac acgggcgaat atgacatgcc cgaccctaat gacggatttc tgtgggacga 13080

cgtggacagc gatgtttttt cacctctttc tgatcatcgc acgtggaaaa aggaaggcgg 13140

cgatagaatg cattcttctg catcgctgtc cggggtcatg ggtgctaccg cggctgagcc 13200

cgagtctgca agtccttttc ctagtctacc cttttctcta cacagtgtac gtagcagcga 13260

agtgggtaga ataagtcgcc cgagtttaat gggcgaagag gagtatctaa acgattcctt 13320

gctcagaccg gcaagagaaa aaaatttccc aaacaatgga atagaaagtt tggtggataa 13380

aatgagtaga tggaagactt atgctcagga tcacagagac gagcctggga tcatggggat 13440

tacaagtaga gcgagccgta gacgccagcg ccatgacaga cagaggggtc ttgtgtggga 13500

cgatgaggat tcggccgatg atagcagcgt gctggacttg ggtgggagag gaaggggcaa 13560

cccgtttgct catttgcgcc ctcgcttggg tggtatgttg taaaaaaaaa taaaaaaaaa 13620

actcaccaag gccatggcga cgagcgtacg ttcgttcttc tttattatct gtgtctagta 13680

taatgaggcg agtcgtgcta ggcggagcgg tggtgtatcc ggagggtcct cctccttcgt 13740

acgagagcgt gatgcagcag cagcaggcga cggcggtgat gcaatcccca ctggaggctc 13800

cctttgtgcc tccgcgatac ctggcaccta cggagggcag aaacagcatt cgttattcgg 13860

aactggcacc tcagtacgat accaccaggt tgtatctggt ggacaacaag tcggcggaca 13920

ttgcttctct gaactatcag aatgaccaca gcaacttctt gaccacggtg gtgcaaaaca 13980

atgactttac ccctacggaa gccagcaccc agaccattaa ctttgatgaa cgatcgcggt 14040

ggggcggtca gctaaagacc atcatgcata ctaacatgcc aaacgtgaac gagtatatgt 14100

ttagtaacaa gttcaaagcg cgtgtgatgg tgtccagaaa acctcccgac ggtgctgcag 14160

ttggggatac ttatgatcac aagcaggata ttttgaaata tgagtggttc gagtttactt 14220

tgccagaagg caacttttca gttactatga ctattgattt gatgaacaat gccatcatag 14280

ataattactt gaaagtgggt agacagaatg gagtgcttga aagtgacatt ggtgttaagt 14340

tcgacaccag gaacttcaag ctgggatggg atcccgaaac caagttgatc atgcctggag 14400

tgtatacgta tgaagccttc catcctgaca ttgtcttact gcctggctgc ggagtggatt 14460

ttaccgagag tcgtttgagc aaccttcttg gtatcagaaa aaaacagcca tttcaagagg 14520

gttttaagat tttgtatgaa gatttagaag gtggtaatat tccggccctc ttggatgtag 14580

atgcctatga gaacagtaag aaagaacaaa aagccaaaat agaagctgct acagctgctg 14640

cagaagctaa ggcaaacata gttgccagcg actctacaag ggttgctaac gctggagagg 14700

tcagaggaga caattttgcg ccaacacctg ttccgactgc agaatcatta ttggccgatg 14760

tgtctgaagg aacggacgtg aaactcacta ttcaacctgt agaaaaagat agtaagaata 14820

gaagctataa tgtgttggaa gacaaaatca acacagccta tcgcagttgg tatctttcgt 14880

acaattatgg cgatcccgaa aaaggagtgc gttcctggac attgctcacc acctcagatg 14940

tcacctgcgg agcagagcag gtctactggt cgcttccaga catgatgaag gatcctgtca 15000

ctttccgctc cactagacaa gtcagtaact accctgtggt gggtgcagag cttatgcccg 15060

tcttctcaaa gagcttctac aacgaacaag ctgtgtactc ccagcagctc cgccagtcca 15120

cctcgcttac gcacgtcttc aaccgctttc ctgagaacca gattttaatc cgtccgccgg 15180

cgcccaccat taccaccgtc agtgaaaacg ttcctgctct cacagatcac gggaccctgc 15240

cgttgcgcag cagtatccgg ggagtccaac gtgtgaccgt tactgacgcc agacgccgca 15300

cctgtcccta cgtgtacaag gcactgggca tagtcgcacc gcgcgtcctt tcaagccgca 15360

ctttctaaaa aaaaaaaaaa tgtccattct tatctcgccc agtaataaca ccggttgggg 15420

tctgcgcgct ccaagcaaga tgtacggagg cgcacgcaaa cgttctaccc aacatcctgt 15480

ccgtgttcgc ggacattttc gcgctccatg gggcgccctc aagggccgca ctcgcgttcg 15540

aaccaccgtc gatgatgtaa tcgatcaggt ggttgccgac gcccgtaatt atactcctac 15600

tgcgcctaca tctactgtgg atgcagttat tgacagtgta gtggctgacg ctcgcaacta 15660

tgctcgacgt aagagccggc gaaggcgcat tgccagacgc caccgagcta ccactgccat 15720

gcgagccgca agagctctgc tacgaagagc tagacgcgtg gggcgaagag ccatgcttag 15780

ggcggccaga cgtgcagctt cgggcgccag cgccggcagg tcccgcaggc aagcagccgc 15840

tgtcgcagcg gcgactattg ccgacatggc ccaatcgcga agaggcaatg tatactgggt 15900

gcgtgacgct gccaccggtc aacgtgtacc cgtgcgcacc cgtccccctc gcacttagaa 15960

gatactgagc agtctccgat gttgtgtccc agcggcgagg atgtccaagc gcaaatacaa 16020

ggaagaaatg ctgcaggtta tcgcacctga agtctacggc caaccgttga aggatgaaaa 16080

aaaaccccgc aaaatcaagc gggttaaaaa ggacaaaaaa gaagaggaag atggcgatga 16140

tgggctggcg gagtttgtgc gcgagtttgc cccacggcga cgcgtgcaat ggcgtgggcg 16200

caaagttcga catgtgttga gacctggaac ttcggtggtc tttacacccg gcgagcgttc 16260

aagcgctact tttaagcgtt cctatgatga ggtgtacggg gatgatgata ttcttgagca 16320

ggcggctgac cgattaggcg agtttgctta tggcaagcgt agtagaataa cttccaagga 16380

tgagacagtg tcgataccct tggatcatgg aaatcccacc cctagtctta aaccggtcac 16440

tttgcagcaa gtgttacccg taactccgcg aacaggtgtt aaacgcgaag gtgaagattt 16500

gtatcccact atgcaactga tggtacccaa acgccagaag ttggaggacg ttttggagaa 16560

agtaaaagtg gatccagata ttcaacctga ggttaaagtg agacccatta agcaggtagc 16620

gcctggtctg ggggtacaaa ctgtagacat taagattccc actgaaagta tggaagtgca 16680

aactgaaccc gcaaagccta ctgccacctc cactgaagtg caaacggatc catggatgcc 16740

catgcctatt acaactgacg ccgccggtcc cactcgaaga tcccgacgaa agtacggtcc 16800

agcaagtctg ttgatgccca attatgttgt acacccatct attattccta ctcctggtta 16860

ccgaggcact cgctactatc gcagccgaaa cagtacctcc cgccgtcgcc gcaagacacc 16920

tgcaaatcgc agtcgtcgcc gtagacgcac aagcaaaccg actcccggcg ccctggtgcg 16980

gcaagtgtac cgcaatggta gtgcggaacc tttgacactg ccgcgtgcgc gttaccatcc 17040

gagtatcatc acttaatcaa tgttgccgct gcctccttgc agatatggcc ctcacttgtc 17100

gccttcgcgt tcccatcact ggttaccgag gaagaaactc gcgccgtaga agagggatgt 17160

tgggacgcgg aatgcgacgc tacaggcgac ggcgtgctat ccgcaagcaa ttgcggggtg 17220

gtttttacc agccttaatt ccaattatcg ctgctgcaat tggcgcgata ccaggcatag 17280

cttccgtggc ggttcaggcc tcgcaacgac attgacattg gaaaaaaacg tataaataaa 17340

aaaaaaaaaa tacaatggac tctgacactc ctggtcctgt gactatgttt tcttagagat 17400

ggaagacatc aatttttcat ccttggctcc gcgacacggc acgaagccgt acatgggcac 17460

ctggagcgac atcggcacga gccaactgaa cgggggcgcc ttcaattgga gcagtatctg 17520

gagcgggctt aaaaattttg gctcaaccat aaaaacatac gggaacaaag cttggaacag 17580

cagtacagga caggcgctta gaaataaact taaagaccag aacttccaac aaaaagtagt 17640

cgatgggata gcttccggca tcaatggagt ggtagatttg gctaaccagg ctgtgcagaa 17700

aaagataaac agtcgtttgg acccgccgcc agcaacccca ggtgaaatgc aagtggagga 17760

agaaattcct ccgccagaaa aacgaggcga caagcgtccg cgtcccgatt tggaagagac 17820

gctggtgacg cgcgtagatg aaccgccttc ttatgaggaa gcaacgaagc ttggaatgcc 17880

caccactaga ccgatagccc caatggccac cggggtgatg aaaccttctc agttgcatcg 17940

acccgtcacc ttggatttgc ccctcccccc tgctgctact gctgtacccg cttctaagcc 18000

tgtcgctgcc ccgaaaccag tcgccgtagc caggtcacgt cccgggggcg ctcctcgtcc 18060

aaatgcgcac tggcaaaata ctctgaacag catcgtgggt ctaggcgtgc aaagtgtaaa 18120

acgccgtcgc tgcttttaat taaatatgga gtagcgctta acttgcctat ctgtgtatat 18180

gtgtcattac acgccgtcac agcagcagag gaaaaaagga agaggtcgtg cgtcgacgct 18240

gagttacttt caagatggcc accccatcga tgctgcccca atgggcatac atgcacatcg 18300

ccggacagga tgcttcggag tacctgagtc cgggtctggt gcagttcgcc cgcgccacag 18360

acacctactt caatctggga aataagttta gaaatcccac cgtagcgccg acccacgatg 18420

tgaccaccga ccgtagccag cggctcatgt tgcgcttcgt gcccgttgac cgggaggaca 18480

atacatactc ttacaaagtg cggtacaccc tggccgtggg cgacaacaga gtgctggata 18540

tggccagcac gttctttgac attaggggtg tgttggacag aggtcccagt ttcaaaccct 18600

attctggtac ggcttacaac tccctggctc ctaaaggcgc tccaaataca tctcagtgga 18660

ttgcagaagg tgtaaaaaat acaactggtg aggaacacgt aacagaagag gaaaccaata 18720

ctactactta cacttttggc aatgctcctg taaaagctga agctgaaatt acaaaagaag 18780

gactcccagt aggtttggaa gtttcagatg aagaaagtaa accgatttat gctgataaaa 18840

catatcagcc agaacctcag ctgggagatg aaacttggac tgaccttgat ggaaaaaccg 18900

aaaagtatgg aggcagggct ctcaaacccg atactaagat gaaaccatgc tacgggtcct 18960

ttgccaaacc tactaatgtg aaaggcggtc aggcaaaaca aaaaacaacg gagcagccaa 19020

atcagaaagt cgaatatgat atcgacatgg agtttttga tgcggcatcg cagaaaacaa 19080

acttaagtcc taaaattgtc atgtatgcag aaaatgtaaa tttggaaact ccagacactc 19140

atgtagtgta caaacctgga acagaagaca caagttccga agctaatttg ggacaacaat 19200

ctatgcccaa cagacccaac tacattggct tcagagataa ctttattgga cttatgtact 19260

ataacagtac tggtaacatg ggggtgctgg ctggtcaagc gtctcagtta aatgcagtgg 19320

ttgacttgca ggacagaaac acagaacttt cttaccaact cttgcttgac tctctgggcg 19380

acagaaccag atactttagc atgtggaatc aggctgtgga cagttatgat cctgatgtac 19440

gtgttattga aaatcatggt gtggaagatg aacttcccaa ctactgtttt ccactggacg 19500

gcataggtgt tccaacaacc agttacaaat caatagttcc aaatggagac aatgcgccta 19560

attggaagga acctgaagta aatggaacaa gtgagatcgg acagggtaat ttgtttgcca 19620

tggaaattaa ccttcaagcc aatctatggc gaagtttcct ttattccaat gtggctctat 19680

atctcccaga ctcgtacaaa tacaccccgt ccaatgtcac tcttccagaa aacaaaaaca 19740

cctacgacta catgaacggg cgggtggtgc cgccatctct agtagacacc tatgtgaaca 19800

ttggtgccag gtggtctctg gatgccatgg acaatgtcaa cccattcaac caccaccgta 19860

acgctggctt gcgttaccga tccatgcttc tgggtaacgg acgttatgtg cctttccaca 19920

tacaagtgcc tcaaaaattc ttcgctgtta aaaacctgct gcttctccca ggctcctaca 19980

cttatgagtg gaactttagg aaggatgtga acatggttct acagagttcc ctcggtaacg 20040

acctgcgggt agatggcgcc agcatcagtt tcacgagcat caacctctat gctacttttt 20100

tccccatggc tcacaacacc gcttccaccc ttgaagccat gctgcggaat gacaccaatg 20160

atcagtcatt caacgactac ctatctgcag ctaacatgct ctaccccatt cctgccaatg 20220

caaccaatat tcccatttcc attccttctc gcaactgggc ggctttcaga ggctggtcat 20280

ttaccagact gaaaaccaaa gaaactccct ctttggggtc tggatttgac ccctactttg 20340

tctattctgg ttctattccc tacctggatg gtaccttcta cctgaaccac acttttaaga 20400

aggtttccat catgtttgac tcttcagtga gctggcctgg aaatgacagg ttactatctc 20460

ctaacgaatt tgaaataaag cgcactgtgg atggcgaagg ctacaacgta gcccaatgca 20520

acatgaccaa agactggttc ttggtacaga tgctcgccaa ctacaacatc ggctatcagg 20580

gcttctacat tccagaagga tacaaagatc gcatgtattc atttttcaga aacttccagc 20640

ccatgagcag gcaggtggtt gatgaggtca attacaaaga cttcaaggcc gtcgccatac 20700

cctaccaaca caacaactct ggctttgtgg gttacatggc tccgaccatg cgccaaggtc 20760

aaccctatcc cgctaactat ccctatccac tcattggaac aactgccgta aatagtgtta 20820

cgcagaaaaa gttcttgtgt gacagaacca tgtggcgcat accgttctcg agcaacttca 20880

tgtctatggg ggcccttaca gacttgggac agaatatgct ctatgccaac tcagctcatg 20940

ctctggacat gacctttgag gtggatccca tggatgagcc caccctgctt tatcttctct 21000

tcgaagtttt cgacgtggtc agagtgcatc agccacaccg cggcatcatc gaggcagtct 21060

acctgcgtac accgttctcg gccggtaacg ctaccacgta agaagcttct tgcttcttgc 21120

aaatagcagc tgcaaccatg gcctgcggat cccaaaacgg ctccagcgag caagagctca 21180

gagccattgt ccaagacctg ggttgcggac cctatttttt gggaacctac gataagcgct 21240

tcccggggtt catggccccc gataagctcg cctgtgccat tgtaaatacg gccggacgtg 21300

agacgggggg agagcactgg ttggctttcg gttggaaccc acgttctaac acctgctacc 21360

tttttgatcc ttttggattc tcggatgatc gtctcaaaca gatttaccag tttgaatatg 21420

agggtctcct gcgccgcagc gctcttgcta ccaaggaccg ctgtattacg ctggaaaaat 21480

ctacccagac cgtgcagggt ccccgttctg ccgcctgcgg acttttctgc tgcatgttcc 21540

ttcacgcctt tgtgcactgg cctgaccgtc ccatggacgg aaaccccacc atgaaattgc 21600

taactggagt gccaaacaac atgcttcatt ctcctaaagt ccagcccacc ctgtgtgaca 21660

atcaaaaagc actctaccat tttcttaata cccattcgcc ttattttcgc tcccatcgta 21720

cacacatcga aagggccact gcgttcgacc gtatggatgt tcaataatga ctcatgtaaa 21780

caacgtgttc aataaacatc actttatttt tttacatgta tcaaggctct gcattactta 21840

tttatttaca agtcgaatgg gttctgacga gaatcagaat gacccgcagg cagtgatacg 21900

ttgcggaact gatacttggg ttgccacttg aattcgggaa tcaccaactt gggaaccggt 21960

atatcgggca ggatgtcact ccacagcttt ctggtcagct gcaaagctcc aagcaggtca 22020

ggagccgaaa tcttgaaatc acaattagga ccagtgcttt gagcgcgaga gttgcggtac 22080

accggattgc agcactgaaa caccatcagc gacggatgtc tcacgcttgc cagcacggtg 22140

ggatctgcaa tcatgcccac atccagatct tcagcattgg caatgctgaa cggggtcatc 22200

ttgcaggtct gcctacccat ggcgggcacc caattaggct tgtggttgca atcgcagtgc 22260

agggggatca gtatcatctt ggcctgatcc tgtctgattc ctggatacac ggctctcatg 22320

aaagcatcat attgcttgaa agcctgctgg gctttactac cctcggtata aaacatcccg 22380

caggacctgc tcgaaaactg gttagctgca cagccggcat cattcacaca gcagcgggcg 22440

tcattgttag ctatttgcac cacacttctg ccccagcggt tttgggtgat tttggttcgc 22500

tcgggattct cctttaaggc tcgttgtccg ttctcgctgg ccacatccat ctcgataatc 22560

tgctccttct gaatcataat attgccatgc aggcacttca gcttgccctc ataatcattg 22620

cagccatgag gccacaacgc acagcctgta cattcccaat tatggtgggc gatctgagaa 22680

aaagaatgta tcattccctg cagaaatctt cccatcatcg tgctcagtgt cttgtgacta 22740

gtgaaagtta actggatgcc tcggtgctcc tcgtttacgt actggtgaca gatgcgcttg 22800

tattgttcgt gttgctcagg cattagttta aaagaggttc taagttcgtt atccagcctg 22860

tacttctcca tcagcagaca catcacttcc atgcctttct cccaagcaga caccaggggc 22920

aagctaatcg gattcttaac agtgcaggca gcagctcctt tagccagagg gtcatcttta 22980

gcgatcttct caatgcttct tttgccatcc ttctcaacga tgcgcacggg cgggtagctg 23040

aaacccactg ctacaagttg cgcctcttct ctttcttctt cgctgtcttg actgatgtct 23100

tgcatgggga tatgtttggt cttccttggc ttctttttgg ggggtatcgg aggaggagga 23160

ctgtcgctcc gttccggaga cagggaggat tgtgacgttt cgctcaccat taccaactga 23220

ctgtcggtag aagaacctga ccccacacgg cgacaggtgt ttctcttcgg gggcagaggt 23280

ggaggcgatt gcgaagggct gcggtccgac ctggaaggcg gatgactggc agaacccctt 23340

ccgcgttcgg gggtgtgctc cctgtggcgg tcgcttaact gatttccttc gcggctggcc 23400

attgtgttct cctaggcaga gaaacaacag acatggaaac tcagccattg ctgtcaacat 23460

cgccacgagt gccatcacat ctcgtcctca gcgacgagga aaaggagcag agcttaagca 23520

ttccaccgcc cagtcctgcc accacctcta ccctagaaga taaggaggtc gacgcatctc 23580

atgacatgca gaataaaaaa gcgaaagagt ctgagacaga catcgagcaa gacccgggct 23640

atgtgacacc ggtggaacac gaggaagagt tgaaacgctt tctagagaga gaggatgaaa 23700

actgcccaaa acaacgagca gataactatc accaagatgc tggaaatagg gatcagaaca 23760

ccgactacct catagggctt gacggggaag acgcgctcct taaacatcta gcaagacagt 23820

cgctcatagt caaggatgca ttattggaca gaactgaagt gcccatcagt gtggaagagc 23880

tcagccgcgc ctacgagctt aacctctttt cacctcgtac tccccccaaa cgtcagccaa 23940

acggcacctg cgagccaaat cctcgcttaa acttttatcc agcttttgct gtgccagaag 24000

tactggctac ctatcacatc ttttttaaaa atcaaaaaat tccagtctcc tgccgcgcta 24060

atcgcacccg cgccgatgcc ctactcaatc tgggacctgg ttcacgctta cctgatatag 24120

cttccttgga agaggttcca aagatcttcg agggtctggg caataatgag actcgggccg 24180

caaatgctct gcaaaaggga gaaaatggca tggatgagca tcacagcgtt ctggtggaat 24240

tggaaggcga taatgccaga ctcgcagtac tcaagcgaag catcgaggtc acacacttcg 24300

catatcccgc tgtcaacctg ccccctaaag tcatgacggc ggtcatggac cagttactca 24360

ttaagcgcgc aagtcccctt tcagaagaca tgcatgaccc agatgcctgt gatgagggta 24420

aaccagtggt cagtgatgag cagctaaccc gatggctggg caccgactct cccagggatt 24480

tggaagagcg tcgcaagctt atgatggccg tggtgctggt taccgtagaa ctagagtgtc 24540

tccgacgttt ctttaccgat tcagaaacct tgcgcaaact cgaagagaat ctgcactaca 24600

cttttagaca cggctttgtg cggcaggcat gcaagatatc taacgtggaa ctcaccaacc 24660

tggtttccta catgggtatt ctgcatgaga atcgcctagg acaaagcgtg ctgcacagca 24720

ccctgaaggg ggaagcccgc cgtgattaca tccgcgattg tgtctatctg tacctgtgcc 24780

acacgtggca aaccggcatg ggtgtatggc agcaatgttt agaagaacag aacttgaaag 24840

agcttgacaa gctcttacag aaatctctta aggttctgtg gacagggttc gacgagcgca 24900

ccgtcgcttc cgacctggca gacctcatct tcccagagcg tctcagggtt actttgcgaa 24960

acggattgcc tgactttatg agccagagca tgcttaacaa ttttcgctct ttcatcctgg 25020

aacgctccgg tatcctgccc gccacctgct gcgcactgcc ctccgacttt gtgcctctca 25080

cctaccgcga gtgccccccg ccgctatgga gtcactgcta cctgttccgt ctggccaact 25140

atctctccta ccactcggat gtgatcgagg atgtgagcgg agacggcttg ctggagtgtc 25200

actgccgctg caatctgtgc acgccccacc ggtccctagc ttgcaacccc cagttgatga 25260

gcgaaaccca gataataggc acctttgaat tgcaaggccc cagcagccaa ggcgatgggt 25320

cttctcctgg gcaaagttta aaactgaccc cgggactgtg gacctccgcc tacttgcgca 25380

agtttgctcc ggaagattac cacccctatg aaatcaagtt ctatgaggac caatcacagc 25440

ctccaaaggc cgaactttcg gcctgcgtca tcacccaggg ggcaattctg gcccaattgc 25500

aagccatcca aaaatcccgc caagaatttc tactgaaaaa gggtaagggg gtctaccttg 25560

acccccagac cggcgaggaa ctcaacacaa ggttccctca ggatgtccca acgacgagaa 25620

aacaagaagt tgaaggtgca gccgccgccc ccagaagata tggaggaaga ttgggacagt 25680

caggcagagg aggcggagga ggacagtctg gaggacagtc tggaggaaga cagtttggag 25740

gaggaaaacg aggaggcaga ggaggtggaa gaagtaaccg ccgacaaaca gttatcctcg 25800

gctgcggaga caagcaacag cgctaccatc tccgctccga gtcgaggaac ccggcggcgt 25860

cccagcagta gatgggacga gaccggacgc ttcccgaacc caaccagcgc ttccaagacc 25920

ggtaagaagg atcggcaggg atacaagtcc tggcgggggc ataagaatgc catcatctcc 25980

tgcttgcatg agtgcggggg caacatatcc ttcacgcggc gctacttgct attccaccat 26040

ggggtgaact ttccgcgcaa tgttttgcat tactaccgtc acctccacag cccctactat 26100

agccagcaaa tcccggcagt ctcgacagat aaagacagcg gcggcgacct ccaacagaaa 26160

accagcagcg gcagttagaa aatacacaac aagtgcagca acaggaggat taaagattac 26220

agccaacgag ccagcgcaaa cccgagagtt aagaaatcgg atctttccaa ccctgtatgc 26280

catcttccag cagagtcggg gtcaagagca ggaactgaaa ataaaaaacc gatctctgcg 26340

ttcgctcacc agaagttgtt tgtatcacaa gagcgaagat caacttcagc gcactctcga 26400

ggacgccgag gctctcttca acaagtactg cgcgctgact cttaaagagt aggcagcgac 26460

cgcgcttatt caaaaaaggc gggaattaca tcatcctcga catgagtaaa gaaattccca 26520

cgccttacat gtggagttat caaccccaaa tgggattggc ggcaggcgcc tcccaggact 26580

actccacccg catgaattgg ctcagcgccg ggccttctat gatttctcga gttaatgata 26640

tacgcgccta ccgaaaccaa atacttttgg aacagtcagc tcttaccacc acgccccgcc 26700

aacaccttaa tcccagaaat tggcccgccg ccctagtgta ccaggaaagt cccgctccca 26760

ccactgtatt acttcctcga gacgcccagg ccgaagtcca aatgactaat gcaggtgcgc 26820

agttagctgg cggctccacc ctatgtcgtc acaggcctcg gcataatata aaacgcctga 26880

tgatcagagg ccgaggtatc cagctcaacg acgagtcggt gagctctccg cttggtctac 26940

gaccagacgg aatctttcag attgccggct gcgggagatc ttccttcacc cctcgtcagg 27000

ctgttctgac tttggaaagt tcgtcttcgc aaccccgctc gggcggaatc gggaccgttc 27060

aatttgtgga ggagtttact ccctctgtct acttcaaccc cttctccgga tctcctgggc 27120

attacccgga cgagttcata ccgaacttcg acgcgattag cgagtcagtg gacggctacg 27180

attgatgtct ggtgacgcgg ctgagctatc tcggctgcga catctagacc actgccgccg 27240

ctttcgctgc tttgcccggg aactcattga gttcatctac ttcgaactcc ccaaggatca 27300

ccctcaaggt ccggcccacg gagtgcggat ttctatcgaa ggcaaaatag actctcgcct 27360

gcaacgaatt ttctcccagc ggcccgtgct gatcgagcga gaccagggaa acaccacggt 27420

ttccatctac tgcatttgta atcaccccgg attgcatgaa agcctttgct gtcttatgtg 27480

tactgagttt aataaaaact gaattaagac tctcctacgg actgccgctt cttcaacccg 27540

gattttacaa ccagaagaac gaaacttttc ctgtcgtcca ggactctgtt aacttcacct 27600

ttcctactca caaactagaa gctcaacgac tacaccgctt ttccagaagc attttcccta 27660

ctaatactac tttcaaaacc ggaggtgagc tccaaggtct tcctacagaa aacccttggg 27720

tggaagcggg ccttgtagtg ctaggaattc ttgcgggtgg gcttgtgatt attctttgct 27780

acctatacac accttgcttc actttcttag tggtgttgtg gtattggttt aaaaaatggg 27840

gcccatacta gtcttgcttg ttttactttc gcttttggaa ccgggttctg ccaattacga 27900

tccatgtcta gacttcgacc cagaaaactg cacacttact tttgcacccg acacaagccg 27960

catctgtgga gttcatcgcc tctcttacga acttggcccc caacgacaaa aatttacctg 28020

catggtggga atcaacccca tagttatcac ccagcaaagt ggagatacta agggttgcat 28080

tcactgctcc tgcgattcca tcgagtgcac ctacaccctg ctgaagaccc tatgcggcct 28140

aagagacctg ctaccaatga attaaaaaat gattaataaa aaatcactta cttgaaatca 28200

gcaataaggt ctctgttgaa attttctccc agcagcacct cacttccctc ttcccaactc 28260

tggtattcta aaccccgttc agcggcatac tttctccata ctttaaaggg gatgtcaaat 28320

tttagctcct ctcctgtacc cacaatcttc atgtctttct tcccagatga ccaagagagt 28380

ccggctcagt gactccttca accctgtcta cccctatgaa gatgaaagca cctcccaaca 28440

ccccttttata aacccagggt ttatttcccc aaatggcttc acacaaagcc caaacggagt 28500

tcttacttta aaatgtttaa ccccactaac aaccacaggc ggatctctac agctaaaagt 28560

gggaggggga cttacagtgg atgacaccaa cggtttttg aaagaaaaca taagtgccac 28620

cacaccactc gttaagactg gtcactctat aggtttacca ctaggagccg gattgggaac 28680

gaatgaaaat aaactttgta tcaaattagg acaaggactt acattcaatt caaacaacat 28740

ttgcattgat gacaatatta acaccttatg gacaggagtc aaccccaccg aagccaactg 28800

tcaaatcatg aactccagtg aatctaatga ttgcaaatta attctaacac tagttaaaac 28860

tggagcacta gtcactgcat ttgtttatgt tataggagta tctaacaatt ttaatatgct 28920

aactacacac agaaatataa attttactgc agagctgttt ttcgattcta ctggtaattt 28980

actaactaga ctctcatccc tcaaaactcc acttaatcat aaatcaggac aaaacatggc 29040

tactggtgcc attactaatg ctaaaggttt catgcccagc acgactgcct atcctttcaa 29100

tgataattct agagaaaaag aaaactacat ttacggaact tgttactaca cagctagtga 29160

tcgcactgct tttcccattg acatatctgt catgcttaac cgaagagcaa taaatgacga 29220

gacatcatat tgtattcgta taacttggtc ctggaacaca ggagatgccc cagaggtgca 29280

aacctctgct acaaccctag tcacctcccc atttaccttt tactacatca gagaagacga 29340

ctgacaaata aagtttgcga tcgctttctc tcttcaggcc caccatgggc tggagctgca 29400

tcatcttgtt cctggtcgca actgctaccg gagtccattc ggacatcgtc atgacccaaa 29460

gccctgactc gctcgctgtg tcactgggag agcgggcgac tatcaactgc aaatcatccc 29520

agagcctgct gtattcacgc aatcagaaaa actacctggc ctggtatcag cagaagccgg 29580

gccagcctcc caagctgctg atcttctggg cctccacccg cgaaagcggc gtgccggacc 29640

gcttcagcgg aagcggattc ggaactgact ttactctgac cattagctcc ttgcaggcgg 29700

aggacgtggc cgtctactac tgccagcagt atttctccta tccgctcacc tttgggcaag 29760

gcaccaaggt ggagattaag ggaggggggcg gcagcggggg aggcggcagc ggcggcgggg 29820

gatcgcaggt ccagctcgtc caatccggag ccgaagtcaa gaagccggga gcgtcggtca 29880

aggtcagctg caaaacttcg cgctacacct tcactgagta cacgatccac tgggtccgcc 29940

aggcgcccgg ccagcggctg gagtggatcg gcgggatcaa cccaaacaac ggaatcccaa 30000

attacaatca gaaatttaaa gggcgggtga ctatcaccgt ggatacctcg gcctccacgg 30060

cgtacatgga gctctcatca ctcagatcgg aggacaccgc ggtctattac tgcgcccgcc 30120

gccggatcgc ttatggatac gatgaaggac atgcgatgga ttactggggc cagggcaccc 30180

tcgtcacggt gtcgtcagga ggcggcggtt cacaggtgca gctgcagcag tctggggctg 30240

aactggcaag acctggggcc tcagtgaaga tgtcctgcaa ggcttctggc tacaccttta 30300

ctaggtacac gatgcactgg gtaaaacaga ggcctggaca gggtctggaa tggattggat 30360

acattaatcc tagccgtggt tatactaatt acaatcagaa gttcaaggac aaggccacat 30420

tgactacaga caaatcctcc agcacagcct acatgcaact gagcagcctg acatctgagg 30480

actctgcagt ctattactgt gcaagatatt atgatgatca ttactgcctt gactactggg 30540

gccaaggcac cactctcaca gtctcctcag gtggcggtgg ctcgggcggt ggtggatctg 30600

gtggcggcgg atctgatatc gtgctcactc agtctccagc aatcatgtct gcatctccag 30660

gggagaaggt caccatgacc tgcagtgcca gctcaagtgt aagttacatg aactggtacc 30720

agcagaagtc aggcacctcc cccaaaagat ggatttatga cacatccaaa ctggcttctg 30780

gagtccctgc tcacttcagg ggcagtgggt ctgggacctc ttactctctc acaatcagcg 30840

gcatggaggc tgaagatgct gccacttatt actgccagca gtggagtagt aacccattca 30900

cgttcggctc ggggacaaag ttggaaataa accggcatca ccatcaccat caccaccatc 30960

accattaggc tagcttgact gactgagata cagcgtacct tcagctcaca gacatgataa 31020

gatacattga tgagtttgga caaaccacaa ctagaatgca gtgaaaaaaa tgctttattt 31080

gtgaaatttg tgatgctatt gctttatttg taaccattat aagctgcaat aaacaagtta 31140

acaacaacaa ttgcattcat tttatgtttc aggttcaggg ggaggtgtgg gaggtttttt 31200

aaagcaagta aaacctctac aaatgtggta gtcgtcagct atcctgcagg aacttgttta 31260

tttgaaaatc aattcacaaa atccgagtag ttattttgcc tccccttcc catttaacag 31320

aatacaccaa tctctcccca cgcacagctt taaacatttg gataccatta gatatagaca 31380

tggttttaga ttccacattc caaacagttt cagagcgagc caatctgggg tcagtgatag 31440

ataaaaatcc atcgggatag tcttttaaag cgctttcaca gtccaactgc tgcggatgcg 31500

actccggagt ctggatcacg gtcatctgga agaagaacga tgggaatcat aatccgaaaa 31560

cggtatcgga cgattgtgtc tcatcaaacc cacaagcagc cgctgtctgc gtcgctccgt 31620

gcgactgctg tttatgggat cagggtccac agtgtcctga agcatgattt taatagccct 31680

taacatcaac tttctggtgc gatgcgcgca gcaacgcatt ctgatttcac tcaaatcttt 31740

gcagtaggta caacacatta ttacaatatt gtttaataaa ccataattaa aagcgctcca 31800

gccaaaactc atatctgata taatcgcccc tgcatgacca tcataccaaa gtttaatata 31860

aattaaatga cgttccctca aaaacacact acccacatac atgatctctt ttggcatgtg 31920

catattaaca atctgtctgt accatggaca acgttggtta atcatgcaac ccaatataac 31980

cttccggaac cacactgcca acaccgctcc cccagccatg cattgaagtg aaccctgctg 32040

attacaatga caatgaagaa cccaattctc tcgaccgtga atcacttgag aatgaaaaat 32100

atctatagtg gcacaacata gacataaatg catgcatctt ctcataattt ttaactcctc 32160

aggatttaga aacatatccc agggaatagg aagctcttgc agaacagtaa agctggcaga 32220

acaaggaaga ccacgaacac aacttacact atgcatagtc atagtatcac aatctggcaa 32280

cagcgggtgg tcttcagtca tagaagctcg ggtttcattt tcctcacaac gtggtaactg 32340

ggctctggtg taagggtgat gtctggcgca tgatgtcgag cgtgcgcgca accttgtcat 32400

aatggagttg cttcctgaca ttctcgtatt ttgtatagca aaacgcggcc ctggcagaac 32460

acactcttct tcgccttcta tcctgccgct tagcgtgttc cgtgtgatag ttcaagtaca 32520

accacactct taagttggtc aaaagaatgc tggcttcagt tgtaatcaaa actccatcgc 32580

atctaatcgt tctgaggaaa tcatccaagc aatgcaactg gattgtgttt caagcaggag 32640

aggagaggga agagacggaa gaaccatgtt aatttttatt ccaaacgatc tcgcagtact 32700

tcaaattgta gatcgcgcag atggcatctc tcgcccccac tgtgttggtg aaaaagcaca 32760

gctagatcaa aagaaatgcg attttcaagg tgctcaacgg tggcttccag caaagcctcc 32820

acgcgcacat ccaagaacaa aagaatacca aaagaaggag cattttctaa ctcctcaatc 32880

atcatattac attcctgcac cattcccaga taattttcag ctttccagcc ttgaattatt 32940

cgtgtcagtt cttgtggtaa atccaatcca cacattacaa acaggtcccg gagggcgccc 33000

tccaccacca ttcttaaaca caccctcata atgacaaaat atcttgctcc tgtgtcacct 33060

gtagcgaatt gagaatggca acatcaattg acatgccctt ggctctaagt tcttctttaa 33120

gttctagttg taaaaactct ctcatattat caccaaactg cttagccaga agccccccgg 33180

gaacaagagc aggggacgct acagtgcagt acaagcgcag acctccccaa ttggctccag 33240

caaaaacaag attggaataa gcatattggg aaccgccagt aatatcatcg aagttgctgg 33300

aaatataatc aggcagagtt tcttgtaaaa attgaataaa agaaaaattt gccaaaaaaa 33360

cattcaaaac ctctgggatg caaatgcaat aggttaccgc gctgcgctcc aacattgtta 33420

gttttgaatt agtctgcaaa aataaaaaaa aaaacaagcg tcatatcata gtagcctgac 33480

gaacagatgg ataaatcagt ctttccatca caagacaagc cacagggtct ccagctcgac 33540

cctcgtaaaa cctgtcatca tgattaaaca acagcaccga aagttcctcg cggtgaccag 33600

catgaataat tcttgatgaa gcatacaatc cagacatgtt agcatcagtt aacgagaaaa 33660

aacagccaac atagcctttg ggtataatta tgcttaatcg taagtatagc aaagccaccc 33720

ctcgcggata caaagtaaaa ggcacaggag aataaaaaat ataattattt ctctgctgct 33780

gttcaggcaa cgtcgccccc ggtccctcta aatacacata caaagcctca tcagccatgg 33840

cttaccagac aaagtacagc gggcacacaa agcacaagct ctaaagtgac tctccaacct 33900

ctccacaata tatatataca caagccctaa actgacgtaa tgggagtaaa gtgtaaaaaa 33960

tcccgccaaa cccaacacac accccgaaac tgcgtcacca gggaaaagta cagtttcact 34020

tccgcaatcc caacaggcgt aacttcctct ttctcacggt acgtgatatc ccactaactt 34080

gcaacgtcat tttcccacgg tcgcaccgcc ccttttagcc gttaacccca cagccaatca 34140

ccacacgatc cacacttttt aaaatcacct catttacata ttggcaccat tccatctata 34200

aggtatatta tatagataga 34220

<210> 80
<211> 34226
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-614 Genome

<400> 80
tctatctata taatatacct tatagatgga atggtgccaa tatgtaaatg aggtgatttt 60

aaaaagtgtg gatcgtgtgg tgattggctg tggggttaac ggctaaaagg ggcggtgcga 120

ccgtgggaaa atgacgtttt gtgggggtgg agttttttg caagttgtcg cgggaaatgt 180

gacgcataaa aaggcttttt tctcacggaa ctacttagtt ttcccacggt atttaacagg 240

aaatgaggta gttttgaccg gatgcaagtg aaaattgttg attttcgcgc gaaaactgaa 300

tgaggaagtg tttttctgaa taatgtggta tttatggcag ggtggagtat ttgttcaggg 360

ccaggtagac tttgacccat tacgtggagg tttcgattac cgtgtttttt acctgaattt 420

ccgcgtaccg tgtcaaagtc ttctgttttt acgtaggtgt cagctgatcg ctagggtatt 480

tatacctcag ggtttgtgtc aagaggccac tcttgagtgc cagcgagaag agttttctcc 540

tctgcgccgg cagtttaata ataaaaaaat gagagatttg cgatttctgc ctcaggaaat 600

aatctctgct gagactggaa atgaaatatt ggagcttgtg gtgcacgccc tgatgggaga 660

cgatccggag ccacctgtgc agctttttga gcctcctacg cttcaggaac tgtatgattt 720

agaggtagag ggatcggagg attctaatga ggaagctgta aatggctttt ttaccgattc 780

tatgctttta gctgctaatg aagggttaga attagatccg cctttggaca cttttgatac 840

tccaggggta attgtggaaa gcggtacagg tgtaagaaaa ttacctgatt tgagttccgt 900

ggactgtgat ttgcactgct atgaagacgg gtttcctccg agtgatgagg aggaccatga 960

aaaggagcag tccatgcaga ctgcagcggg tgagggagtg aaggctgcca atgttggttt 1020

tcagttggat tgcccggagc ttcctggaca tggctgtaag tcttgtgaat ttcacaggaa 1080

aaatactgga gtaaaggaac tgttatgttc gctttgttat atgagaacgc actgccactt 1140

tatttacagt aagtgtgttt aagttaaaat ttaaaggaat atgctgtttt tcacatgtat 1200

attgagtgtg agttttgtgc ttcttattat aggtcctgtg tctgatgctg atgaatcacc 1260

atctcctgat tctactacct cacctcctga gattcaagca cctgttcctg tggacgtgcg 1320

caagcccatt cctgtgaagc ttaagcctgg gaaacgtcca gcagtggaaa aacttgagga 1380

cttgttacag ggtggggacg gacctttgga cttgagtaca cggaaacgtc caagacaata 1440

agtgttccat atccgtgttt acttaaggtg acgtcaatat ttgtgtgaca gtgcaatgta 1500

ataaaaatat gttaactgtt cactggtttt tattgctttt tgggcgggga ctcaggtata 1560

taagtagaag cagacctgtg tggttagctc ataggagctg gctttcatcc atggaggttt 1620

gggccatttt ggaagacctt aggaagacta ggcaactgtt agagaacgct tcggacggag 1680

tctccggttt ttggagattc tggttcgcta gtgaattagc tagggtagtt tttaggataa 1740

aacaggacta taaacaagaa tttgaaaagt tgttggtaga ttgcccagga ctttttgaag 1800

ctcttaattt gggccatcag gttcacttta aagaaaaagt tttatcagtt ttagactttt 1860

caaccccagg tagaactgct gctgctgtgg cttttcttac ttttatatta gataaatgga 1920

tcccgcagac tcatttcagc aggggatacg ttttggattt catagccaca gcattgtgga 1980

gaacatggaa ggttcgcaag atgaggacaa tcttaggtta ctggccagtg cagcctttgg 2040

gtgtagcggg aatcctgagg catccaccgg tcatgccagc ggttctggag gaggaacagc 2100

aagaggacaa cccgagagcc ggcctggacc ctccagtgga ggaggcggag tagctgactt 2160

gtctcctgaa ctgcaacggg tgcttactgg atctacgtcc actggacggg ataggggcgt 2220

taagagggag agggcatcta gtggtactga tgctagatct gagttggctt taagtttaat 2280

gagtcgcaga cgtcctgaaa ccatttggtg gcatgaggtt cagaaagagg gaagggatga 2340

agtttctgta ttgcaggaga aatattcact ggaacaggtg aaaacatgtt ggttggagcc 2400

tgaggatgat tgggaggtgg ccattaaaaa ttatgccaag atagctttga ggcctgataa 2460

acagtataag attactagac ggattaatat ccggaatgct tgttacatat ctggaaatgg 2520

ggctgaggtg gtaatagata ctcaagacaa ggcagttatt agatgctgca tgatggatat 2580

gtggcctggg gtagtcggta tggaagcagt aacttttgta aatgttaagt ttaggggaga 2640

tggttataat ggaatagtgt ttatggccaa taccaaactt atattgcatg gttgtagctt 2700

ttttggtttc aacaatacct gtgtagatgc ctggggacag gttagtgtac ggggatgtag 2760

tttctatgcg tgttggattg ccacagctgg cagaaccaag agtcaattgt ctctgaagaa 2820

atgcatattt caaagatgta acctgggcat tctgaatgaa ggcgaagcaa gggtccgcca 2880

ctgcgcttct acagatactg gatgttttat tttgattaag ggaaatgcca gcgtaaagca 2940

taacatgatt tgcggtgctt ccgatgagag gccttatcaa atgctcactt gtgctggtgg 3000

gcattgtaat atgctggcta ctgtgcatat tgtttcccat caacgcaaaa aatggcctgt 3060

ttttgatcac aatgtgatga cgaagtgtac catgcatgca ggtgggcgta gaggaatgtt 3120

tatgccttac cagtgtaaca tgaatcatgt gaaagtgttg ttggaaccag atgccttttc 3180

cagaatgagc ctaacaggaa tttttgacat gaacatgcaa atctggaaga tcctgaggta 3240

tgatgatacg agatcgaggg tacgcgcatg cgaatgcgga ggcaagcatg ccaggttcca 3300

gccggtgtgt gtagatgtga ctgaagatct cagaccggat catttggtta ttgcccgcac 3360

tggagcagag ttcggatcca gtggagaaga aactgactaa ggtgagtatt gggaaaactt 3420

tggggtggga ttttcagatg gacagattga gtaaaaattt gtttttttctg tcttgcagct 3480

gtcatgagtg gaaacgcttc ttttaagggg ggagtcttca gcccttatct gacagggcgt 3540

ctcccatcct gggcaggagt tcgtcagaat gttatgggat ctactgtgga tggaagaccc 3600

gtccaacccg ccaattcttc aacgctgacc tatgctactt taagttcttc acctttggac 3660

gcagctgcag ctgccgccgc cgcttctgtt gccgctaaca ctgtgcttgg aatgggttac 3720

tatggaagca tcatggctaa ttccacttcc tctaataacc cttctaccct gactcaggac 3780

aagttacttg tccttttggc ccagctggag gctttgaccc aacgtctggg tgaactttct 3840

cagcaggtgg tcgagttgcg agtacaaact gagtctgctg tcggcacggc aaagtctaaa 3900

taaaaaaatc ccagaatcaa tgaataaata aacaagcttg ttgttgattt aaaatcaagt 3960

gtttttattt catttttcgc gcacggtatg ccctagacca ccgatctcta tcattgagaa 4020

ctcggtggat tttttccagg atcctataga ggtgggattg aatgtttaga tacatgggca 4080

ttaggccgtc tttggggtgg agatagctcc attgaaggga ttcatgctcc ggggtagtgt 4140

tgtaaatcac ccagtcataa caaggtcgca gtgcatggtg ttgcacaata tcttttagaa 4200

gtaggctgat tgccacagat aagcccttgg tgtaggtgtt tacaaaccgg ttgagctggg 4260

atgggtgcat tcggggtgaa attatgtgca ttttggattg gatttttaag ttggcaatat 4320

tgccgccaag atcccgtctt gggttcatgt tatgaaggac caccaagacg gtgtatccgg 4380

tacatttagg aaatttatcg tgcagcttgg atggaaaagc gtggaaaaat ttggagacac 4440

ccttgtgtcc tccaagattt tccatgcact catccatgat aatagcaatg gggccgtggg 4500

cagcggcgcg ggcaaacacg ttccgtgggt ctgacacatc atagttatgt tcctgagtta 4560

aatcatcata agccatttta atgaatttgg ggcggagagt accagattgg ggtatgaatg 4620

ttccttcggg ccccggagca tagttcccct cacagatttg catttcccaa gctttcagtt 4680

ccgagggtgg aatcatgtcc acctgggggg ctatgaaaaa caccgtttct ggggcggggg 4740

tgattaattg tgatgatagc aaatttctga gcaattgaga tttgccacat ccggtggggc 4800

cataaatgat tccgattacg ggttgcaggt ggtagtttag ggaacggcaa ctgccgtctt 4860

ctcgaagcaa gggggccacc tcgttcatca tttcccttac atgcatattt tcccgcacca 4920

aatccattag gaggcgctct cctcctagtg atagaagttc ttgtagtgag gaaaagtttt 4980

tcagcggttt cagaccgtca gccatgggca ttttggagag agtttgctgc aaaagttcta 5040

gtctgttcca cagttcagtg atgtgttcta tggcatctcg atccagcaga cctcctcgtt 5100

tcgcgggttt ggacggctcc tggaataggg tatgagacga tgggcgtcca gcgctgccag 5160

ggttcggtcc ttccagggtc tcagtgttcg agtcagggtt gtttccgtca cagtgaaggg 5220

gtgtgcgcct gcttgggcgc ttgccagggt gcgcttcaga ctcatcctgc tggtcgaaaa 5280

cttctgtcgc ttggcgccct gtatgtcggc caagtagcag tttaccatga gttcgtagtt 5340

gagcgcctcg gctgcgtggc ctttggcgcg gagcttacct ttggaagttt tcttgcatac 5400

cgggcagtat aggcatttca gcgcatacaa cttgggcgca aggaaaacgg attctgggga 5460

gtatgcatct gcgccgcagg aggcgcaaac agtttcacat tccaccagcc aggttaaatc 5520

cggttcattg gggtcaaaaa caagttttcc gccatatttt ttgatgcgtt tcttaccttt 5580

ggtctccatg agttcgtgtc ctcgttgagt gacaaacagg ctgtccgtgt ccccgtagac 5640

tgattttaca ggcctcttct ccagtggagt gcctcggtct tcttcgtaca ggaactctga 5700

ccactctgat acaaaggcgc gcgtccaggc cagcacaaag gaggctatgt gggaggggta 5760

gcgatcgttg tcaaccaggg ggtccacctt ttccaaagta tgcaaacaca tgtcaccctc 5820

ttcaacatcc aggaatgtga ttggcttgta ggtgtatttc acgtgacctg gggtccccgc 5880

tgggggggta taaaaggggg cggttctttg ctcttcctca ctgtcttccg gatcgctgtc 5940

caggaacgtc agctgttggg gtaggtattc cctctcgaag gcgggcatga cctctgcact 6000

caggttgtca gtttctaaga acgaggagga tttgatattg acagtgccgg ttgagatgcc 6060

tttcatgagg ttttcgtcca tctggtcaga aaacacaatt tttttattgt caagtttggt 6120

ggcaaatgat ccatacaggg cgttggataa aagtttggca atggatcgca tggtttggtt 6180

cttttccttg tccgcgcgct ctttggcggc gatgttgagt tggacatact cgcgtgccag 6240

gcacttccat tcggggaaga tagttgttaa ttcatctggc acgattctca cttgccaccc 6300

tcgattatgc aaggtaatta aatccacact ggtggccacc tcgcctcgaa ggggttcatt 6360

ggtccaacag agcctacctc ctttcctaga acagaaaggg ggaagtgggt ctagcataag 6420

ttcatcggga gggtctgcat ccatggtaaa gattcccgga agtaaatcct tatcaaaata 6480

gctgatggga gtggggtcat ctaaggccat ttgccattct cgagctgcca gtgcgcgctc 6540

atatgggtta aggggactgc cccatggcat gggatgggtg agtgcagagg catacatgcc 6600

acagatgtca tagacgtaga tgggatcctc aaagatgcct atgtaggttg gatagcatcg 6660

ccccccctctg atacttgctc gcacatagtc atatagttca tgtgatggcg ctagcagccc 6720

cggacccaag ttggtgcgat tgggtttttc tgttctgtag acgatctggc gaaagatggc 6780

gtgagaattg gaagagatgg tgggtctttg aaaaatgttg aaatgggcat gaggtagacc 6840

tacagagtct ctgacaaagt gggcataaga ttcttgaagc ttggttacca gttcggcggt 6900

gacaagtacg tctagggcgc agtagtcaag tgtttcttga atgatgtcat aacctggttg 6960

gtttttcttt tcccacagtt cgcggttgag aaggtattct tcgcgatcct tccagtactc 7020

ttctagcgga aacccgtctt tgtctgcacg gtaagatcct agcatgtaga actgattaac 7080

tgccttgtaa gggcagcagc ccttctctac gggtagagag tatgcttgag cagcttttcg 7140

tagcgaagcg tgagtaaggg caaaggtgtc tctgaccatg actttgagga attggtattt 7200

gaagtcgatg tcgtcacagg ctccctgttc ccagagttgg aagtctaccc gtttcttgta 7260

ggcggggttg ggcaaagcga aagtaacatc attgaagaga atcttgccgg ccctgggcat 7320

gaaattgcga gtgatgcgaa aaggctgtgg tacttccgct cggttattga taacctgggc 7380

agctaggacg atctcgtcga aaccgttgat gttgtgtcct acgatgtata attctatgaa 7440

acgcggcgtg cctctgacgt gaggtagctt actgagctca tcaaaggtta ggtctgtggg 7500

gtcagataag gcgtagtgtt cgagagccca ttcgtgcagg tgaggattcg ctttaaggaa 7560

ggaggaccag aggtccactg ccagtgctgt ttgtaactgg tcccggtact gacgaaaatg 7620

ccgtccgact gccatttttt ctggggtgac gcaatagaag gtttgggggt cctgccgcca 7680

gcgatcccac ttgagtttta tggcgaggtc ataggcgatg ttgacgagcc gctggtctcc 7740

agagagtttc atgaccagca tgaaggggat tagctgcttg ccaaaggacc ccatccaggt 7800

gtaggtttcc acatcgtagg tgagaaagag cctttctgtg cgaggatgag agccaatcgg 7860

gaagaactgg atctcctgcc accagttgga ggaatggctg ttgatgtgat ggaagtagaa 7920

ctccctgcga cgcgccgagc attcatgctt gtgcttgtac agacggccgc agtagtcgca 7980

gcgttgcacg ggttgtatct cgtgaatgag ttgtacctgg cttcccttga cgagaaattt 8040

cagtgggaag ccgaggcctg gcgattgtat ctcgtgcttt actatgttgt ctgcatcggc 8100

ctgttcatct tctgtctcga tggtggtcat gctgacgagc cctcgcggga ggcaagtcca 8160

gacctcggcg cggcaggggc ggagctcgag gacgagagcg cgcaggctgg agctgtccag 8220

ggtcctgaga cgctgcggac tcaggttagt aggcagtgtc aggagattaa cttgcatgat 8280

cttttggagg gcgtgcggga ggttcagata gtacttgatc tcaacgggtc cgttggtgga 8340

gatgtcgatg gcttgcaggg ttccgtgtcc cttgggcgct accaccgtgc ccttgttttt 8400

cattttggac ggcggtggct ctgttgcttc ttgcatgttt agaagcggtg tcgagggcgc 8460

gcaccgggcg gcaggggcgg ctcgggaccc ggcggcatgg ctggcagtgg tacgtcggcg 8520

ccgcgcgcgg gtaggttctg gtactgcgcc ctgagaagac tcgcatgcgc gacgacgcgg 8580

cggttgacat cctggatctg acgcctctgg gtgaaagcta ccggccccgt gagcttgaac 8640

ctgaaagaga gttcaacaga atcaatctcg gtatcgttga cggcggcttg cctaaggatt 8700

tcttgcacgt caccagagtt gtcctggtag gcgatctccg ccatgaactg ctcgatctct 8760

tcctcttgaa gatctccgcg gcccgctctc tcgacggtgg ccgcgaggtc gttggagatg 8820

cgcccaatga gttgagagaa tgcattcatg cccgcctcgt tccagacgcg gctgtagacc 8880

acggccccca cgggatctct cgcgcgcatg accacctggg cgaggttgag ctccacgtgg 8940

cgggtgaaga ccgcatagtt gcataggcgc tggaaaaggt agttgagtgt ggtggcgatg 9000

tgctcggtga cgaagaaata catgatccat cgtctcagcg gcatctcgct gacatcgccc 9060

agagcttcca agcgctccat ggcctcgtag aagtccacgg caaaattaaa aaactgggag 9120

tttcgcgcgg acacggtcaa ctcctcttcc agaagacgga taagttcggc gatggtggtg 9180

cgcacctcgc gctcgaaagc ccctgggatt tcttcctcaa tctcttcttc ttccactaac 9240

atctcttcct cttcaggtgg ggctgcagga ggagggggaa cgcggcgacg ccggcggcgc 9300

acgggcagac ggtcgatgaa tctttcaatg acctctccgc ggcggcggcg catggtttca 9360

gtgacggcgc ggccgttctc gcgcggtcgc agagtaaaaa caccgccgcg catctcctta 9420

aagtggtgac tgggaggttc tccgtttggg agggagaggg cgctgattat acattttatt 9480

aattggcccg tagggactgc acgcagagat ctgatcgtgt caagatccac gggatctgaa 9540

aacctttcga cgaaagcgtc taaccagtca cagtcacaag gtaggctgag tacggcttct 9600

tgtgggcggg ggtggttatg tgttcggtct gggtcttctg tttcttcttc atctcgggaa 9660

ggtgagacga tgctgctggt gatgaaatta aagtaggcag ttctaagacg gcggatggtg 9720

gcgaggagca ccaggtcttt gggtccggct tgctggatac gcaggcgatt ggccattccc 9780

caagcattat cctgacatct agcaagatct ttgtagtagt cttgcatgag ccgttctacg 9840

ggcacttctt cctcacccgt tctgccatgc atacgtgtga gtccaaatcc gcgcattggt 9900

tgtaccagtg ccaagtcagc tacgactctt tcggcgagga tggcttgctg tacttgggta 9960

agggtggctt gaaagtcatc aaaatccaca aagcggtggt aagctcctgt attaatggtg 10020

taagcacagt tggccatgac tgaccagtta actgtctggt gaccagggcg cacgagctcg 10080

gtgtatttaa ggcgcgaata ggcgcgggtg tcaaagatgt aatcgttgca ggtgcgcacc 10140

agatactggt accctataag aaaatgcggc ggtggttggc ggtagagagg ccatcgttct 10200

gtagctggag cgccaggggc gaggtcttcc aacataaggc ggtgatagcc gtagatgtac 10260

ctggacatcc aggtgattcc tgcggcggta gtagaagccc gaggaaactc gcgtacgcgg 10320

ttccaaatgt tgcgtagcgg catgaagtag ttcattgtag gcacggtttg accagtgagg 10380

cgcgcgcagt cattgatgct ctatagacac ggagaaaatg aaagcgttca gcgactcgac 10440

tccgtagcct ggaggaacgt gaacgggttg ggtcgcggtg taccccggtt cgagacttgt 10500

actcgagccg gccggagccg cggctaacgt ggtattggca ctcccgtctc gacccagcct 10560

acaaaaatcc aggatacgga atcgagtcgt tttgctggtt tccgaatggc agggaagtga 10620

gtcctatttt tttttttgc cgctcagatg catcccgtgc tgcgacagat gcgcccccaa 10680

caacagcccc cctcgcagca gcagcagcag caatcacaaa aggctgtccc tgcaactact 10740

gcaactgccg ccgtgagcgg tgcgggacag cccgcctatg atctggactt ggaagagggc 10800

gaaggactgg cacgtctagg tgcgccttca cccgagcggc atccgcgagt tcaactgaaa 10860

aaagattctc gcgaggcgta tgtgccccaa cagaacctat ttagagacag aagcggcgag 10920

gagccggagg agatgcgagc ttcccgcttt aacgcgggtc gtgagctgcg tcacggtttg 10980

gaccgaagac gagtgttgcg ggacgaggat ttcgaagttg atgaaatgac agggatcagt 11040

cctgccaggg cacacgtggc tgcagccaac cttgtatcgg cttacgagca gacagtaaag 11100

gaagagcgta acttccaaaa gtcttttaat aatcatgtgc gaaccctgat tgcccgcgaa 11160

gaagttaccc ttggtttgat gcatttgtgg gatttgatgg aagctatcat tcagaaccct 11220

actagcaaac ctctgaccgc ccagctgttt ctggtggtgc aacacagcag agacaatgag 11280

gctttcagag aggcgctgct gaacatcacc gaacccgagg ggagatggtt gtatgatctt 11340

atcaacattc tacagagtat catagtgcag gagcggagcc tgggcctggc cgagaaggtg 11400

gctgccatca attactcggt tttgagcttg ggaaaatatt acgctcgcaa aatctacaag 11460

actccatacg ttcccataga caaggaggtg aagatagatg ggttctacat gcgcatgacg 11520

ctcaaggtct tgaccctgag cgatgatctt ggggtgtatc gcaatgacag aatgcatcgc 11580

gcggttagcg ccagcaggag gcgcgagtta agcgacaggg aactgatgca cagtttgcaa 11640

agagctctga ctggagctgg aaccgagggt gagaattact tcgacatggg agctgacttg 11700

cagtggcagc ctagtcgcag ggctctgagc gccgcgacgg caggatgtga gcttccttac 11760

atagaagagg cggatgaagg cgaggaggaa gagggcgagt acttggaaga ctgatggcac 11820

aacccgtgtt ttttgctaga tggaacagca agcaccggat cccgcaatgc gggcggcgct 11880

gcagagccag ccgtccggca ttaactcctc ggacgattgg acccaggcca tgcaacgtat 11940

catggcgttg acgactcgca accccgaagc ctttagacag caaccccagg ccaaccgtct 12000

atcggccatc atggaagctg tagtgccttc ccgctctaat cccactcatg agaaggtcct 12060

ggccatcgtg aacgcgttgg tggagaacaa agctattcgt ccagatgagg ccggactggt 12120

atacaacgct ctcttagaac gcgtggctcg ctacaacagt agcaatgtgc aaaccaattt 12180

ggaccgtatg ataacagatg tacgcgaagc cgtgtctcag cgcgaaaggt tccagcgtga 12240

tgccaacctg ggttcgctgg tggcgttaaa tgctttcttg agtactcagc ctgctaatgt 12300

gccgcgtggt caacaggatt atactaactt tttaagtgct ttgagactga tggtatcaga 12360

agtacctcag agcgaagtgt atcagtccgg tcctgattac ttctttcaga ctagcagaca 12420

gggcttgcag acggtaaatc tgagccaagc ttttaaaaac cttaaaggtt tgtggggagt 12480

gcatgccccg gtaggagaaa gagcaaccgt gtctagcttg ttaactccga actcccgcct 12540

attattactg ttggtagctc ctttcaccga cagcggtagc atcgaccgta attcctattt 12600

gggttaccta ctaaacctgt atcgcgaagc catagggcaa agtcaggtgg acgagcagac 12660

ctatcaagaa attacccaag tcagtcgcgc tttgggacag gaagacactg gcagtttgga 12720

agccactctg aacttcttgc ttaccaatcg gtctcaaaag atccctcctc aatatgctct 12780

tactgcggag gaggagagga tccttagata tgtgcagcag agcgtgggat tgtttctgat 12840

gcaagagggg gcaactccga ctgcagcact ggacatgaca gcgcgaaata tggagcccag 12900

catgtatgcc agtaaccgac ctttcattaa caaactgctg gactacttgc acagagctgc 12960

cgctatgaac tctgattatt tcaccaatgc catcttaaac ccgcactggc tgcccccacc 13020

tggtttctac acgggcgaat atgacatgcc cgaccctaat gacggatttc tgtgggacga 13080

cgtggacagc gatgtttttt cacctctttc tgatcatcgc acgtggaaaa aggaaggcgg 13140

cgatagaatg cattcttctg catcgctgtc cggggtcatg ggtgctaccg cggctgagcc 13200

cgagtctgca agtccttttc ctagtctacc cttttctcta cacagtgtac gtagcagcga 13260

agtgggtaga ataagtcgcc cgagtttaat gggcgaagag gagtatctaa acgattcctt 13320

gctcagaccg gcaagagaaa aaaatttccc aaacaatgga atagaaagtt tggtggataa 13380

aatgagtaga tggaagactt atgctcagga tcacagagac gagcctggga tcatggggat 13440

tacaagtaga gcgagccgta gacgccagcg ccatgacaga cagaggggtc ttgtgtggga 13500

cgatgaggat tcggccgatg atagcagcgt gctggacttg ggtgggagag gaaggggcaa 13560

cccgtttgct catttgcgcc ctcgcttggg tggtatgttg taaaaaaaaa taaaaaaaaa 13620

actcaccaag gccatggcga cgagcgtacg ttcgttcttc tttattatct gtgtctagta 13680

taatgaggcg agtcgtgcta ggcggagcgg tggtgtatcc ggagggtcct cctccttcgt 13740

acgagagcgt gatgcagcag cagcaggcga cggcggtgat gcaatcccca ctggaggctc 13800

cctttgtgcc tccgcgatac ctggcaccta cggagggcag aaacagcatt cgttattcgg 13860

aactggcacc tcagtacgat accaccaggt tgtatctggt ggacaacaag tcggcggaca 13920

ttgcttctct gaactatcag aatgaccaca gcaacttctt gaccacggtg gtgcaaaaca 13980

atgactttac ccctacggaa gccagcaccc agaccattaa ctttgatgaa cgatcgcggt 14040

ggggcggtca gctaaagacc atcatgcata ctaacatgcc aaacgtgaac gagtatatgt 14100

ttagtaacaa gttcaaagcg cgtgtgatgg tgtccagaaa acctcccgac ggtgctgcag 14160

ttggggatac ttatgatcac aagcaggata ttttgaaata tgagtggttc gagtttactt 14220

tgccagaagg caacttttca gttactatga ctattgattt gatgaacaat gccatcatag 14280

ataattactt gaaagtgggt agacagaatg gagtgcttga aagtgacatt ggtgttaagt 14340

tcgacaccag gaacttcaag ctgggatggg atcccgaaac caagttgatc atgcctggag 14400

tgtatacgta tgaagccttc catcctgaca ttgtcttact gcctggctgc ggagtggatt 14460

ttaccgagag tcgtttgagc aaccttcttg gtatcagaaa aaaacagcca tttcaagagg 14520

gttttaagat tttgtatgaa gatttagaag gtggtaatat tccggccctc ttggatgtag 14580

atgcctatga gaacagtaag aaagaacaaa aagccaaaat agaagctgct acagctgctg 14640

cagaagctaa ggcaaacata gttgccagcg actctacaag ggttgctaac gctggagagg 14700

tcagaggaga caattttgcg ccaacacctg ttccgactgc agaatcatta ttggccgatg 14760

tgtctgaagg aacggacgtg aaactcacta ttcaacctgt agaaaaagat agtaagaata 14820

gaagctataa tgtgttggaa gacaaaatca acacagccta tcgcagttgg tatctttcgt 14880

acaattatgg cgatcccgaa aaaggagtgc gttcctggac attgctcacc acctcagatg 14940

tcacctgcgg agcagagcag gtctactggt cgcttccaga catgatgaag gatcctgtca 15000

ctttccgctc cactagacaa gtcagtaact accctgtggt gggtgcagag cttatgcccg 15060

tcttctcaaa gagcttctac aacgaacaag ctgtgtactc ccagcagctc cgccagtcca 15120

cctcgcttac gcacgtcttc aaccgctttc ctgagaacca gattttaatc cgtccgccgg 15180

cgcccaccat taccaccgtc agtgaaaacg ttcctgctct cacagatcac gggaccctgc 15240

cgttgcgcag cagtatccgg ggagtccaac gtgtgaccgt tactgacgcc agacgccgca 15300

cctgtcccta cgtgtacaag gcactgggca tagtcgcacc gcgcgtcctt tcaagccgca 15360

ctttctaaaa aaaaaaaaaa tgtccattct tatctcgccc agtaataaca ccggttgggg 15420

tctgcgcgct ccaagcaaga tgtacggagg cgcacgcaaa cgttctaccc aacatcctgt 15480

ccgtgttcgc ggacattttc gcgctccatg gggcgccctc aagggccgca ctcgcgttcg 15540

aaccaccgtc gatgatgtaa tcgatcaggt ggttgccgac gcccgtaatt atactcctac 15600

tgcgcctaca tctactgtgg atgcagttat tgacagtgta gtggctgacg ctcgcaacta 15660

tgctcgacgt aagagccggc gaaggcgcat tgccagacgc caccgagcta ccactgccat 15720

gcgagccgca agagctctgc tacgaagagc tagacgcgtg gggcgaagag ccatgcttag 15780

ggcggccaga cgtgcagctt cgggcgccag cgccggcagg tcccgcaggc aagcagccgc 15840

tgtcgcagcg gcgactattg ccgacatggc ccaatcgcga agaggcaatg tatactgggt 15900

gcgtgacgct gccaccggtc aacgtgtacc cgtgcgcacc cgtccccctc gcacttagaa 15960

gatactgagc agtctccgat gttgtgtccc agcggcgagg atgtccaagc gcaaatacaa 16020

ggaagaaatg ctgcaggtta tcgcacctga agtctacggc caaccgttga aggatgaaaa 16080

aaaaccccgc aaaatcaagc gggttaaaaa ggacaaaaaa gaagaggaag atggcgatga 16140

tgggctggcg gagtttgtgc gcgagtttgc cccacggcga cgcgtgcaat ggcgtgggcg 16200

caaagttcga catgtgttga gacctggaac ttcggtggtc tttacacccg gcgagcgttc 16260

aagcgctact tttaagcgtt cctatgatga ggtgtacggg gatgatgata ttcttgagca 16320

ggcggctgac cgattaggcg agtttgctta tggcaagcgt agtagaataa cttccaagga 16380

tgagacagtg tcgataccct tggatcatgg aaatcccacc cctagtctta aaccggtcac 16440

tttgcagcaa gtgttacccg taactccgcg aacaggtgtt aaacgcgaag gtgaagattt 16500

gtatcccact atgcaactga tggtacccaa acgccagaag ttggaggacg ttttggagaa 16560

agtaaaagtg gatccagata ttcaacctga ggttaaagtg agacccatta agcaggtagc 16620

gcctggtctg ggggtacaaa ctgtagacat taagattccc actgaaagta tggaagtgca 16680

aactgaaccc gcaaagccta ctgccacctc cactgaagtg caaacggatc catggatgcc 16740

catgcctatt acaactgacg ccgccggtcc cactcgaaga tcccgacgaa agtacggtcc 16800

agcaagtctg ttgatgccca attatgttgt acacccatct attattccta ctcctggtta 16860

ccgaggcact cgctactatc gcagccgaaa cagtacctcc cgccgtcgcc gcaagacacc 16920

tgcaaatcgc agtcgtcgcc gtagacgcac aagcaaaccg actcccggcg ccctggtgcg 16980

gcaagtgtac cgcaatggta gtgcggaacc tttgacactg ccgcgtgcgc gttaccatcc 17040

gagtatcatc acttaatcaa tgttgccgct gcctccttgc agatatggcc ctcacttgtc 17100

gccttcgcgt tcccatcact ggttaccgag gaagaaactc gcgccgtaga agagggatgt 17160

tgggacgcgg aatgcgacgc tacaggcgac ggcgtgctat ccgcaagcaa ttgcggggtg 17220

gtttttacc agccttaatt ccaattatcg ctgctgcaat tggcgcgata ccaggcatag 17280

cttccgtggc ggttcaggcc tcgcaacgac attgacattg gaaaaaaacg tataaataaa 17340

aaaaaaaaaa tacaatggac tctgacactc ctggtcctgt gactatgttt tcttagagat 17400

ggaagacatc aatttttcat ccttggctcc gcgacacggc acgaagccgt acatgggcac 17460

ctggagcgac atcggcacga gccaactgaa cgggggcgcc ttcaattgga gcagtatctg 17520

gagcgggctt aaaaattttg gctcaaccat aaaaacatac gggaacaaag cttggaacag 17580

cagtacagga caggcgctta gaaataaact taaagaccag aacttccaac aaaaagtagt 17640

cgatgggata gcttccggca tcaatggagt ggtagatttg gctaaccagg ctgtgcagaa 17700

aaagataaac agtcgtttgg acccgccgcc agcaacccca ggtgaaatgc aagtggagga 17760

agaaattcct ccgccagaaa aacgaggcga caagcgtccg cgtcccgatt tggaagagac 17820

gctggtgacg cgcgtagatg aaccgccttc ttatgaggaa gcaacgaagc ttggaatgcc 17880

caccactaga ccgatagccc caatggccac cggggtgatg aaaccttctc agttgcatcg 17940

acccgtcacc ttggatttgc ccctcccccc tgctgctact gctgtacccg cttctaagcc 18000

tgtcgctgcc ccgaaaccag tcgccgtagc caggtcacgt cccgggggcg ctcctcgtcc 18060

aaatgcgcac tggcaaaata ctctgaacag catcgtgggt ctaggcgtgc aaagtgtaaa 18120

acgccgtcgc tgcttttaat taaatatgga gtagcgctta acttgcctat ctgtgtatat 18180

gtgtcattac acgccgtcac agcagcagag gaaaaaagga agaggtcgtg cgtcgacgct 18240

gagttacttt caagatggcc accccatcga tgctgcccca atgggcatac atgcacatcg 18300

ccggacagga tgcttcggag tacctgagtc cgggtctggt gcagttcgcc cgcgccacag 18360

acacctactt caatctggga aataagttta gaaatcccac cgtagcgccg acccacgatg 18420

tgaccaccga ccgtagccag cggctcatgt tgcgcttcgt gcccgttgac cgggaggaca 18480

atacatactc ttacaaagtg cggtacaccc tggccgtggg cgacaacaga gtgctggata 18540

tggccagcac gttctttgac attaggggtg tgttggacag aggtcccagt ttcaaaccct 18600

attctggtac ggcttacaac tccctggctc ctaaaggcgc tccaaataca tctcagtgga 18660

ttgcagaagg tgtaaaaaat acaactggtg aggaacacgt aacagaagag gaaaccaata 18720

ctactactta cacttttggc aatgctcctg taaaagctga agctgaaatt acaaaagaag 18780

gactcccagt aggtttggaa gtttcagatg aagaaagtaa accgatttat gctgataaaa 18840

catatcagcc agaacctcag ctgggagatg aaacttggac tgaccttgat ggaaaaaccg 18900

aaaagtatgg aggcagggct ctcaaacccg atactaagat gaaaccatgc tacgggtcct 18960

ttgccaaacc tactaatgtg aaaggcggtc aggcaaaaca aaaaacaacg gagcagccaa 19020

atcagaaagt cgaatatgat atcgacatgg agtttttga tgcggcatcg cagaaaacaa 19080

acttaagtcc taaaattgtc atgtatgcag aaaatgtaaa tttggaaact ccagacactc 19140

atgtagtgta caaacctgga acagaagaca caagttccga agctaatttg ggacaacaat 19200

ctatgcccaa cagacccaac tacattggct tcagagataa ctttattgga cttatgtact 19260

ataacagtac tggtaacatg ggggtgctgg ctggtcaagc gtctcagtta aatgcagtgg 19320

ttgacttgca ggacagaaac acagaacttt cttaccaact cttgcttgac tctctgggcg 19380

acagaaccag atactttagc atgtggaatc aggctgtgga cagttatgat cctgatgtac 19440

gtgttattga aaatcatggt gtggaagatg aacttcccaa ctactgtttt ccactggacg 19500

gcataggtgt tccaacaacc agttacaaat caatagttcc aaatggagac aatgcgccta 19560

attggaagga acctgaagta aatggaacaa gtgagatcgg acagggtaat ttgtttgcca 19620

tggaaattaa ccttcaagcc aatctatggc gaagtttcct ttattccaat gtggctctat 19680

atctcccaga ctcgtacaaa tacaccccgt ccaatgtcac tcttccagaa aacaaaaaca 19740

cctacgacta catgaacggg cgggtggtgc cgccatctct agtagacacc tatgtgaaca 19800

ttggtgccag gtggtctctg gatgccatgg acaatgtcaa cccattcaac caccaccgta 19860

acgctggctt gcgttaccga tccatgcttc tgggtaacgg acgttatgtg cctttccaca 19920

tacaagtgcc tcaaaaattc ttcgctgtta aaaacctgct gcttctccca ggctcctaca 19980

cttatgagtg gaactttagg aaggatgtga acatggttct acagagttcc ctcggtaacg 20040

acctgcgggt agatggcgcc agcatcagtt tcacgagcat caacctctat gctacttttt 20100

tccccatggc tcacaacacc gcttccaccc ttgaagccat gctgcggaat gacaccaatg 20160

atcagtcatt caacgactac ctatctgcag ctaacatgct ctaccccatt cctgccaatg 20220

caaccaatat tcccatttcc attccttctc gcaactgggc ggctttcaga ggctggtcat 20280

ttaccagact gaaaaccaaa gaaactccct ctttggggtc tggatttgac ccctactttg 20340

tctattctgg ttctattccc tacctggatg gtaccttcta cctgaaccac acttttaaga 20400

aggtttccat catgtttgac tcttcagtga gctggcctgg aaatgacagg ttactatctc 20460

ctaacgaatt tgaaataaag cgcactgtgg atggcgaagg ctacaacgta gcccaatgca 20520

acatgaccaa agactggttc ttggtacaga tgctcgccaa ctacaacatc ggctatcagg 20580

gcttctacat tccagaagga tacaaagatc gcatgtattc atttttcaga aacttccagc 20640

ccatgagcag gcaggtggtt gatgaggtca attacaaaga cttcaaggcc gtcgccatac 20700

cctaccaaca caacaactct ggctttgtgg gttacatggc tccgaccatg cgccaaggtc 20760

aaccctatcc cgctaactat ccctatccac tcattggaac aactgccgta aatagtgtta 20820

cgcagaaaaa gttcttgtgt gacagaacca tgtggcgcat accgttctcg agcaacttca 20880

tgtctatggg ggcccttaca gacttgggac agaatatgct ctatgccaac tcagctcatg 20940

ctctggacat gacctttgag gtggatccca tggatgagcc caccctgctt tatcttctct 21000

tcgaagtttt cgacgtggtc agagtgcatc agccacaccg cggcatcatc gaggcagtct 21060

acctgcgtac accgttctcg gccggtaacg ctaccacgta agaagcttct tgcttcttgc 21120

aaatagcagc tgcaaccatg gcctgcggat cccaaaacgg ctccagcgag caagagctca 21180

gagccattgt ccaagacctg ggttgcggac cctatttttt gggaacctac gataagcgct 21240

tcccggggtt catggccccc gataagctcg cctgtgccat tgtaaatacg gccggacgtg 21300

agacgggggg agagcactgg ttggctttcg gttggaaccc acgttctaac acctgctacc 21360

tttttgatcc ttttggattc tcggatgatc gtctcaaaca gatttaccag tttgaatatg 21420

agggtctcct gcgccgcagc gctcttgcta ccaaggaccg ctgtattacg ctggaaaaat 21480

ctacccagac cgtgcagggt ccccgttctg ccgcctgcgg acttttctgc tgcatgttcc 21540

ttcacgcctt tgtgcactgg cctgaccgtc ccatggacgg aaaccccacc atgaaattgc 21600

taactggagt gccaaacaac atgcttcatt ctcctaaagt ccagcccacc ctgtgtgaca 21660

atcaaaaagc actctaccat tttcttaata cccattcgcc ttattttcgc tcccatcgta 21720

cacacatcga aagggccact gcgttcgacc gtatggatgt tcaataatga ctcatgtaaa 21780

caacgtgttc aataaacatc actttatttt tttacatgta tcaaggctct gcattactta 21840

tttatttaca agtcgaatgg gttctgacga gaatcagaat gacccgcagg cagtgatacg 21900

ttgcggaact gatacttggg ttgccacttg aattcgggaa tcaccaactt gggaaccggt 21960

atatcgggca ggatgtcact ccacagcttt ctggtcagct gcaaagctcc aagcaggtca 22020

ggagccgaaa tcttgaaatc acaattagga ccagtgcttt gagcgcgaga gttgcggtac 22080

accggattgc agcactgaaa caccatcagc gacggatgtc tcacgcttgc cagcacggtg 22140

ggatctgcaa tcatgcccac atccagatct tcagcattgg caatgctgaa cggggtcatc 22200

ttgcaggtct gcctacccat ggcgggcacc caattaggct tgtggttgca atcgcagtgc 22260

agggggatca gtatcatctt ggcctgatcc tgtctgattc ctggatacac ggctctcatg 22320

aaagcatcat attgcttgaa agcctgctgg gctttactac cctcggtata aaacatcccg 22380

caggacctgc tcgaaaactg gttagctgca cagccggcat cattcacaca gcagcgggcg 22440

tcattgttag ctatttgcac cacacttctg ccccagcggt tttgggtgat tttggttcgc 22500

tcgggattct cctttaaggc tcgttgtccg ttctcgctgg ccacatccat ctcgataatc 22560

tgctccttct gaatcataat attgccatgc aggcacttca gcttgccctc ataatcattg 22620

cagccatgag gccacaacgc acagcctgta cattcccaat tatggtgggc gatctgagaa 22680

aaagaatgta tcattccctg cagaaatctt cccatcatcg tgctcagtgt cttgtgacta 22740

gtgaaagtta actggatgcc tcggtgctcc tcgtttacgt actggtgaca gatgcgcttg 22800

tattgttcgt gttgctcagg cattagttta aaagaggttc taagttcgtt atccagcctg 22860

tacttctcca tcagcagaca catcacttcc atgcctttct cccaagcaga caccaggggc 22920

aagctaatcg gattcttaac agtgcaggca gcagctcctt tagccagagg gtcatcttta 22980

gcgatcttct caatgcttct tttgccatcc ttctcaacga tgcgcacggg cgggtagctg 23040

aaacccactg ctacaagttg cgcctcttct ctttcttctt cgctgtcttg actgatgtct 23100

tgcatgggga tatgtttggt cttccttggc ttctttttgg ggggtatcgg aggaggagga 23160

ctgtcgctcc gttccggaga cagggaggat tgtgacgttt cgctcaccat taccaactga 23220

ctgtcggtag aagaacctga ccccacacgg cgacaggtgt ttctcttcgg gggcagaggt 23280

ggaggcgatt gcgaagggct gcggtccgac ctggaaggcg gatgactggc agaacccctt 23340

ccgcgttcgg gggtgtgctc cctgtggcgg tcgcttaact gatttccttc gcggctggcc 23400

attgtgttct cctaggcaga gaaacaacag acatggaaac tcagccattg ctgtcaacat 23460

cgccacgagt gccatcacat ctcgtcctca gcgacgagga aaaggagcag agcttaagca 23520

ttccaccgcc cagtcctgcc accacctcta ccctagaaga taaggaggtc gacgcatctc 23580

atgacatgca gaataaaaaa gcgaaagagt ctgagacaga catcgagcaa gacccgggct 23640

atgtgacacc ggtggaacac gaggaagagt tgaaacgctt tctagagaga gaggatgaaa 23700

actgcccaaa acaacgagca gataactatc accaagatgc tggaaatagg gatcagaaca 23760

ccgactacct catagggctt gacggggaag acgcgctcct taaacatcta gcaagacagt 23820

cgctcatagt caaggatgca ttattggaca gaactgaagt gcccatcagt gtggaagagc 23880

tcagccgcgc ctacgagctt aacctctttt cacctcgtac tccccccaaa cgtcagccaa 23940

acggcacctg cgagccaaat cctcgcttaa acttttatcc agcttttgct gtgccagaag 24000

tactggctac ctatcacatc ttttttaaaa atcaaaaaat tccagtctcc tgccgcgcta 24060

atcgcacccg cgccgatgcc ctactcaatc tgggacctgg ttcacgctta cctgatatag 24120

cttccttgga agaggttcca aagatcttcg agggtctggg caataatgag actcgggccg 24180

caaatgctct gcaaaaggga gaaaatggca tggatgagca tcacagcgtt ctggtggaat 24240

tggaaggcga taatgccaga ctcgcagtac tcaagcgaag catcgaggtc acacacttcg 24300

catatcccgc tgtcaacctg ccccctaaag tcatgacggc ggtcatggac cagttactca 24360

ttaagcgcgc aagtcccctt tcagaagaca tgcatgaccc agatgcctgt gatgagggta 24420

aaccagtggt cagtgatgag cagctaaccc gatggctggg caccgactct cccagggatt 24480

tggaagagcg tcgcaagctt atgatggccg tggtgctggt taccgtagaa ctagagtgtc 24540

tccgacgttt ctttaccgat tcagaaacct tgcgcaaact cgaagagaat ctgcactaca 24600

cttttagaca cggctttgtg cggcaggcat gcaagatatc taacgtggaa ctcaccaacc 24660

tggtttccta catgggtatt ctgcatgaga atcgcctagg acaaagcgtg ctgcacagca 24720

ccctgaaggg ggaagcccgc cgtgattaca tccgcgattg tgtctatctg tacctgtgcc 24780

acacgtggca aaccggcatg ggtgtatggc agcaatgttt agaagaacag aacttgaaag 24840

agcttgacaa gctcttacag aaatctctta aggttctgtg gacagggttc gacgagcgca 24900

ccgtcgcttc cgacctggca gacctcatct tcccagagcg tctcagggtt actttgcgaa 24960

acggattgcc tgactttatg agccagagca tgcttaacaa ttttcgctct ttcatcctgg 25020

aacgctccgg tatcctgccc gccacctgct gcgcactgcc ctccgacttt gtgcctctca 25080

cctaccgcga gtgccccccg ccgctatgga gtcactgcta cctgttccgt ctggccaact 25140

atctctccta ccactcggat gtgatcgagg atgtgagcgg agacggcttg ctggagtgtc 25200

actgccgctg caatctgtgc acgccccacc ggtccctagc ttgcaacccc cagttgatga 25260

gcgaaaccca gataataggc acctttgaat tgcaaggccc cagcagccaa ggcgatgggt 25320

cttctcctgg gcaaagttta aaactgaccc cgggactgtg gacctccgcc tacttgcgca 25380

agtttgctcc ggaagattac cacccctatg aaatcaagtt ctatgaggac caatcacagc 25440

ctccaaaggc cgaactttcg gcctgcgtca tcacccaggg ggcaattctg gcccaattgc 25500

aagccatcca aaaatcccgc caagaatttc tactgaaaaa gggtaagggg gtctaccttg 25560

acccccagac cggcgaggaa ctcaacacaa ggttccctca ggatgtccca acgacgagaa 25620

aacaagaagt tgaaggtgca gccgccgccc ccagaagata tggaggaaga ttgggacagt 25680

caggcagagg aggcggagga ggacagtctg gaggacagtc tggaggaaga cagtttggag 25740

gaggaaaacg aggaggcaga ggaggtggaa gaagtaaccg ccgacaaaca gttatcctcg 25800

gctgcggaga caagcaacag cgctaccatc tccgctccga gtcgaggaac ccggcggcgt 25860

cccagcagta gatgggacga gaccggacgc ttcccgaacc caaccagcgc ttccaagacc 25920

ggtaagaagg atcggcaggg atacaagtcc tggcgggggc ataagaatgc catcatctcc 25980

tgcttgcatg agtgcggggg caacatatcc ttcacgcggc gctacttgct attccaccat 26040

ggggtgaact ttccgcgcaa tgttttgcat tactaccgtc acctccacag cccctactat 26100

agccagcaaa tcccggcagt ctcgacagat aaagacagcg gcggcgacct ccaacagaaa 26160

accagcagcg gcagttagaa aatacacaac aagtgcagca acaggaggat taaagattac 26220

agccaacgag ccagcgcaaa cccgagagtt aagaaatcgg atctttccaa ccctgtatgc 26280

catcttccag cagagtcggg gtcaagagca ggaactgaaa ataaaaaacc gatctctgcg 26340

ttcgctcacc agaagttgtt tgtatcacaa gagcgaagat caacttcagc gcactctcga 26400

ggacgccgag gctctcttca acaagtactg cgcgctgact cttaaagagt aggcagcgac 26460

cgcgcttatt caaaaaaggc gggaattaca tcatcctcga catgagtaaa gaaattccca 26520

cgccttacat gtggagttat caaccccaaa tgggattggc ggcaggcgcc tcccaggact 26580

actccacccg catgaattgg ctcagcgccg ggccttctat gatttctcga gttaatgata 26640

tacgcgccta ccgaaaccaa atacttttgg aacagtcagc tcttaccacc acgccccgcc 26700

aacaccttaa tcccagaaat tggcccgccg ccctagtgta ccaggaaagt cccgctccca 26760

ccactgtatt acttcctcga gacgcccagg ccgaagtcca aatgactaat gcaggtgcgc 26820

agttagctgg cggctccacc ctatgtcgtc acaggcctcg gcataatata aaacgcctga 26880

tgatcagagg ccgaggtatc cagctcaacg acgagtcggt gagctctccg cttggtctac 26940

gaccagacgg aatctttcag attgccggct gcgggagatc ttccttcacc cctcgtcagg 27000

ctgttctgac tttggaaagt tcgtcttcgc aaccccgctc gggcggaatc gggaccgttc 27060

aatttgtgga ggagtttact ccctctgtct acttcaaccc cttctccgga tctcctgggc 27120

attacccgga cgagttcata ccgaacttcg acgcgattag cgagtcagtg gacggctacg 27180

attgatgtct ggtgacgcgg ctgagctatc tcggctgcga catctagacc actgccgccg 27240

ctttcgctgc tttgcccggg aactcattga gttcatctac ttcgaactcc ccaaggatca 27300

ccctcaaggt ccggcccacg gagtgcggat ttctatcgaa ggcaaaatag actctcgcct 27360

gcaacgaatt ttctcccagc ggcccgtgct gatcgagcga gaccagggaa acaccacggt 27420

ttccatctac tgcatttgta atcaccccgg attgcatgaa agcctttgct gtcttatgtg 27480

tactgagttt aataaaaact gaattaagac tctcctacgg actgccgctt cttcaacccg 27540

gattttacaa ccagaagaac gaaacttttc ctgtcgtcca ggactctgtt aacttcacct 27600

ttcctactca caaactagaa gctcaacgac tacaccgctt ttccagaagc attttcccta 27660

ctaatactac tttcaaaacc ggaggtgagc tccaaggtct tcctacagaa aacccttggg 27720

tggaagcggg ccttgtagtg ctaggaattc ttgcgggtgg gcttgtgatt attctttgct 27780

acctatacac accttgcttc actttcttag tggtgttgtg gtattggttt aaaaaatggg 27840

gcccatacta gtcttgcttg ttttactttc gcttttggaa ccgggttctg ccaattacga 27900

tccatgtcta gacttcgacc cagaaaactg cacacttact tttgcacccg acacaagccg 27960

catctgtgga gttcatcgcc tctcttacga acttggcccc caacgacaaa aatttacctg 28020

catggtggga atcaacccca tagttatcac ccagcaaagt ggagatacta agggttgcat 28080

tcactgctcc tgcgattcca tcgagtgcac ctacaccctg ctgaagaccc tatgcggcct 28140

aagagacctg ctaccaatga attaaaaaat gattaataaa aaatcactta cttgaaatca 28200

gcaataaggt ctctgttgaa attttctccc agcagcacct cacttccctc ttcccaactc 28260

tggtattcta aaccccgttc agcggcatac tttctccata ctttaaaggg gatgtcaaat 28320

tttagctcct ctcctgtacc cacaatcttc atgtctttct tcccagatga ccaagagagt 28380

ccggctcagt gactccttca accctgtcta cccctatgaa gatgaaagca cctcccaaca 28440

ccccttttata aacccagggt ttatttcccc aaatggcttc acacaaagcc caaacggagt 28500

tcttacttta aaatgtttaa ccccactaac aaccacaggc ggatctctac agctaaaagt 28560

gggaggggga cttacagtgg atgacaccaa cggtttttg aaagaaaaca taagtgccac 28620

cacaccactc gttaagactg gtcactctat aggtttacca ctaggagccg gattgggaac 28680

gaatgaaaat aaactttgta tcaaattagg acaaggactt acattcaatt caaacaacat 28740

ttgcattgat gacaatatta acaccttatg gacaggagtc aaccccaccg aagccaactg 28800

tcaaatcatg aactccagtg aatctaatga ttgcaaatta attctaacac tagttaaaac 28860

tggagcacta gtcactgcat ttgtttatgt tataggagta tctaacaatt ttaatatgct 28920

aactacacac agaaatataa attttactgc agagctgttt ttcgattcta ctggtaattt 28980

actaactaga ctctcatccc tcaaaactcc acttaatcat aaatcaggac aaaacatggc 29040

tactggtgcc attactaatg ctaaaggttt catgcccagc acgactgcct atcctttcaa 29100

tgataattct agagaaaaag aaaactacat ttacggaact tgttactaca cagctagtga 29160

tcgcactgct tttcccattg acatatctgt catgcttaac cgaagagcaa taaatgacga 29220

gacatcatat tgtattcgta taacttggtc ctggaacaca ggagatgccc cagaggtgca 29280

aacctctgct acaaccctag tcacctcccc atttaccttt tactacatca gagaagacga 29340

ctgacaaata aagtttgcga tcgctttctc tcttcaggcc caccatgggc tggagctgca 29400

tcatcttgtt cctggtcgca actgctaccg gagtccattc ggacatcgtc atgacccaaa 29460

gccctgactc gctcgctgtg tcactgggag agcgggcgac tatcaactgc aaatcatccc 29520

agagcctgct gtattcacgc aatcagaaaa actacctggc ctggtatcag cagaagccgg 29580

gccagcctcc caagctgctg atcttctggg cctccacccg cgaaagcggc gtgccggacc 29640

gcttcagcgg aagcggattc ggaactgact ttactctgac cattagctcc ttgcaggcgg 29700

aggacgtggc cgtctactac tgccagcagt atttctccta tccgctcacc tttgggcaag 29760

gcaccaaggt ggagattaag ggagggggcg gcagcggggg aggcggcagc ggcggcgggg 29820

gatcgcaggt ccagctcgtc caatccggag ccgaagtcaa gaagccggga gcgtcggtca 29880

aggtcagctg caaaacttcg cgctacacct tcactgagta cacgatccac tgggtccgcc 29940

aggcgcccgg ccagcggctg gagtggatcg gcgggatcaa cccaaacaac ggaatcccaa 30000

attacaatca gaaatttaaa gggcgggtga ctatcaccgt ggatacctcg gcctccacgg 30060

cgtacatgga gctctcatca ctcagatcgg aggacaccgc ggtctattac tgcgcccgcc 30120

gccggatcgc ttatggatac gatgaaggac atgcgatgga ttactggggc cagggcaccc 30180

tcgtcacggt gtcgtcagga ggcggcggtt cagatgtgca actcgtgcag tccggtgcgg 30240

aagtgaaaaa gccgggcgcg agcgtcaaag tgtcatgcaa ggcgtcagga tatacgttta 30300

ctagatacac tatgcactgg gtgcgccagg cacctggtca gggccttgaa tggatcggct 30360

acatcaatcc gtcgagaggc tacactaatt acgcggactc agtcaaaggg cgcttcacga 30420

ttacgaccga caagtccacc tcgactgcat acatggaact gtcctcgctg agaagcgagg 30480

acaccgctac ttactactgc gctagatact acgatgatca ctactgcctc gattactggg 30540

gccagggaac cactgtcacg gtgtcatcgg gagagggcac ctcaaccgga tcaggggat 30600

cgggaggctc gggcggcgca gacgacatcg tcctgaccca gtcgcccgcc accttgtcgc 30660

tgtccccagg agaaagagcg accctgtcat gccgggcgtc gcaaagcgtg agctatatga 30720

attggtatca gcagaagcca ggaaaggcgc cgaagagatg gatctacgac acctccaagg 30780

tcgcttcagg tgtcccggct agattctcag gatcgggatc aggaacggac tactccctga 30840

ccatcaattc actggaagca gaagatgcgg ccacctacta ctgtcagcag tggtcctcca 30900

acccgctgac tttcggaggc ggaactaagg tcgagatcaa gcatcaccat caccatcacc 30960

accatcacca ttaggctagc ttgactgact gagatacagc gtaccttcag ctcacagaca 31020

tgataagata cattgatgag tttggacaaa ccacaactag aatgcagtga aaaaaatgct 31080

ttatttgtga aatttgtgat gctattgctt tatttgtaac cattataagc tgcaataaac 31140

aagttaacaa caacaattgc attcatttta tgtttcaggt tcaggggggag gtgtgggagg 31200

ttttttaaag caagtaaaac ctctacaaat gtggtagtcg tcagctatcc tgcaggaact 31260

tgtttatttg aaaatcaatt cacaaaatcc gagtagttat tttgcctccc ccttcccatt 31320

taacagaata caccaatctc tccccacgca cagctttaaa catttggata ccattagata 31380

tagacatggt tttagattcc acattccaaa cagtttcaga gcgagccaat ctggggtcag 31440

tgatagataa aaatccatcg ggatagtctt ttaaagcgct ttcacagtcc aactgctgcg 31500

gatgcgactc cggagtctgg atcacggtca tctggaagaa gaacgatggg aatcataatc 31560

cgaaaacggt atcggacgat tgtgtctcat caaacccaca agcagccgct gtctgcgtcg 31620

ctccgtgcga ctgctgttta tgggatcagg gtccacagtg tcctgaagca tgattttaat 31680

agcccttaac atcaactttc tggtgcgatg cgcgcagcaa cgcattctga tttcactcaa 31740

atctttgcag taggtacaac acattattac aatattgttt aataaaccat aattaaaagc 31800

gctccagcca aaactcatat ctgatataat cgcccctgca tgaccatcat accaaagttt 31860

aatataaatt aaatgacgtt ccctcaaaaa cacactaccc acatacatga tctcttttgg 31920

catgtgcata ttaacaatct gtctgtacca tggacaacgt tggttaatca tgcaacccaa 31980

tataaccttc cggaaccaca ctgccaacac cgctccccca gccatgcatt gaagtgaacc 32040

ctgctgatta caatgacaat gaagaaccca attctctcga ccgtgaatca cttgagaatg 32100

aaaaatatct atagtggcac aacatagaca taaatgcatg catcttctca taatttttaa 32160

ctcctcagga tttagaaaca tatcccaggg aataggaagc tcttgcagaa cagtaaagct 32220

ggcagaacaa ggaagaccac gaacacaact tacactatgc atagtcatag tatcacaatc 32280

tggcaacagc gggtggtctt cagtcataga agctcgggtt tcattttcct cacaacgtgg 32340

taactgggct ctggtgtaag ggtgatgtct ggcgcatgat gtcgagcgtg cgcgcaacct 32400

tgtcataatg gagttgcttc ctgacattct cgtattttgt atagcaaaac gcggccctgg 32460

cagaacacac tcttcttcgc cttctatcct gccgcttagc gtgttccgtg tgatagttca 32520

agtacaacca cactcttaag ttggtcaaaa gaatgctggc ttcagttgta atcaaaactc 32580

catcgcatct aatcgttctg aggaaatcat ccaagcaatg caactggatt gtgtttcaag 32640

caggagagga gagggaagag acggaagaac catgttaatt tttattccaa acgatctcgc 32700

agtacttcaa attgtagatc gcgcagatgg catctctcgc ccccactgtg ttggtgaaaa 32760

agcacagcta gatcaaaaga aatgcgattt tcaaggtgct caacggtggc ttccagcaaa 32820

gcctccacgc gcacatccaa gaacaaaaga ataccaaaag aaggagcatt ttctaactcc 32880

tcaatcatca tattacattc ctgcaccatt cccagataat tttcagcttt ccagccttga 32940

attattcgtg tcagttcttg tggtaaatcc aatccacaca ttacaaacag gtcccggagg 33000

gcgccctcca ccaccattct taaacacacc ctcataatga caaaatatct tgctcctgtg 33060

tcacctgtag cgaattgaga atggcaacat caattgacat gcccttggct ctaagttctt 33120

ctttaagttc tagttgtaaa aactctctca tattatcacc aaactgctta gccagaagcc 33180

ccccgggaac aagagcaggg gacgctacag tgcagtacaa gcgcagacct ccccaattgg 33240

ctccagcaaa aacaagattg gaataagcat attgggaacc gccagtaata tcatcgaagt 33300

tgctggaaat ataatcaggc agagtttctt gtaaaaattg aataaaagaa aaatttgcca 33360

aaaaaacatt caaaacctct gggatgcaaa tgcaataggt taccgcgctg cgctccaaca 33420

ttgttagttt tgaattagtc tgcaaaaata aaaaaaaaaa caagcgtcat atcatagtag 33480

cctgacgaac agatggataa atcagtcttt ccatcacaag acaagccaca gggtctccag 33540

ctcgaccctc gtaaaacctg tcatcatgat taaacaacag caccgaaagt tcctcgcggt 33600

gaccagcatg aataattctt gatgaagcat acaatccaga catgttagca tcagttaacg 33660

agaaaaaaca gccaacatag cctttgggta taattatgct taatcgtaag tatagcaaag 33720

ccacccctcg cggatacaaa gtaaaaggca caggagaata aaaaatataa ttatttctct 33780

gctgctgttc aggcaacgtc gcccccggtc cctctaaata cacatacaaa gcctcatcag 33840

ccatggctta ccagacaaag tacagcgggc acacaaagca caagctctaa agtgactctc 33900

caacctctcc acaatatata tatacacaag ccctaaactg acgtaatggg agtaaagtgt 33960

aaaaaatccc gccaaaccca acacacaccc cgaaactgcg tcaccaggga aaagtacagt 34020

ttcacttccg caatcccaac aggcgtaact tcctctttct cacggtacgt gatatcccac 34080

taacttgcaa cgtcattttc ccacggtcgc accgcccctt ttagccgtta accccacagc 34140

caatcaccac acgatccaca ctttttaaaa tcacctcatt tacatattgg caccattcca 34200

tctataaggt atattatata gataga 34226

<210> 81
<211> 34180
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-617 Genome

<400> 81
tctatctata taatatacct tatagatgga atggtgccaa tatgtaaatg aggtgatttt 60

aaaaagtgtg gatcgtgtgg tgattggctg tggggttaac ggctaaaagg ggcggtgcga 120

ccgtgggaaa atgacgtttt gtgggggtgg agtttttttg caagttgtcg cgggaaatgt 180

gacgcataaa aaggcttttt tctcacggaa ctacttagtt ttcccacggt atttaacagg 240

aaatgaggta gttttgaccg gatgcaagtg aaaattgttg attttcgcgc gaaaactgaa 300

tgaggaagtg tttttctgaa taatgtggta tttatggcag ggtggagtat ttgttcaggg 360

ccaggtagac tttgacccat tacgtggagg tttcgattac cgtgtttttt acctgaattt 420

ccgcgtaccg tgtcaaagtc ttctgttttt acgtaggtgt cagctgatcg ctagggtatt 480

tatacctcag ggtttgtgtc aagaggccac tcttgagtgc cagcgagaag agttttctcc 540

tctgcgccgg cagtttaata ataaaaaaat gagagatttg cgatttctgc ctcaggaaat 600

aatctctgct gagactggaa atgaaatatt ggagcttgtg gtgcacgccc tgatgggaga 660

cgatccggag ccacctgtgc agctttttga gcctcctacg cttcaggaac tgtatgattt 720

agaggtagag ggatcggagg attctaatga ggaagctgta aatggctttt ttaccgattc 780

tatgctttta gctgctaatg aagggttaga attagatccg cctttggaca cttttgatac 840

tccaggggta attgtggaaa gcggtacagg tgtaagaaaa ttacctgatt tgagttccgt 900

ggactgtgat ttgcactgct atgaagacgg gtttcctccg agtgatgagg aggaccatga 960

aaaggagcag tccatgcaga ctgcagcggg tgagggagtg aaggctgcca atgttggttt 1020

tcagttggat tgcccggagc ttcctggaca tggctgtaag tcttgtgaat ttcacaggaa 1080

aaatactgga gtaaaggaac tgttatgttc gctttgttat atgagaacgc actgccactt 1140

tatttacagt aagtgtgttt aagttaaaat ttaaaggaat atgctgtttt tcacatgtat 1200

attgagtgtg agttttgtgc ttcttattat aggtcctgtg tctgatgctg atgaatcacc 1260

atctcctgat tctactacct cacctcctga gattcaagca cctgttcctg tggacgtgcg 1320

caagcccatt cctgtgaagc ttaagcctgg gaaacgtcca gcagtggaaa aacttgagga 1380

cttgttacag ggtggggacg gacctttgga cttgagtaca cggaaacgtc caagacaata 1440

agtgttccat atccgtgttt acttaaggtg acgtcaatat ttgtgtgaca gtgcaatgta 1500

ataaaaatat gttaactgtt cactggtttt tattgctttt tgggcgggga ctcaggtata 1560

taagtagaag cagacctgtg tggttagctc ataggagctg gctttcatcc atggaggttt 1620

gggccatttt ggaagacctt aggaagacta ggcaactgtt agagaacgct tcggacggag 1680

tctccggttt ttggagattc tggttcgcta gtgaattagc tagggtagtt tttaggataa 1740

aacaggacta taaacaagaa tttgaaaagt tgttggtaga ttgcccagga ctttttgaag 1800

ctcttaattt gggccatcag gttcacttta aagaaaaagt tttatcagtt ttagactttt 1860

caaccccagg tagaactgct gctgctgtgg cttttcttac ttttatatta gataaatgga 1920

tcccgcagac tcatttcagc aggggatacg ttttggattt catagccaca gcattgtgga 1980

gaacatggaa ggttcgcaag atgaggacaa tcttaggtta ctggccagtg cagcctttgg 2040

gtgtagcggg aatcctgagg catccaccgg tcatgccagc ggttctggag gaggaacagc 2100

aagaggacaa cccgagagcc ggcctggacc ctccagtgga ggaggcggag tagctgactt 2160

gtctcctgaa ctgcaacggg tgcttactgg atctacgtcc actggacggg ataggggcgt 2220

taagagggag agggcatcta gtggtactga tgctagatct gagttggctt taagtttaat 2280

gagtcgcaga cgtcctgaaa ccatttggtg gcatgaggtt cagaaagagg gaagggatga 2340

agtttctgta ttgcaggaga aatattcact ggaacaggtg aaaacatgtt ggttggagcc 2400

tgaggatgat tgggaggtgg ccattaaaaa ttatgccaag atagctttga ggcctgataa 2460

acagtataag attactagac ggattaatat ccggaatgct tgttacatat ctggaaatgg 2520

ggctgaggtg gtaatagata ctcaagacaa ggcagttatt agatgctgca tgatggatat 2580

gtggcctggg gtagtcggta tggaagcagt aacttttgta aatgttaagt ttaggggaga 2640

tggttataat ggaatagtgt ttatggccaa taccaaactt atattgcatg gttgtagctt 2700

ttttggtttc aacaatacct gtgtagatgc ctggggacag gttagtgtac ggggatgtag 2760

tttctatgcg tgttggattg ccacagctgg cagaaccaag agtcaattgt ctctgaagaa 2820

atgcatattt caaagatgta acctgggcat tctgaatgaa ggcgaagcaa gggtccgcca 2880

ctgcgcttct acagatactg gatgttttat tttgattaag ggaaatgcca gcgtaaagca 2940

taacatgatt tgcggtgctt ccgatgagag gccttatcaa atgctcactt gtgctggtgg 3000

gcattgtaat atgctggcta ctgtgcatat tgtttcccat caacgcaaaa aatggcctgt 3060

ttttgatcac aatgtgatga cgaagtgtac catgcatgca ggtgggcgta gaggaatgtt 3120

tatgccttac cagtgtaaca tgaatcatgt gaaagtgttg ttggaaccag atgccttttc 3180

cagaatgagc ctaacaggaa tttttgacat gaacatgcaa atctggaaga tcctgaggta 3240

tgatgatacg agatcgaggg tacgcgcatg cgaatgcgga ggcaagcatg ccaggttcca 3300

gccggtgtgt gtagatgtga ctgaagatct cagaccggat catttggtta ttgcccgcac 3360

tggagcagag ttcggatcca gtggagaaga aactgactaa ggtgagtatt gggaaaactt 3420

tggggtggga ttttcagatg gacagattga gtaaaaattt gtttttttctg tcttgcagct 3480

gtcatgagtg gaaacgcttc ttttaagggg ggagtcttca gcccttatct gacagggcgt 3540

ctcccatcct gggcaggagt tcgtcagaat gttatgggat ctactgtgga tggaagaccc 3600

gtccaacccg ccaattcttc aacgctgacc tatgctactt taagttcttc acctttggac 3660

gcagctgcag ctgccgccgc cgcttctgtt gccgctaaca ctgtgcttgg aatgggttac 3720

tatggaagca tcatggctaa ttccacttcc tctaataacc cttctaccct gactcaggac 3780

aagttacttg tccttttggc ccagctggag gctttgaccc aacgtctggg tgaactttct 3840

cagcaggtgg tcgagttgcg agtacaaact gagtctgctg tcggcacggc aaagtctaaa 3900

taaaaaaatc ccagaatcaa tgaataaata aacaagcttg ttgttgattt aaaatcaagt 3960

gtttttattt catttttcgc gcacggtatg ccctagacca ccgatctcta tcattgagaa 4020

ctcggtggat tttttccagg atcctataga ggtgggattg aatgtttaga tacatgggca 4080

ttaggccgtc tttggggtgg agatagctcc attgaaggga ttcatgctcc ggggtagtgt 4140

tgtaaatcac ccagtcataa caaggtcgca gtgcatggtg ttgcacaata tcttttagaa 4200

gtaggctgat tgccacagat aagcccttgg tgtaggtgtt tacaaaccgg ttgagctggg 4260

atgggtgcat tcggggtgaa attatgtgca ttttggattg gatttttaag ttggcaatat 4320

tgccgccaag atcccgtctt gggttcatgt tatgaaggac caccaagacg gtgtatccgg 4380

tacatttagg aaatttatcg tgcagcttgg atggaaaagc gtggaaaaat ttggagacac 4440

ccttgtgtcc tccaagattt tccatgcact catccatgat aatagcaatg gggccgtggg 4500

cagcggcgcg ggcaaacacg ttccgtgggt ctgacacatc atagttatgt tcctgagtta 4560

aatcatcata agccatttta atgaatttgg ggcggagagt accagattgg ggtatgaatg 4620

ttccttcggg ccccggagca tagttcccct cacagatttg catttcccaa gctttcagtt 4680

ccgagggtgg aatcatgtcc acctgggggg ctatgaaaaa caccgtttct ggggcggggg 4740

tgattaattg tgatgatagc aaatttctga gcaattgaga tttgccacat ccggtggggc 4800

cataaatgat tccgattacg ggttgcaggt ggtagtttag ggaacggcaa ctgccgtctt 4860

ctcgaagcaa gggggccacc tcgttcatca tttcccttac atgcatattt tcccgcacca 4920

aatccattag gaggcgctct cctcctagtg atagaagttc ttgtagtgag gaaaagtttt 4980

tcagcggttt cagaccgtca gccatgggca ttttggagag agtttgctgc aaaagttcta 5040

gtctgttcca cagttcagtg atgtgttcta tggcatctcg atccagcaga cctcctcgtt 5100

tcgcgggttt ggacggctcc tggaataggg tatgagacga tgggcgtcca gcgctgccag 5160

ggttcggtcc ttccagggtc tcagtgttcg agtcagggtt gtttccgtca cagtgaaggg 5220

gtgtgcgcct gcttgggcgc ttgccagggt gcgcttcaga ctcatcctgc tggtcgaaaa 5280

cttctgtcgc ttggcgccct gtatgtcggc caagtagcag tttaccatga gttcgtagtt 5340

gagcgcctcg gctgcgtggc ctttggcgcg gagcttacct ttggaagttt tcttgcatac 5400

cgggcagtat aggcatttca gcgcatacaa cttgggcgca aggaaaacgg attctgggga 5460

gtatgcatct gcgccgcagg aggcgcaaac agtttcacat tccaccagcc aggttaaatc 5520

cggttcattg gggtcaaaaa caagttttcc gccatatttt ttgatgcgtt tcttaccttt 5580

ggtctccatg agttcgtgtc ctcgttgagt gacaaacagg ctgtccgtgt ccccgtagac 5640

tgattttaca ggcctcttct ccagtggagt gcctcggtct tcttcgtaca ggaactctga 5700

ccactctgat acaaaggcgc gcgtccaggc cagcacaaag gaggctatgt gggaggggta 5760

gcgatcgttg tcaaccaggg ggtccacctt ttccaaagta tgcaaacaca tgtcaccctc 5820

ttcaacatcc aggaatgtga ttggcttgta ggtgtatttc acgtgacctg gggtccccgc 5880

tgggggggta taaaaggggg cggttctttg ctcttcctca ctgtcttccg gatcgctgtc 5940

caggaacgtc agctgttggg gtaggtattc cctctcgaag gcgggcatga cctctgcact 6000

caggttgtca gtttctaaga acgaggagga tttgatattg acagtgccgg ttgagatgcc 6060

tttcatgagg ttttcgtcca tctggtcaga aaacacaatt tttttattgt caagtttggt 6120

ggcaaatgat ccatacaggg cgttggataa aagtttggca atggatcgca tggtttggtt 6180

ctttccttg tccgcgcgct ctttggcggc gatgttgagt tggacatact cgcgtgccag 6240

gcacttccat tcggggaaga tagttgttaa ttcatctggc acgattctca cttgccaccc 6300

tcgattatgc aaggtaatta aatccacact ggtggccacc tcgcctcgaa ggggttcatt 6360

ggtccaacag agcctacctc ctttcctaga acagaaaggg ggaagtgggt ctagcataag 6420

ttcatcggga gggtctgcat ccatggtaaa gattcccgga agtaaatcct tatcaaaata 6480

gctgatggga gtggggtcat ctaaggccat ttgccattct cgagctgcca gtgcgcgctc 6540

atatgggtta aggggactgc cccatggcat gggatgggtg agtgcagagg catacatgcc 6600

acagatgtca tagacgtaga tgggatcctc aaagatgcct atgtaggttg gatagcatcg 6660

ccccccctctg atacttgctc gcacatagtc atatagttca tgtgatggcg ctagcagccc 6720

cggacccaag ttggtgcgat tgggtttttc tgttctgtag acgatctggc gaaagatggc 6780

gtgagaattg gaagagatgg tgggtctttg aaaaatgttg aaatgggcat gaggtagacc 6840

tacagagtct ctgacaaagt gggcataaga ttcttgaagc ttggttacca gttcggcggt 6900

gacaagtacg tctagggcgc agtagtcaag tgtttcttga atgatgtcat aacctggttg 6960

gtttttcttt tcccacagtt cgcggttgag aaggtattct tcgcgatcct tccagtactc 7020

ttctagcgga aacccgtctt tgtctgcacg gtaagatcct agcatgtaga actgattaac 7080

tgccttgtaa gggcagcagc ccttctctac gggtagagag tatgcttgag cagcttttcg 7140

tagcgaagcg tgagtaaggg caaaggtgtc tctgaccatg actttgagga attggtattt 7200

gaagtcgatg tcgtcacagg ctccctgttc ccagagttgg aagtctaccc gtttcttgta 7260

ggcggggttg ggcaaagcga aagtaacatc attgaagaga atcttgccgg ccctgggcat 7320

gaaattgcga gtgatgcgaa aaggctgtgg tacttccgct cggttattga taacctgggc 7380

agctaggacg atctcgtcga aaccgttgat gttgtgtcct acgatgtata attctatgaa 7440

acgcggcgtg cctctgacgt gaggtagctt actgagctca tcaaaggtta ggtctgtggg 7500

gtcagataag gcgtagtgtt cgagagccca ttcgtgcagg tgaggattcg ctttaaggaa 7560

ggaggaccag aggtccactg ccagtgctgt ttgtaactgg tcccggtact gacgaaaatg 7620

ccgtccgact gccatttttt ctggggtgac gcaatagaag gtttgggggt cctgccgcca 7680

gcgatcccac ttgagtttta tggcgaggtc ataggcgatg ttgacgagcc gctggtctcc 7740

agagagtttc atgaccagca tgaaggggat tagctgcttg ccaaaggacc ccatccaggt 7800

gtaggtttcc acatcgtagg tgagaaagag cctttctgtg cgaggatgag agccaatcgg 7860

gaagaactgg atctcctgcc accagttgga ggaatggctg ttgatgtgat ggaagtagaa 7920

ctccctgcga cgcgccgagc attcatgctt gtgcttgtac agacggccgc agtagtcgca 7980

gcgttgcacg ggttgtatct cgtgaatgag ttgtacctgg cttcccttga cgagaaattt 8040

cagtgggaag ccgaggcctg gcgattgtat ctcgtgcttt actatgttgt ctgcatcggc 8100

ctgttcatct tctgtctcga tggtggtcat gctgacgagc cctcgcggga ggcaagtcca 8160

gacctcggcg cggcaggggc ggagctcgag gacgagagcg cgcaggctgg agctgtccag 8220

ggtcctgaga cgctgcggac tcaggttagt aggcagtgtc aggagattaa cttgcatgat 8280

cttttggagg gcgtgcggga ggttcagata gtacttgatc tcaacgggtc cgttggtgga 8340

gatgtcgatg gcttgcaggg ttccgtgtcc cttgggcgct accaccgtgc ccttgttttt 8400

cattttggac ggcggtggct ctgttgcttc ttgcatgttt agaagcggtg tcgagggcgc 8460

gcaccgggcg gcaggggcgg ctcgggaccc ggcggcatgg ctggcagtgg tacgtcggcg 8520

ccgcgcgcgg gtaggttctg gtactgcgcc ctgagaagac tcgcatgcgc gacgacgcgg 8580

cggttgacat cctggatctg acgcctctgg gtgaaagcta ccggccccgt gagcttgaac 8640

ctgaaagaga gttcaacaga atcaatctcg gtatcgttga cggcggcttg cctaaggatt 8700

tcttgcacgt caccagagtt gtcctggtag gcgatctccg ccatgaactg ctcgatctct 8760

tcctcttgaa gatctccgcg gcccgctctc tcgacggtgg ccgcgaggtc gttggagatg 8820

cgcccaatga gttgagagaa tgcattcatg cccgcctcgt tccagacgcg gctgtagacc 8880

acggccccca cgggatctct cgcgcgcatg accacctggg cgaggttgag ctccacgtgg 8940

cgggtgaaga ccgcatagtt gcataggcgc tggaaaaggt agttgagtgt ggtggcgatg 9000

tgctcggtga cgaagaaata catgatccat cgtctcagcg gcatctcgct gacatcgccc 9060

agagcttcca agcgctccat ggcctcgtag aagtccacgg caaaattaaa aaactgggag 9120

tttcgcgcgg acacggtcaa ctcctcttcc agaagacgga taagttcggc gatggtggtg 9180

cgcacctcgc gctcgaaagc ccctgggatt tcttcctcaa tctcttcttc ttccactaac 9240

atctcttcct cttcaggtgg ggctgcagga ggaggggggaa cgcggcgacg ccggcggcgc 9300

acgggcagac ggtcgatgaa tctttcaatg acctctccgc ggcggcggcg catggtttca 9360

gtgacggcgc ggccgttctc gcgcggtcgc agagtaaaaa caccgccgcg catctcctta 9420

aagtggtgac tgggaggttc tccgtttggg agggagaggg cgctgattat acattttatt 9480

aattggcccg tagggactgc acgcagagat ctgatcgtgt caagatccac gggatctgaa 9540

aacctttcga cgaaagcgtc taaccagtca cagtcacaag gtaggctgag tacggcttct 9600

tgtgggcggg ggtggttatg tgttcggtct gggtcttctg tttcttcttc atctcgggaa 9660

ggtgagacga tgctgctggt gatgaaatta aagtaggcag ttctaagacg gcggatggtg 9720

gcgaggagca ccaggtcttt gggtccggct tgctggatac gcaggcgatt ggccattccc 9780

caagcattat cctgacatct agcaagatct ttgtagtagt cttgcatgag ccgttctacg 9840

ggcacttctt cctcacccgt tctgccatgc atacgtgtga gtccaaatcc gcgcattggt 9900

tgtaccagtg ccaagtcagc tacgactctt tcggcgagga tggcttgctg tacttgggta 9960

agggtggctt gaaagtcatc aaaatccaca aagcggtggt aagctcctgt attaatggtg 10020

taagcacagt tggccatgac tgaccagtta actgtctggt gaccagggcg cacgagctcg 10080

gtgtatttaa ggcgcgaata ggcgcgggtg tcaaagatgt aatcgttgca ggtgcgcacc 10140

agatactggt accctataag aaaatgcggc ggtggttggc ggtagagagg ccatcgttct 10200

gtagctggag cgccaggggc gaggtcttcc aacataaggc ggtgatagcc gtagatgtac 10260

ctggacatcc aggtgattcc tgcggcggta gtagaagccc gaggaaactc gcgtacgcgg 10320

ttccaaatgt tgcgtagcgg catgaagtag ttcattgtag gcacggtttg accagtgagg 10380

cgcgcgcagt cattgatgct ctatagacac ggagaaaatg aaagcgttca gcgactcgac 10440

tccgtagcct ggaggaacgt gaacgggttg ggtcgcggtg taccccggtt cgagacttgt 10500

actcgagccg gccggagccg cggctaacgt ggtattggca ctcccgtctc gacccagcct 10560

acaaaaatcc aggatacgga atcgagtcgt tttgctggtt tccgaatggc agggaagtga 10620

gtcctatttt ttttttttgc cgctcagatg catcccgtgc tgcgacagat gcgcccccaa 10680

caacagcccc cctcgcagca gcagcagcag caatcacaaa aggctgtccc tgcaactact 10740

gcaactgccg ccgtgagcgg tgcgggacag cccgcctatg atctggactt ggaagagggc 10800

gaaggactgg cacgtctagg tgcgccttca cccgagcggc atccgcgagt tcaactgaaa 10860

aaagattctc gcgaggcgta tgtgccccaa cagaacctat ttagagacag aagcggcgag 10920

gagccggagg agatgcgagc ttcccgcttt aacgcgggtc gtgagctgcg tcacggtttg 10980

gaccgaagac gagtgttgcg ggacgaggat ttcgaagttg atgaaatgac agggatcagt 11040

cctgccaggg cacacgtggc tgcagccaac cttgtatcgg cttacgagca gacagtaaag 11100

gaagagcgta acttccaaaa gtcttttaat aatcatgtgc gaaccctgat tgcccgcgaa 11160

gaagttaccc ttggtttgat gcatttgtgg gatttgatgg aagctatcat tcagaaccct 11220

actagcaaac ctctgaccgc ccagctgttt ctggtggtgc aacacagcag agacaatgag 11280

gctttcagag aggcgctgct gaacatcacc gaacccgagg ggagatggtt gtatgatctt 11340

atcaacattc tacagagtat catagtgcag gagcggagcc tgggcctggc cgagaaggtg 11400

gctgccatca attactcggt tttgagcttg ggaaaatatt acgctcgcaa aatctacaag 11460

actccatacg ttcccataga caaggaggtg aagatagatg ggttctacat gcgcatgacg 11520

ctcaaggtct tgaccctgag cgatgatctt ggggtgtatc gcaatgacag aatgcatcgc 11580

gcggttagcg ccagcaggag gcgcgagtta agcgacaggg aactgatgca cagtttgcaa 11640

agagctctga ctggagctgg aaccgagggt gagaattact tcgacatggg agctgacttg 11700

cagtggcagc ctagtcgcag ggctctgagc gccgcgacgg caggatgtga gcttccttac 11760

atagaagagg cggatgaagg cgaggaggaa gagggcgagt acttggaaga ctgatggcac 11820

aacccgtgtt ttttgctaga tggaacagca agcaccggat cccgcaatgc gggcggcgct 11880

gcagagccag ccgtccggca ttaactcctc ggacgattgg acccaggcca tgcaacgtat 11940

catggcgttg acgactcgca accccgaagc ctttagacag caaccccagg ccaaccgtct 12000

atcggccatc atggaagctg tagtgccttc ccgctctaat cccactcatg agaaggtcct 12060

ggccatcgtg aacgcgttgg tggagaacaa agctattcgt ccagatgagg ccggactggt 12120

atacaacgct ctcttagaac gcgtggctcg ctacaacagt agcaatgtgc aaaccaattt 12180

ggaccgtatg ataacagatg tacgcgaagc cgtgtctcag cgcgaaaggt tccagcgtga 12240

tgccaacctg ggttcgctgg tggcgttaaa tgctttcttg agtactcagc ctgctaatgt 12300

gccgcgtggt caacaggatt atactaactt tttaagtgct ttgagactga tggtatcaga 12360

agtacctcag agcgaagtgt atcagtccgg tcctgattac ttctttcaga ctagcagaca 12420

gggcttgcag acggtaaatc tgagccaagc ttttaaaaac cttaaaggtt tgtggggagt 12480

gcatgccccg gtaggagaaa gagcaaccgt gtctagcttg ttaactccga actcccgcct 12540

attattactg ttggtagctc ctttcaccga cagcggtagc atcgaccgta attcctattt 12600

gggttaccta ctaaacctgt atcgcgaagc catagggcaa agtcaggtgg acgagcagac 12660

ctatcaagaa attacccaag tcagtcgcgc tttgggacag gaagacactg gcagtttgga 12720

agccactctg aacttcttgc ttaccaatcg gtctcaaaag atccctcctc aatatgctct 12780

tactgcggag gaggagagga tccttagata tgtgcagcag agcgtgggat tgtttctgat 12840

gcaagagggg gcaactccga ctgcagcact ggacatgaca gcgcgaaata tggagcccag 12900

catgtatgcc agtaaccgac ctttcattaa caaactgctg gactacttgc acagagctgc 12960

cgctatgaac tctgattatt tcaccaatgc catcttaaac ccgcactggc tgcccccacc 13020

tggtttctac acgggcgaat atgacatgcc cgaccctaat gacggatttc tgtgggacga 13080

cgtggacagc gatgtttttt cacctctttc tgatcatcgc acgtggaaaa aggaaggcgg 13140

cgatagaatg cattcttctg catcgctgtc cggggtcatg ggtgctaccg cggctgagcc 13200

cgagtctgca agtccttttc ctagtctacc cttttctcta cacagtgtac gtagcagcga 13260

agtgggtaga ataagtcgcc cgagtttaat gggcgaagag gagtatctaa acgattcctt 13320

gctcagaccg gcaagagaaa aaaatttccc aaacaatgga atagaaagtt tggtggataa 13380

aatgagtaga tggaagactt atgctcagga tcacagagac gagcctggga tcatggggat 13440

tacaagtaga gcgagccgta gacgccagcg ccatgacaga cagaggggtc ttgtgtggga 13500

cgatgaggat tcggccgatg atagcagcgt gctggacttg ggtgggagag gaaggggcaa 13560

cccgtttgct catttgcgcc ctcgcttggg tggtatgttg taaaaaaaaa taaaaaaaaa 13620

actcaccaag gccatggcga cgagcgtacg ttcgttcttc tttattatct gtgtctagta 13680

taatgaggcg agtcgtgcta ggcggagcgg tggtgtatcc ggagggtcct cctccttcgt 13740

acgagagcgt gatgcagcag cagcaggcga cggcggtgat gcaatcccca ctggaggctc 13800

cctttgtgcc tccgcgatac ctggcaccta cggagggcag aaacagcatt cgttattcgg 13860

aactggcacc tcagtacgat accaccaggt tgtatctggt ggacaacaag tcggcggaca 13920

ttgcttctct gaactatcag aatgaccaca gcaacttctt gaccacggtg gtgcaaaaca 13980

atgactttac ccctacggaa gccagcaccc agaccattaa ctttgatgaa cgatcgcggt 14040

ggggcggtca gctaaagacc atcatgcata ctaacatgcc aaacgtgaac gagtatatgt 14100

ttagtaacaa gttcaaagcg cgtgtgatgg tgtccagaaa acctcccgac ggtgctgcag 14160

ttggggatac ttatgatcac aagcaggata ttttgaaata tgagtggttc gagtttactt 14220

tgccagaagg caacttttca gttactatga ctattgattt gatgaacaat gccatcatag 14280

ataattactt gaaagtgggt agacagaatg gagtgcttga aagtgacatt ggtgttaagt 14340

tcgacaccag gaacttcaag ctgggatggg atcccgaaac caagttgatc atgcctggag 14400

tgtatacgta tgaagccttc catcctgaca ttgtcttact gcctggctgc ggagtggatt 14460

ttaccgagag tcgtttgagc aaccttcttg gtatcagaaa aaaacagcca tttcaagagg 14520

gttttaagat tttgtatgaa gatttagaag gtggtaatat tccggccctc ttggatgtag 14580

atgcctatga gaacagtaag aaagaacaaa aagccaaaat agaagctgct acagctgctg 14640

cagaagctaa ggcaaacata gttgccagcg actctacaag ggttgctaac gctggagagg 14700

tcagaggaga caattttgcg ccaacacctg ttccgactgc agaatcatta ttggccgatg 14760

tgtctgaagg aacggacgtg aaactcacta ttcaacctgt agaaaaagat agtaagaata 14820

gaagctataa tgtgttggaa gacaaaatca acacagccta tcgcagttgg tatctttcgt 14880

acaattatgg cgatcccgaa aaaggagtgc gttcctggac attgctcacc acctcagatg 14940

tcacctgcgg agcagagcag gtctactggt cgcttccaga catgatgaag gatcctgtca 15000

ctttccgctc cactagacaa gtcagtaact accctgtggt gggtgcagag cttatgcccg 15060

tcttctcaaa gagcttctac aacgaacaag ctgtgtactc ccagcagctc cgccagtcca 15120

cctcgcttac gcacgtcttc aaccgctttc ctgagaacca gattttaatc cgtccgccgg 15180

cgcccaccat taccaccgtc agtgaaaacg ttcctgctct cacagatcac gggaccctgc 15240

cgttgcgcag cagtatccgg ggagtccaac gtgtgaccgt tactgacgcc agacgccgca 15300

cctgtcccta cgtgtacaag gcactgggca tagtcgcacc gcgcgtcctt tcaagccgca 15360

ctttctaaaa aaaaaaaaaa tgtccattct tatctcgccc agtaataaca ccggttgggg 15420

tctgcgcgct ccaagcaaga tgtacggagg cgcacgcaaa cgttctaccc aacatcctgt 15480

ccgtgttcgc ggacattttc gcgctccatg gggcgccctc aagggccgca ctcgcgttcg 15540

aaccaccgtc gatgatgtaa tcgatcaggt ggttgccgac gcccgtaatt atactcctac 15600

tgcgcctaca tctactgtgg atgcagttat tgacagtgta gtggctgacg ctcgcaacta 15660

tgctcgacgt aagagccggc gaaggcgcat tgccagacgc caccgagcta ccactgccat 15720

gcgagccgca agagctctgc tacgaagagc tagacgcgtg gggcgaagag ccatgcttag 15780

ggcggccaga cgtgcagctt cgggcgccag cgccggcagg tcccgcaggc aagcagccgc 15840

tgtcgcagcg gcgactattg ccgacatggc ccaatcgcga agaggcaatg tatactgggt 15900

gcgtgacgct gccaccggtc aacgtgtacc cgtgcgcacc cgtccccctc gcacttagaa 15960

gatactgagc agtctccgat gttgtgtccc agcggcgagg atgtccaagc gcaaatacaa 16020

ggaagaaatg ctgcaggtta tcgcacctga agtctacggc caaccgttga aggatgaaaa 16080

aaaaccccgc aaaatcaagc gggttaaaaa ggacaaaaaa gaagaggaag atggcgatga 16140

tgggctggcg gagtttgtgc gcgagtttgc cccacggcga cgcgtgcaat ggcgtgggcg 16200

caaagttcga catgtgttga gacctggaac ttcggtggtc tttacacccg gcgagcgttc 16260

aagcgctact tttaagcgtt cctatgatga ggtgtacggg gatgatgata ttcttgagca 16320

ggcggctgac cgattaggcg agtttgctta tggcaagcgt agtagaataa cttccaagga 16380

tgagacagtg tcgataccct tggatcatgg aaatcccacc cctagtctta aaccggtcac 16440

tttgcagcaa gtgttacccg taactccgcg aacaggtgtt aaacgcgaag gtgaagattt 16500

gtatcccact atgcaactga tggtacccaa acgccagaag ttggaggacg ttttggagaa 16560

agtaaaagtg gatccagata ttcaacctga ggttaaagtg agacccatta agcaggtagc 16620

gcctggtctg ggggtacaaa ctgtagacat taagattccc actgaaagta tggaagtgca 16680

aactgaaccc gcaaagccta ctgccacctc cactgaagtg caaacggatc catggatgcc 16740

catgcctatt acaactgacg ccgccggtcc cactcgaaga tcccgacgaa agtacggtcc 16800

agcaagtctg ttgatgccca attatgttgt acacccatct attattccta ctcctggtta 16860

ccgaggcact cgctactatc gcagccgaaa cagtacctcc cgccgtcgcc gcaagacacc 16920

tgcaaatcgc agtcgtcgcc gtagacgcac aagcaaaccg actcccggcg ccctggtgcg 16980

gcaagtgtac cgcaatggta gtgcggaacc tttgacactg ccgcgtgcgc gttaccatcc 17040

gagtatcatc acttaatcaa tgttgccgct gcctccttgc agatatggcc ctcacttgtc 17100

gccttcgcgt tcccatcact ggttaccgag gaagaaactc gcgccgtaga agagggatgt 17160

tgggacgcgg aatgcgacgc tacaggcgac ggcgtgctat ccgcaagcaa ttgcggggtg 17220

gtttttacc agccttaatt ccaattatcg ctgctgcaat tggcgcgata ccaggcatag 17280

cttccgtggc ggttcaggcc tcgcaacgac attgacattg gaaaaaaacg tataaataaa 17340

aaaaaaaaaa tacaatggac tctgacactc ctggtcctgt gactatgttt tcttagagat 17400

ggaagacatc aatttttcat ccttggctcc gcgacacggc acgaagccgt acatgggcac 17460

ctggagcgac atcggcacga gccaactgaa cgggggcgcc ttcaattgga gcagtatctg 17520

gagcgggctt aaaaattttg gctcaaccat aaaaacatac gggaacaaag cttggaacag 17580

cagtacagga caggcgctta gaaataaact taaagaccag aacttccaac aaaaagtagt 17640

cgatgggata gcttccggca tcaatggagt ggtagatttg gctaaccagg ctgtgcagaa 17700

aaagataaac agtcgtttgg acccgccgcc agcaacccca ggtgaaatgc aagtggagga 17760

agaaattcct ccgccagaaa aacgaggcga caagcgtccg cgtcccgatt tggaagagac 17820

gctggtgacg cgcgtagatg aaccgccttc ttatgaggaa gcaacgaagc ttggaatgcc 17880

caccactaga ccgatagccc caatggccac cggggtgatg aaaccttctc agttgcatcg 17940

acccgtcacc ttggatttgc cccctccccc tgctgctact gctgtacccg cttctaagcc 18000

tgtcgctgcc ccgaaaccag tcgccgtagc caggtcacgt cccgggggcg ctcctcgtcc 18060

aaatgcgcac tggcaaaata ctctgaacag catcgtgggt ctaggcgtgc aaagtgtaaa 18120

acgccgtcgc tgcttttaat taaatatgga gtagcgctta acttgcctat ctgtgtatat 18180

gtgtcattac acgccgtcac agcagcagag gaaaaaagga agaggtcgtg cgtcgacgct 18240

gagttacttt caagatggcc accccatcga tgctgcccca atgggcatac atgcacatcg 18300

ccggacagga tgcttcggag tacctgagtc cgggtctggt gcagttcgcc cgcgccacag 18360

acacctactt caatctggga aataagttta gaaatcccac cgtagcgccg acccacgatg 18420

tgaccaccga ccgtagccag cggctcatgt tgcgcttcgt gcccgttgac cgggaggaca 18480

atacatactc ttacaaagtg cggtacaccc tggccgtggg cgacaacaga gtgctggata 18540

tggccagcac gttctttgac attaggggtg tgttggacag aggtcccagt ttcaaaccct 18600

attctggtac ggcttacaac tccctggctc ctaaaggcgc tccaaataca tctcagtgga 18660

ttgcagaagg tgtaaaaaat acaactggtg aggaacacgt aacagaagag gaaaccaata 18720

ctactactta cacttttggc aatgctcctg taaaagctga agctgaaatt acaaaagaag 18780

gactcccagt aggtttggaa gtttcagatg aagaaagtaa accgatttat gctgataaaa 18840

catatcagcc agaacctcag ctgggagatg aaacttggac tgaccttgat ggaaaaaccg 18900

aaaagtatgg aggcagggct ctcaaacccg atactaagat gaaaccatgc tacgggtcct 18960

ttgccaaacc tactaatgtg aaaggcggtc aggcaaaaca aaaaacaacg gagcagccaa 19020

atcagaaagt cgaatatgat atcgacatgg agtttttga tgcggcatcg cagaaaacaa 19080

acttaagtcc taaaattgtc atgtatgcag aaaatgtaaa tttggaaact ccagacactc 19140

atgtagtgta caaacctgga acagaagaca caagttccga agctaatttg ggacaacaat 19200

ctatgcccaa cagacccaac tacattggct tcagagataa ctttattgga cttatgtact 19260

ataacagtac tggtaacatg ggggtgctgg ctggtcaagc gtctcagtta aatgcagtgg 19320

ttgacttgca ggacagaaac acagaacttt cttaccaact cttgcttgac tctctgggcg 19380

acagaaccag atactttagc atgtggaatc aggctgtgga cagttatgat cctgatgtac 19440

gtgttattga aaatcatggt gtggaagatg aacttcccaa ctactgtttt ccactggacg 19500

gcataggtgt tccaacaacc agttacaaat caatagttcc aaatggagac aatgcgccta 19560

attggaagga acctgaagta aatggaacaa gtgagatcgg acagggtaat ttgtttgcca 19620

tggaaattaa ccttcaagcc aatctatggc gaagtttcct ttattccaat gtggctctat 19680

atctcccaga ctcgtacaaa tacaccccgt ccaatgtcac tcttccagaa aacaaaaaca 19740

cctacgacta catgaacggg cgggtggtgc cgccatctct agtagacacc tatgtgaaca 19800

ttggtgccag gtggtctctg gatgccatgg acaatgtcaa cccattcaac caccaccgta 19860

acgctggctt gcgttaccga tccatgcttc tgggtaacgg acgttatgtg cctttccaca 19920

tacaagtgcc tcaaaaattc ttcgctgtta aaaacctgct gcttctccca ggctcctaca 19980

cttatgagtg gaactttagg aaggatgtga acatggttct acagagttcc ctcggtaacg 20040

acctgcgggt agatggcgcc agcatcagtt tcacgagcat caacctctat gctacttttt 20100

tccccatggc tcacaacacc gcttccaccc ttgaagccat gctgcggaat gacaccaatg 20160

atcagtcatt caacgactac ctatctgcag ctaacatgct ctaccccatt cctgccaatg 20220

caaccaatat tcccatttcc attccttctc gcaactgggc ggctttcaga ggctggtcat 20280

ttaccagact gaaaaccaaa gaaactccct ctttggggtc tggatttgac ccctactttg 20340

tctattctgg ttctattccc tacctggatg gtaccttcta cctgaaccac acttttaaga 20400

aggtttccat catgtttgac tcttcagtga gctggcctgg aaatgacagg ttactatctc 20460

ctaacgaatt tgaaataaag cgcactgtgg atggcgaagg ctacaacgta gcccaatgca 20520

acatgaccaa agactggttc ttggtacaga tgctcgccaa ctacaacatc ggctatcagg 20580

gcttctacat tccagaagga tacaaagatc gcatgtattc atttttcaga aacttccagc 20640

ccatgagcag gcaggtggtt gatgaggtca attacaaaga cttcaaggcc gtcgccatac 20700

cctaccaaca caacaactct ggctttgtgg gttacatggc tccgaccatg cgccaaggtc 20760

aaccctatcc cgctaactat ccctatccac tcattggaac aactgccgta aatagtgtta 20820

cgcagaaaaa gttcttgtgt gacagaacca tgtggcgcat accgttctcg agcaacttca 20880

tgtctatggg ggcccttaca gacttgggac agaatatgct ctatgccaac tcagctcatg 20940

ctctggacat gacctttgag gtggatccca tggatgagcc caccctgctt tatcttctct 21000

tcgaagtttt cgacgtggtc agagtgcatc agccacaccg cggcatcatc gaggcagtct 21060

acctgcgtac accgttctcg gccggtaacg ctaccacgta agaagcttct tgcttcttgc 21120

aaatagcagc tgcaaccatg gcctgcggat cccaaaacgg ctccagcgag caagagctca 21180

gagccattgt ccaagacctg ggttgcggac cctatttttt gggaacctac gataagcgct 21240

tcccggggtt catggccccc gataagctcg cctgtgccat tgtaaatacg gccggacgtg 21300

agacgggggg agagcactgg ttggctttcg gttggaaccc acgttctaac acctgctacc 21360

tttttgatcc ttttggattc tcggatgatc gtctcaaaca gatttaccag tttgaatatg 21420

agggtctcct gcgccgcagc gctcttgcta ccaaggaccg ctgtattacg ctggaaaaat 21480

ctacccagac cgtgcagggt ccccgttctg ccgcctgcgg acttttctgc tgcatgttcc 21540

ttcacgcctt tgtgcactgg cctgaccgtc ccatggacgg aaaccccacc atgaaattgc 21600

taactggagt gccaaacaac atgcttcatt ctcctaaagt ccagcccacc ctgtgtgaca 21660

atcaaaaagc actctaccat tttcttaata cccattcgcc ttattttcgc tcccatcgta 21720

cacacatcga aagggccact gcgttcgacc gtatggatgt tcaataatga ctcatgtaaa 21780

caacgtgttc aataaacatc actttatttt tttacatgta tcaaggctct gcattactta 21840

tttatttaca agtcgaatgg gttctgacga gaatcagaat gacccgcagg cagtgatacg 21900

ttgcggaact gatacttggg ttgccacttg aattcgggaa tcaccaactt gggaaccggt 21960

atatcgggca ggatgtcact ccacagcttt ctggtcagct gcaaagctcc aagcaggtca 22020

ggagccgaaa tcttgaaatc acaattagga ccagtgcttt gagcgcgaga gttgcggtac 22080

accggattgc agcactgaaa caccatcagc gacggatgtc tcacgcttgc cagcacggtg 22140

ggatctgcaa tcatgcccac atccagatct tcagcattgg caatgctgaa cggggtcatc 22200

ttgcaggtct gcctacccat ggcgggcacc caattaggct tgtggttgca atcgcagtgc 22260

agggggatca gtatcatctt ggcctgatcc tgtctgattc ctggatacac ggctctcatg 22320

aaagcatcat attgcttgaa agcctgctgg gctttactac cctcggtata aaacatcccg 22380

caggacctgc tcgaaaactg gttagctgca cagccggcat cattcacaca gcagcgggcg 22440

tcattgttag ctatttgcac cacacttctg ccccagcggt tttgggtgat tttggttcgc 22500

tcgggattct cctttaaggc tcgttgtccg ttctcgctgg ccacatccat ctcgataatc 22560

tgctccttct gaatcataat attgccatgc aggcacttca gcttgccctc ataatcattg 22620

cagccatgag gccacaacgc acagcctgta cattcccaat tatggtgggc gatctgagaa 22680

aaagaatgta tcattccctg cagaaatctt cccatcatcg tgctcagtgt cttgtgacta 22740

gtgaaagtta actggatgcc tcggtgctcc tcgtttacgt actggtgaca gatgcgcttg 22800

tattgttcgt gttgctcagg cattagttta aaagaggttc taagttcgtt atccagcctg 22860

tacttctcca tcagcagaca catcacttcc atgcctttct cccaagcaga caccaggggc 22920

aagctaatcg gattcttaac agtgcaggca gcagctcctt tagccagagg gtcatcttta 22980

gcgatcttct caatgcttct tttgccatcc ttctcaacga tgcgcacggg cgggtagctg 23040

aaacccactg ctacaagttg cgcctcttct ctttcttctt cgctgtcttg actgatgtct 23100

tgcatgggga tatgtttggt cttccttggc ttctttttgg ggggtatcgg aggaggagga 23160

ctgtcgctcc gttccggaga cagggaggat tgtgacgttt cgctcaccat taccaactga 23220

ctgtcggtag aagaacctga ccccacacgg cgacaggtgt ttctcttcgg gggcagaggt 23280

ggaggcgatt gcgaagggct gcggtccgac ctggaaggcg gatgactggc agaacccctt 23340

ccgcgttcgg gggtgtgctc cctgtggcgg tcgcttaact gatttccttc gcggctggcc 23400

attgtgttct cctaggcaga gaaacaacag acatggaaac tcagccattg ctgtcaacat 23460

cgccacgagt gccatcacat ctcgtcctca gcgacgagga aaaggagcag agcttaagca 23520

ttccaccgcc cagtcctgcc accacctcta ccctagaaga taaggaggtc gacgcatctc 23580

atgacatgca gaataaaaaa gcgaaagagt ctgagacaga catcgagcaa gacccgggct 23640

atgtgacacc ggtggaacac gaggaagagt tgaaacgctt tctagagaga gaggatgaaa 23700

actgcccaaa acaacgagca gataactatc accaagatgc tggaaatagg gatcagaaca 23760

ccgactacct catagggctt gacggggaag acgcgctcct taaacatcta gcaagacagt 23820

cgctcatagt caaggatgca ttattggaca gaactgaagt gcccatcagt gtggaagagc 23880

tcagccgcgc ctacgagctt aacctctttt cacctcgtac tccccccaaa cgtcagccaa 23940

acggcacctg cgagccaaat cctcgcttaa acttttatcc agcttttgct gtgccagaag 24000

tactggctac ctatcacatc ttttttaaaa atcaaaaaat tccagtctcc tgccgcgcta 24060

atcgcacccg cgccgatgcc ctactcaatc tgggacctgg ttcacgctta cctgatatag 24120

cttccttgga agaggttcca aagatcttcg agggtctggg caataatgag actcgggccg 24180

caaatgctct gcaaaaggga gaaaatggca tggatgagca tcacagcgtt ctggtggaat 24240

tggaaggcga taatgccaga ctcgcagtac tcaagcgaag catcgaggtc acacacttcg 24300

catatcccgc tgtcaacctg ccccctaaag tcatgacggc ggtcatggac cagttactca 24360

ttaagcgcgc aagtcccctt tcagaagaca tgcatgaccc agatgcctgt gatgagggta 24420

aaccagtggt cagtgatgag cagctaaccc gatggctggg caccgactct cccagggatt 24480

tggaagagcg tcgcaagctt atgatggccg tggtgctggt taccgtagaa ctagagtgtc 24540

tccgacgttt ctttaccgat tcagaaacct tgcgcaaact cgaagagaat ctgcactaca 24600

cttttagaca cggctttgtg cggcaggcat gcaagatatc taacgtggaa ctcaccaacc 24660

tggtttccta catgggtatt ctgcatgaga atcgcctagg acaaagcgtg ctgcacagca 24720

ccctgaaggg ggaagcccgc cgtgattaca tccgcgattg tgtctatctg tacctgtgcc 24780

acacgtggca aaccggcatg ggtgtatggc agcaatgttt agaagaacag aacttgaaag 24840

agcttgacaa gctcttacag aaatctctta aggttctgtg gacagggttc gacgagcgca 24900

ccgtcgcttc cgacctggca gacctcatct tcccagagcg tctcagggtt actttgcgaa 24960

acggattgcc tgactttatg agccagagca tgcttaacaa ttttcgctct ttcatcctgg 25020

aacgctccgg tatcctgccc gccacctgct gcgcactgcc ctccgacttt gtgcctctca 25080

cctaccgcga gtgcccccg ccgctatgga gtcactgcta cctgttccgt ctggccaact 25140

atctctccta ccactcggat gtgatcgagg atgtgagcgg agacggcttg ctggagtgtc 25200

actgccgctg caatctgtgc acgccccacc ggtccctagc ttgcaacccc cagttgatga 25260

gcgaaaccca gataataggc acctttgaat tgcaaggccc cagcagccaa ggcgatgggt 25320

cttctcctgg gcaaagttta aaactgaccc cgggactgtg gacctccgcc tacttgcgca 25380

agtttgctcc ggaagattac cacccctatg aaatcaagtt ctatgaggac caatcacagc 25440

ctccaaaggc cgaactttcg gcctgcgtca tcacccaggg ggcaattctg gcccaattgc 25500

aagccatcca aaaatcccgc caagaatttc tactgaaaaa gggtaagggg gtctaccttg 25560

acccccagac cggcgaggaa ctcaacacaa ggttccctca ggatgtccca acgacgagaa 25620

aacaagaagt tgaaggtgca gccgccgccc ccagaagata tggaggaaga ttgggacagt 25680

caggcagagg aggcggagga ggacagtctg gaggacagtc tggaggaaga cagtttggag 25740

gaggaaaacg aggaggcaga ggaggtggaa gaagtaaccg ccgacaaaca gttatcctcg 25800

gctgcggaga caagcaacag cgctaccatc tccgctccga gtcgaggaac ccggcggcgt 25860

cccagcagta gatgggacga gaccggacgc ttcccgaacc caaccagcgc ttccaagacc 25920

ggtaagaagg atcggcaggg atacaagtcc tggcgggggc ataagaatgc catcatctcc 25980

tgcttgcatg agtgcggggg caacatatcc ttcacgcggc gctacttgct attccaccat 26040

ggggtgaact ttccgcgcaa tgttttgcat tactaccgtc acctccacag cccctactat 26100

agccagcaaa tcccggcagt ctcgacagat aaagacagcg gcggcgacct ccaacagaaa 26160

accagcagcg gcagttagaa aatacacaac aagtgcagca acaggaggat taaagattac 26220

agccaacgag ccagcgcaaa cccgagagtt aagaaatcgg atctttccaa ccctgtatgc 26280

catcttccag cagagtcggg gtcaagagca ggaactgaaa ataaaaaacc gatctctgcg 26340

ttcgctcacc agaagttgtt tgtatcacaa gagcgaagat caacttcagc gcactctcga 26400

ggacgccgag gctctcttca acaagtactg cgcgctgact cttaaagagt aggcagcgac 26460

cgcgcttatt caaaaaaggc gggaattaca tcatcctcga catgagtaaa gaaattccca 26520

cgccttacat gtggagttat caaccccaaa tgggattggc ggcaggcgcc tcccaggact 26580

actccacccg catgaattgg ctcagcgccg ggccttctat gatttctcga gttaatgata 26640

tacgcgccta ccgaaaccaa atacttttgg aacagtcagc tcttaccacc acgccccgcc 26700

aacaccttaa tcccagaaat tggcccgccg ccctagtgta ccaggaaagt cccgctccca 26760

ccactgtatt acttcctcga gacgcccagg ccgaagtcca aatgactaat gcaggtgcgc 26820

agttagctgg cggctccacc ctatgtcgtc acaggcctcg gcataatata aaacgcctga 26880

tgatcagagg ccgaggtatc cagctcaacg acgagtcggt gagctctccg cttggtctac 26940

gaccagacgg aatctttcag attgccggct gcgggagatc ttccttcacc cctcgtcagg 27000

ctgttctgac tttggaaagt tcgtcttcgc aaccccgctc gggcggaatc gggaccgttc 27060

aatttgtgga ggagtttact ccctctgtct acttcaaccc cttctccgga tctcctgggc 27120

attacccgga cgagttcata ccgaacttcg acgcgattag cgagtcagtg gacggctacg 27180

attgatgtct ggtgacgcgg ctgagctatc tcggctgcga catctagacc actgccgccg 27240

ctttcgctgc tttgcccggg aactcattga gttcatctac ttcgaactcc ccaaggatca 27300

ccctcaaggt ccggcccacg gagtgcggat ttctatcgaa ggcaaaatag actctcgcct 27360

gcaacgaatt ttctcccagc ggcccgtgct gatcgagcga gaccagggaa acaccacggt 27420

ttccatctac tgcatttgta atcaccccgg attgcatgaa agcctttgct gtcttatgtg 27480

tactgagttt aataaaaact gaattaagac tctcctacgg actgccgctt cttcaacccg 27540

gattttacaa ccagaagaac gaaacttttc ctgtcgtcca ggactctgtt aacttcacct 27600

ttcctactca caaactagaa gctcaacgac tacaccgctt ttccagaagc attttcccta 27660

ctaatactac tttcaaaacc ggaggtgagc tccaaggtct tcctacagaa aacccttggg 27720

tggaagcggg ccttgtagtg ctaggaattc ttgcgggtgg gcttgtgatt attctttgct 27780

acctatacac accttgcttc actttcttag tggtgttgtg gtattggttt aaaaaatggg 27840

gcccatacta gtcttgcttg ttttactttc gcttttggaa ccgggttctg ccaattacga 27900

tccatgtcta gacttcgacc cagaaaactg cacacttact tttgcacccg acacaagccg 27960

catctgtgga gttcatcgcc tctcttacga acttggcccc caacgacaaa aatttacctg 28020

catggtggga atcaacccca tagttatcac ccagcaaagt ggagatacta agggttgcat 28080

tcactgctcc tgcgattcca tcgagtgcac ctacaccctg ctgaagaccc tatgcggcct 28140

aagagacctg ctaccaatga attaaaaaat gattaataaa aaatcactta cttgaaatca 28200

gcaataaggt ctctgttgaa attttctccc agcagcacct cacttccctc ttcccaactc 28260

tggtattcta aaccccgttc agcggcatac tttctccata ctttaaaggg gatgtcaaat 28320

tttagctcct ctcctgtacc cacaatcttc atgtctttct tcccagatga ccaagagagt 28380

ccggctcagt gactccttca accctgtcta cccctatgaa gatgaaagca cctcccaaca 28440

ccccttttata aacccagggt ttatttcccc aaatggcttc acacaaagcc caaacggagt 28500

tcttacttta aaatgtttaa ccccactaac aaccacaggc ggatctctac agctaaaagt 28560

gggaggggga cttacagtgg atgacaccaa cggttttttg aaagaaaaca taagtgccac 28620

cacaccactc gttaagactg gtcactctat aggtttacca ctaggagccg gattgggaac 28680

gaatgaaaat aaactttgta tcaaattagg acaaggactt acattcaatt caaacaacat 28740

ttgcattgat gacaatatta acaccttatg gacaggagtc aaccccaccg aagccaactg 28800

tcaaatcatg aactccagtg aatctaatga ttgcaaatta attctaacac tagttaaaac 28860

tggagcacta gtcactgcat ttgtttatgt tataggagta tctaacaatt ttaatatgct 28920

aactacacac agaaatataa attttactgc agagctgttt ttcgattcta ctggtaattt 28980

actaactaga ctctcatccc tcaaaactcc acttaatcat aaatcaggac aaaacatggc 29040

tactggtgcc attactaatg ctaaaggttt catgcccagc acgactgcct atcctttcaa 29100

tgataattct agagaaaaag aaaactacat ttacggaact tgttactaca cagctagtga 29160

tcgcactgct tttcccattg acatatctgt catgcttaac cgaagagcaa taaatgacga 29220

gacatcatat tgtattcgta taacttggtc ctggaacaca ggagatgccc cagaggtgca 29280

aacctctgct acaaccctag tcacctcccc atttaccttt tactacatca gagaagacga 29340

ctgacaaata aagtttgcga tcgccaggcc caccatgggc tggagctgca tcatcttgtt 29400

cctggtcgca actgctaccg gagtccattc ggacatcgtc atgacccaaa gccctgactc 29460

gctcgctgtg tcactgggag agcgggcgac tatcaactgc aaatcatccc agagcctgct 29520

gtattcacgc aatcagaaaa actacctggc ctggtatcag cagaagccgg gccagcctcc 29580

caagctgctg atcttctggg cctccacccg cgaaagcggc gtgccggacc gcttcagcgg 29640

aagcggattc ggaactgact ttactctgac cattagctcc ttgcaggcgg aggacgtggc 29700

cgtctactac tgccagcagt atttctccta tccgctcacc tttgggcaag gcaccaaggt 29760

ggagattaag ggagggggcg gcagcggggg aggcggcagc ggcggcgggg gatcgcaggt 29820

ccagctcgtc caatccggag ccgaagtcaa gaagccggga gcgtcggtca aggtcagctg 29880

caaaacttcg cgctacacct tcactgagta cacgatccac tgggtccgcc aggcgcccgg 29940

ccagcggctg gagtggatcg gcgggatcaa cccaaacaac ggaatcccaa attacaatca 30000

gaaatttaaa gggcgggtga ctatcaccgt ggatacctcg gcctccacgg cgtacatgga 30060

gctctcatca ctcagatcgg aggacaccgc ggtctattac tgcgcccgcc gccggatcgc 30120

ttatggatac gatgaaggac atgcgatgga ttactggggc cagggcaccc tcgtcacggt 30180

gtcgtcagga ggcggcggtt cacaggtgca gctgcagcag tctggggctg aactggcaag 30240

acctggggcc tcagtgaaga tgtcctgcaa ggcttctggc tacaccttta ctaggtacac 30300

gatgcactgg gtaaaacaga ggcctggaca gggtctggaa tggattggat acattaatcc 30360

tagccgtggt tatactaatt acaatcagaa gttcaaggac aaggccacat tgactacaga 30420

caaatcctcc agcacagcct acatgcaact gagcagcctg acatctgagg actctgcagt 30480

ctattactgt gcaagatatt atgatgatca ttactgcctt gactactggg gccaaggcac 30540

cactctcaca gtctcctcag gtggcggtgg ctcgggcggt ggtggatctg gtggcggcgg 30600

atctgatatc gtgctcactc agtctccagc aatcatgtct gcatctccag gggagaaggt 30660

caccatgacc tgcagtgcca gctcaagtgt aagttacatg aactggtacc agcagaagtc 30720

aggcacctcc cccaaaagat ggatttatga cacatccaaa ctggcttctg gagtccctgc 30780

tcacttcagg ggcagtgggt ctgggacctc ttactctctc acaatcagcg gcatggaggc 30840

tgaagatgct gccacttatt actgccagca gtggagtagt aacccattca cgttcggctc 30900

ggggacaaag ttggaaataa accggtaggc tagcttgact gactgagata cagcgtacct 30960

tcagctcaca gacatgataa gatacattga tgagtttgga caaaccacaa ctagaatgca 31020

gtgaaaaaaa tgctttattt gtgaaatttg tgatgctatt gctttatttg taaccattat 31080

aagctgcaat aaacaagtta acaacaacaa ttgcattcat tttatgtttc aggttcaggg 31140

ggaggtgtgg gaggtttttt aaagcaagta aaacctctac aaatgtggta gtcgtcagct 31200

atcctgcagg aacttgttta tttgaaaatc aattcacaaa atccgagtag ttattttgcc 31260

tccccttcc catttaacag aatacaccaa tctctcccca cgcacagctt taaacatttg 31320

gataccatta gatatagaca tggttttaga ttccacattc caaacagttt cagagcgagc 31380

caatctgggg tcagtgatag ataaaaatcc atcgggatag tcttttaaag cgctttcaca 31440

gtccaactgc tgcggatgcg actccggagt ctggatcacg gtcatctgga agaagaacga 31500

tgggaatcat aatccgaaaa cggtatcgga cgattgtgtc tcatcaaacc cacaagcagc 31560

cgctgtctgc gtcgctccgt gcgactgctg tttatgggat cagggtccac agtgtcctga 31620

agcatgattt taatagccct taacatcaac tttctggtgc gatgcgcgca gcaacgcatt 31680

ctgatttcac tcaaatcttt gcagtaggta caacacatta ttacaatatt gtttaataaa 31740

ccataattaa aagcgctcca gccaaaactc atatctgata taatcgcccc tgcatgacca 31800

tcataccaaa gtttaatata aattaaatga cgttccctca aaaacacact acccacatac 31860

atgatctctt ttggcatgtg catattaaca atctgtctgt accatggaca acgttggtta 31920

atcatgcaac ccaatataac cttccggaac cacactgcca acaccgctcc cccagccatg 31980

cattgaagtg aaccctgctg attacaatga caatgaagaa cccaattctc tcgaccgtga 32040

atcacttgag aatgaaaaat atctatagtg gcacaacata gacataaatg catgcatctt 32100

ctcataattt ttaactcctc aggatttaga aacatatccc agggaatagg aagctcttgc 32160

agaacagtaa agctggcaga acaaggaaga ccacgaacac aacttacact atgcatagtc 32220

atagtatcac aatctggcaa cagcgggtgg tcttcagtca tagaagctcg ggtttcattt 32280

tcctcacaac gtggtaactg ggctctggtg taagggtgat gtctggcgca tgatgtcgag 32340

cgtgcgcgca accttgtcat aatggagttg cttcctgaca ttctcgtatt ttgtatagca 32400

aaacgcggcc ctggcagaac acactcttct tcgccttcta tcctgccgct tagcgtgttc 32460

cgtgtgatag ttcaagtaca accacactct taagttggtc aaaagaatgc tggcttcagt 32520

tgtaatcaaa actccatcgc atctaatcgt tctgaggaaa tcatccaagc aatgcaactg 32580

gattgtgttt caagcaggag aggagaggga agagacggaa gaaccatgtt aatttttatt 32640

ccaaacgatc tcgcagtact tcaaattgta gatcgcgcag atggcatctc tcgcccccac 32700

tgtgttggtg aaaaagcaca gctagatcaa aagaaatgcg attttcaagg tgctcaacgg 32760

tggcttccag caaagcctcc acgcgcacat ccaagaacaa aagaatacca aaagaaggag 32820

cattttctaa ctcctcaatc atcatattac attcctgcac cattcccaga taattttcag 32880

ctttccagcc ttgaattatt cgtgtcagtt cttgtggtaa atccaatcca cacattacaa 32940

acaggtcccg gagggcgccc tccaccacca ttcttaaaca caccctcata atgacaaaat 33000

atcttgctcc tgtgtcacct gtagcgaatt gagaatggca acatcaattg acatgccctt 33060

ggctctaagt tcttctttaa gttctagttg taaaaactct ctcatattat caccaaactg 33120

cttagccaga agcccccggg gaacaagagc aggggacgct acagtgcagt acaagcgcag 33180

acctccccaa ttggctccag caaaaacaag attggaataa gcatattggg aaccgccagt 33240

aatatcatcg aagttgctgg aaatataatc aggcagagtt tcttgtaaaa attgaataaa 33300

agaaaaattt gccaaaaaaa cattcaaaac ctctgggatg caaatgcaat aggttaccgc 33360

gctgcgctcc aacattgtta gttttgaatt agtctgcaaa aataaaaaaa aaaacaagcg 33420

tcatatcata gtagcctgac gaacagatgg ataaatcagt ctttccatca caagacaagc 33480

cacagggtct ccagctcgac cctcgtaaaa cctgtcatca tgattaaaca acagcaccga 33540

aagttcctcg cggtgaccag catgaataat tcttgatgaa gcatacaatc cagacatgtt 33600

agcatcagtt aacgagaaaa aacagccaac atagcctttg ggtataatta tgcttaatcg 33660

taagtatagc aaagccaccc ctcgcggata caaagtaaaa ggcacaggag aataaaaaat 33720

ataattattt ctctgctgct gttcaggcaa cgtcgccccc ggtccctcta aatacacata 33780

caaagcctca tcagccatgg cttaccagac aaagtacagc gggcacacaa agcacaagct 33840

ctaaagtgac tctccaacct ctccacaata tatatataca caagccctaa actgacgtaa 33900

tgggagtaaa gtgtaaaaaa tcccgccaaa cccaacacac accccgaaac tgcgtcacca 33960

gggaaaagta cagtttcact tccgcaatcc caacaggcgt aacttcctct ttctcacggt 34020

acgtgatatc ccactaactt gcaacgtcat tttcccacgg tcgcaccgcc ccttttagcc 34080

gttaacccca cagccaatca ccacacgatc cacacttttt aaaatcacct catttacata 34140

ttggcaccat tccatctata aggtatatta tatagataga 34180

<210> 82
<211> 35749
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-615 Genome

<400> 82
tctatctata taatatacct tatagatgga atggtgccaa tatgtaaatg aggtgatttt 60

aaaaagtgtg gatcgtgtgg tgattggctg tggggttaac ggctaaaagg ggcggtgcga 120

ccgtgggaaa atgacgtttt gtgggggtgg agttttttg caagttgtcg cgggaaatgt 180

gacgcataaa aaggcttttt tctcacggaa ctacttagtt ttcccacggt atttaacagg 240

aaatgaggta gttttgaccg gatgcaagtg aaaattgttg attttcgcgc gaaaactgaa 300

tgaggaagtg tttttctgaa taatgtggta tttatggcag ggtggagtat ttgttcaggg 360

ccaggtagac tttgacccat tacgtggagg tttcgattac cgtgtttttt acctgaattt 420

ccgcgtaccg tgtcaaagtc ttctgttttt acgtaggtgt cagctgatcg ctagggtatt 480

tatacctcag ggtttgtgtc aagaggccac tcttgagtgc cagcgagaag agttttctcc 540

tctgcgccgg cagtttaata ataaaaaaat gagagatttg cgatttctgc ctcaggaaat 600

aatctctgct gagactggaa atgaaatatt ggagcttgtg gtgcacgccc tgatgggaga 660

cgatccggag ccacctgtgc agctttttga gcctcctacg cttcaggaac tgtatgattt 720

agaggtagag ggatcggagg attctaatga ggaagctgta aatggctttt ttaccgattc 780

tatgctttta gctgctaatg aagggttaga attagatccg cctttggaca cttttgatac 840

tccaggggta attgtggaaa gcggtacagg tgtaagaaaa ttacctgatt tgagttccgt 900

ggactgtgat ttgcactgct atgaagacgg gtttcctccg agtgatgagg aggaccatga 960

aaaggagcag tccatgcaga ctgcagcggg tgagggagtg aaggctgcca atgttggttt 1020

tcagttggat tgcccggagc ttcctggaca tggctgtaag tcttgtgaat ttcacaggaa 1080

aaatactgga gtaaaggaac tgttatgttc gctttgttat atgagaacgc actgccactt 1140

tatttacagt aagtgtgttt aagttaaaat ttaaaggaat atgctgtttt tcacatgtat 1200

attgagtgtg agttttgtgc ttcttattat aggtcctgtg tctgatgctg atgaatcacc 1260

atctcctgat tctactacct cacctcctga gattcaagca cctgttcctg tggacgtgcg 1320

caagcccatt cctgtgaagc ttaagcctgg gaaacgtcca gcagtggaaa aacttgagga 1380

cttgttacag ggtggggacg gacctttgga cttgagtaca cggaaacgtc caagacaata 1440

agtgttccat atccgtgttt acttaaggtg acgtcaatat ttgtgtgaca gtgcaatgta 1500

ataaaaatat gttaactgtt cactggtttt tattgctttt tgggcgggga ctcaggtata 1560

taagtagaag cagacctgtg tggttagctc ataggagctg gctttcatcc atggaggttt 1620

gggccatttt ggaagacctt aggaagacta ggcaactgtt agagaacgct tcggacggag 1680

tctccggttt ttggagattc tggttcgcta gtgaattagc tagggtagtt tttaggataa 1740

aacaggacta taaacaagaa tttgaaaagt tgttggtaga ttgcccagga ctttttgaag 1800

ctcttaattt gggccatcag gttcacttta aagaaaaagt tttatcagtt ttagactttt 1860

caaccccagg tagaactgct gctgctgtgg cttttcttac ttttatatta gataaatgga 1920

tcccgcagac tcatttcagc aggggatacg ttttggattt catagccaca gcattgtgga 1980

gaacatggaa ggttcgcaag atgaggacaa tcttaggtta ctggccagtg cagcctttgg 2040

gtgtagcggg aatcctgagg catccaccgg tcatgccagc ggttctggag gaggaacagc 2100

aagaggacaa cccgagagcc ggcctggacc ctccagtgga ggaggcggag tagctgactt 2160

gtctcctgaa ctgcaacggg tgcttactgg atctacgtcc actggacggg ataggggcgt 2220

taagagggag agggcatcta gtggtactga tgctagatct gagttggctt taagtttaat 2280

gagtcgcaga cgtcctgaaa ccatttggtg gcatgaggtt cagaaagagg gaagggatga 2340

agtttctgta ttgcaggaga aatattcact ggaacaggtg aaaacatgtt ggttggagcc 2400

tgaggatgat tgggaggtgg ccattaaaaa ttatgccaag atagctttga ggcctgataa 2460

acagtataag attactagac ggattaatat ccggaatgct tgttacatat ctggaaatgg 2520

ggctgaggtg gtaatagata ctcaagacaa ggcagttatt agatgctgca tgatggatat 2580

gtggcctggg gtagtcggta tggaagcagt aacttttgta aatgttaagt ttaggggaga 2640

tggttataat ggaatagtgt ttatggccaa taccaaactt atattgcatg gttgtagctt 2700

ttttggtttc aacaatacct gtgtagatgc ctggggacag gttagtgtac ggggatgtag 2760

tttctatgcg tgttggattg ccacagctgg cagaaccaag agtcaattgt ctctgaagaa 2820

atgcatattt caaagatgta acctgggcat tctgaatgaa ggcgaagcaa gggtccgcca 2880

ctgcgcttct acagatactg gatgttttat tttgattaag ggaaatgcca gcgtaaagca 2940

taacatgatt tgcggtgctt ccgatgagag gccttatcaa atgctcactt gtgctggtgg 3000

gcattgtaat atgctggcta ctgtgcatat tgtttcccat caacgcaaaa aatggcctgt 3060

ttttgatcac aatgtgatga cgaagtgtac catgcatgca ggtgggcgta gaggaatgtt 3120

tatgccttac cagtgtaaca tgaatcatgt gaaagtgttg ttggaaccag atgccttttc 3180

cagaatgagc ctaacaggaa tttttgacat gaacatgcaa atctggaaga tcctgaggta 3240

tgatgatacg agatcgaggg tacgcgcatg cgaatgcgga ggcaagcatg ccaggttcca 3300

gccggtgtgt gtagatgtga ctgaagatct cagaccggat catttggtta ttgcccgcac 3360

tggagcagag ttcggatcca gtggagaaga aactgactaa ggtgagtatt gggaaaactt 3420

tggggtggga ttttcagatg gacagattga gtaaaaattt gtttttttctg tcttgcagct 3480

gtcatgagtg gaaacgcttc ttttaagggg ggagtcttca gcccttatct gacagggcgt 3540

ctcccatcct gggcaggagt tcgtcagaat gttatgggat ctactgtgga tggaagaccc 3600

gtccaacccg ccaattcttc aacgctgacc tatgctactt taagttcttc acctttggac 3660

gcagctgcag ctgccgccgc cgcttctgtt gccgctaaca ctgtgcttgg aatgggttac 3720

tatggaagca tcatggctaa ttccacttcc tctaataacc cttctaccct gactcaggac 3780

aagttacttg tccttttggc ccagctggag gctttgaccc aacgtctggg tgaactttct 3840

cagcaggtgg tcgagttgcg agtacaaact gagtctgctg tcggcacggc aaagtctaaa 3900

taaaaaaatc ccagaatcaa tgaataaata aacaagcttg ttgttgattt aaaatcaagt 3960

gtttttattt catttttcgc gcacggtatg ccctagacca ccgatctcta tcattgagaa 4020

ctcggtggat tttttccagg atcctataga ggtgggattg aatgtttaga tacatgggca 4080

ttaggccgtc tttggggtgg agatagctcc attgaaggga ttcatgctcc ggggtagtgt 4140

tgtaaatcac ccagtcataa caaggtcgca gtgcatggtg ttgcacaata tcttttagaa 4200

gtaggctgat tgccacagat aagcccttgg tgtaggtgtt tacaaaccgg ttgagctggg 4260

atgggtgcat tcggggtgaa attatgtgca ttttggattg gatttttaag ttggcaatat 4320

tgccgccaag atcccgtctt gggttcatgt tatgaaggac caccaagacg gtgtatccgg 4380

tacatttagg aaatttatcg tgcagcttgg atggaaaagc gtggaaaaat ttggagacac 4440

ccttgtgtcc tccaagattt tccatgcact catccatgat aatagcaatg gggccgtggg 4500

cagcggcgcg ggcaaacacg ttccgtgggt ctgacacatc atagttatgt tcctgagtta 4560

aatcatcata agccatttta atgaatttgg ggcggagagt accagattgg ggtatgaatg 4620

ttccttcggg ccccggagca tagttcccct cacagatttg catttcccaa gctttcagtt 4680

ccgagggtgg aatcatgtcc acctgggggg ctatgaaaaa caccgtttct ggggcggggg 4740

tgattaattg tgatgatagc aaatttctga gcaattgaga tttgccacat ccggtggggc 4800

cataaatgat tccgattacg ggttgcaggt ggtagtttag ggaacggcaa ctgccgtctt 4860

ctcgaagcaa gggggccacc tcgttcatca tttcccttac atgcatattt tcccgcacca 4920

aatccattag gaggcgctct cctcctagtg atagaagttc ttgtagtgag gaaaagtttt 4980

tcagcggttt cagaccgtca gccatgggca ttttggagag agtttgctgc aaaagttcta 5040

gtctgttcca cagttcagtg atgtgttcta tggcatctcg atccagcaga cctcctcgtt 5100

tcgcgggttt ggacggctcc tggaataggg tatgagacga tgggcgtcca gcgctgccag 5160

ggttcggtcc ttccagggtc tcagtgttcg agtcagggtt gtttccgtca cagtgaaggg 5220

gtgtgcgcct gcttgggcgc ttgccagggt gcgcttcaga ctcatcctgc tggtcgaaaa 5280

cttctgtcgc ttggcgccct gtatgtcggc caagtagcag tttaccatga gttcgtagtt 5340

gagcgcctcg gctgcgtggc ctttggcgcg gagcttacct ttggaagttt tcttgcatac 5400

cgggcagtat aggcatttca gcgcatacaa cttgggcgca aggaaaacgg attctgggga 5460

gtatgcatct gcgccgcagg aggcgcaaac agtttcacat tccaccagcc aggttaaatc 5520

cggttcattg gggtcaaaaa caagttttcc gccatatttt ttgatgcgtt tcttaccttt 5580

ggtctccatg agttcgtgtc ctcgttgagt gacaaacagg ctgtccgtgt ccccgtagac 5640

tgattttaca ggcctcttct ccagtggagt gcctcggtct tcttcgtaca ggaactctga 5700

ccactctgat acaaaggcgc gcgtccaggc cagcacaaag gaggctatgt gggaggggta 5760

gcgatcgttg tcaaccaggg ggtccacctt ttccaaagta tgcaaacaca tgtcaccctc 5820

ttcaacatcc aggaatgtga ttggcttgta ggtgtatttc acgtgacctg gggtccccgc 5880

tgggggggta taaaaggggg cggttctttg ctcttcctca ctgtcttccg gatcgctgtc 5940

caggaacgtc agctgttggg gtaggtattc cctctcgaag gcgggcatga cctctgcact 6000

caggttgtca gtttctaaga acgaggagga tttgatattg acagtgccgg ttgagatgcc 6060

tttcatgagg ttttcgtcca tctggtcaga aaacacaatt tttttattgt caagtttggt 6120

ggcaaatgat ccatacaggg cgttggataa aagtttggca atggatcgca tggtttggtt 6180

cttttccttg tccgcgcgct ctttggcggc gatgttgagt tggacatact cgcgtgccag 6240

gcacttccat tcggggaaga tagttgttaa ttcatctggc acgattctca cttgccaccc 6300

tcgattatgc aaggtaatta aatccacact ggtggccacc tcgcctcgaa ggggttcatt 6360

ggtccaacag agcctacctc ctttcctaga acagaaaggg ggaagtgggt ctagcataag 6420

ttcatcggga gggtctgcat ccatggtaaa gattcccgga agtaaatcct tatcaaaata 6480

gctgatggga gtggggtcat ctaaggccat ttgccattct cgagctgcca gtgcgcgctc 6540

atatgggtta aggggactgc cccatggcat gggatgggtg agtgcagagg catacatgcc 6600

acagatgtca tagacgtaga tgggatcctc aaagatgcct atgtaggttg gatagcatcg 6660

ccccccctctg atacttgctc gcacatagtc atatagttca tgtgatggcg ctagcagccc 6720

cggacccaag ttggtgcgat tgggtttttc tgttctgtag acgatctggc gaaagatggc 6780

gtgagaattg gaagagatgg tgggtctttg aaaaatgttg aaatgggcat gaggtagacc 6840

tacagagtct ctgacaaagt gggcataaga ttcttgaagc ttggttacca gttcggcggt 6900

gacaagtacg tctagggcgc agtagtcaag tgtttcttga atgatgtcat aacctggttg 6960

gtttttcttt tcccacagtt cgcggttgag aaggtattct tcgcgatcct tccagtactc 7020

ttctagcgga aacccgtctt tgtctgcacg gtaagatcct agcatgtaga actgattaac 7080

tgccttgtaa gggcagcagc ccttctctac gggtagagag tatgcttgag cagcttttcg 7140

tagcgaagcg tgagtaaggg caaaggtgtc tctgaccatg actttgagga attggtattt 7200

gaagtcgatg tcgtcacagg ctccctgttc ccagagttgg aagtctaccc gtttcttgta 7260

ggcggggttg ggcaaagcga aagtaacatc attgaagaga atcttgccgg ccctgggcat 7320

gaaattgcga gtgatgcgaa aaggctgtgg tacttccgct cggttattga taacctgggc 7380

agctaggacg atctcgtcga aaccgttgat gttgtgtcct acgatgtata attctatgaa 7440

acgcggcgtg cctctgacgt gaggtagctt actgagctca tcaaaggtta ggtctgtggg 7500

gtcagataag gcgtagtgtt cgagagccca ttcgtgcagg tgaggattcg ctttaaggaa 7560

ggaggaccag aggtccactg ccagtgctgt ttgtaactgg tcccggtact gacgaaaatg 7620

ccgtccgact gccatttttt ctggggtgac gcaatagaag gtttgggggt cctgccgcca 7680

gcgatcccac ttgagtttta tggcgaggtc ataggcgatg ttgacgagcc gctggtctcc 7740

agagagtttc atgaccagca tgaaggggat tagctgcttg ccaaaggacc ccatccaggt 7800

gtaggtttcc acatcgtagg tgagaaagag cctttctgtg cgaggatgag agccaatcgg 7860

gaagaactgg atctcctgcc accagttgga ggaatggctg ttgatgtgat ggaagtagaa 7920

ctccctgcga cgcgccgagc attcatgctt gtgcttgtac agacggccgc agtagtcgca 7980

gcgttgcacg ggttgtatct cgtgaatgag ttgtacctgg cttcccttga cgagaaattt 8040

cagtgggaag ccgaggcctg gcgattgtat ctcgtgcttt actatgttgt ctgcatcggc 8100

ctgttcatct tctgtctcga tggtggtcat gctgacgagc cctcgcggga ggcaagtcca 8160

gacctcggcg cggcaggggc ggagctcgag gacgagagcg cgcaggctgg agctgtccag 8220

ggtcctgaga cgctgcggac tcaggttagt aggcagtgtc aggagattaa cttgcatgat 8280

cttttggagg gcgtgcggga ggttcagata gtacttgatc tcaacgggtc cgttggtgga 8340

gatgtcgatg gcttgcaggg ttccgtgtcc cttgggcgct accaccgtgc ccttgttttt 8400

cattttggac ggcggtggct ctgttgcttc ttgcatgttt agaagcggtg tcgagggcgc 8460

gcaccgggcg gcaggggcgg ctcgggaccc ggcggcatgg ctggcagtgg tacgtcggcg 8520

ccgcgcgcgg gtaggttctg gtactgcgcc ctgagaagac tcgcatgcgc gacgacgcgg 8580

cggttgacat cctggatctg acgcctctgg gtgaaagcta ccggccccgt gagcttgaac 8640

ctgaaagaga gttcaacaga atcaatctcg gtatcgttga cggcggcttg cctaaggatt 8700

tcttgcacgt caccagagtt gtcctggtag gcgatctccg ccatgaactg ctcgatctct 8760

tcctcttgaa gatctccgcg gcccgctctc tcgacggtgg ccgcgaggtc gttggagatg 8820

cgcccaatga gttgagagaa tgcattcatg cccgcctcgt tccagacgcg gctgtagacc 8880

acggccccca cgggatctct cgcgcgcatg accacctggg cgaggttgag ctccacgtgg 8940

cgggtgaaga ccgcatagtt gcataggcgc tggaaaaggt agttgagtgt ggtggcgatg 9000

tgctcggtga cgaagaaata catgatccat cgtctcagcg gcatctcgct gacatcgccc 9060

agagcttcca agcgctccat ggcctcgtag aagtccacgg caaaattaaa aaactgggag 9120

tttcgcgcgg acacggtcaa ctcctcttcc agaagacgga taagttcggc gatggtggtg 9180

cgcacctcgc gctcgaaagc ccctgggatt tcttcctcaa tctcttcttc ttccactaac 9240

atctcttcct cttcaggtgg ggctgcagga ggagggggaa cgcggcgacg ccggcggcgc 9300

acgggcagac ggtcgatgaa tctttcaatg acctctccgc ggcggcggcg catggtttca 9360

gtgacggcgc ggccgttctc gcgcggtcgc agagtaaaaa caccgccgcg catctcctta 9420

aagtggtgac tgggaggttc tccgtttggg agggagaggg cgctgattat acattttatt 9480

aattggcccg tagggactgc acgcagagat ctgatcgtgt caagatccac gggatctgaa 9540

aacctttcga cgaaagcgtc taaccagtca cagtcacaag gtaggctgag tacggcttct 9600

tgtgggcggg ggtggttatg tgttcggtct gggtcttctg tttcttcttc atctcgggaa 9660

ggtgagacga tgctgctggt gatgaaatta aagtaggcag ttctaagacg gcggatggtg 9720

gcgaggagca ccaggtcttt gggtccggct tgctggatac gcaggcgatt ggccattccc 9780

caagcattat cctgacatct agcaagatct ttgtagtagt cttgcatgag ccgttctacg 9840

ggcacttctt cctcacccgt tctgccatgc atacgtgtga gtccaaatcc gcgcattggt 9900

tgtaccagtg ccaagtcagc tacgactctt tcggcgagga tggcttgctg tacttgggta 9960

agggtggctt gaaagtcatc aaaatccaca aagcggtggt aagctcctgt attaatggtg 10020

taagcacagt tggccatgac tgaccagtta actgtctggt gaccagggcg cacgagctcg 10080

gtgtatttaa ggcgcgaata ggcgcgggtg tcaaagatgt aatcgttgca ggtgcgcacc 10140

agatactggt accctataag aaaatgcggc ggtggttggc ggtagagagg ccatcgttct 10200

gtagctggag cgccaggggc gaggtcttcc aacataaggc ggtgatagcc gtagatgtac 10260

ctggacatcc aggtgattcc tgcggcggta gtagaagccc gaggaaactc gcgtacgcgg 10320

ttccaaatgt tgcgtagcgg catgaagtag ttcattgtag gcacggtttg accagtgagg 10380

cgcgcgcagt cattgatgct ctatagacac ggagaaaatg aaagcgttca gcgactcgac 10440

tccgtagcct ggaggaacgt gaacgggttg ggtcgcggtg taccccggtt cgagacttgt 10500

actcgagccg gccggagccg cggctaacgt ggtattggca ctcccgtctc gacccagcct 10560

acaaaaatcc aggatacgga atcgagtcgt tttgctggtt tccgaatggc agggaagtga 10620

gtcctatttt ttttttttgc cgctcagatg catcccgtgc tgcgacagat gcgcccccaa 10680

caacagcccc cctcgcagca gcagcagcag caatcacaaa aggctgtccc tgcaactact 10740

gcaactgccg ccgtgagcgg tgcgggacag cccgcctatg atctggactt ggaagagggc 10800

gaaggactgg cacgtctagg tgcgccttca cccgagcggc atccgcgagt tcaactgaaa 10860

aaagattctc gcgaggcgta tgtgccccaa cagaacctat ttagagacag aagcggcgag 10920

gagccggagg agatgcgagc ttcccgcttt aacgcgggtc gtgagctgcg tcacggtttg 10980

gaccgaagac gagtgttgcg ggacgaggat ttcgaagttg atgaaatgac agggatcagt 11040

cctgccaggg cacacgtggc tgcagccaac cttgtatcgg cttacgagca gacagtaaag 11100

gaagagcgta acttccaaaa gtcttttaat aatcatgtgc gaaccctgat tgcccgcgaa 11160

gaagttaccc ttggtttgat gcatttgtgg gatttgatgg aagctatcat tcagaaccct 11220

actagcaaac ctctgaccgc ccagctgttt ctggtggtgc aacacagcag agacaatgag 11280

gctttcagag aggcgctgct gaacatcacc gaacccgagg ggagatggtt gtatgatctt 11340

atcaacattc tacagagtat catagtgcag gagcggagcc tgggcctggc cgagaaggtg 11400

gctgccatca attactcggt tttgagcttg ggaaaatatt acgctcgcaa aatctacaag 11460

actccatacg ttcccataga caaggaggtg aagatagatg ggttctacat gcgcatgacg 11520

ctcaaggtct tgaccctgag cgatgatctt ggggtgtatc gcaatgacag aatgcatcgc 11580

gcggttagcg ccagcaggag gcgcgagtta agcgacaggg aactgatgca cagtttgcaa 11640

agagctctga ctggagctgg aaccgagggt gagaattact tcgacatggg agctgacttg 11700

cagtggcagc ctagtcgcag ggctctgagc gccgcgacgg caggatgtga gcttccttac 11760

atagaagagg cggatgaagg cgaggaggaa gagggcgagt acttggaaga ctgatggcac 11820

aacccgtgtt ttttgctaga tggaacagca agcaccggat cccgcaatgc gggcggcgct 11880

gcagagccag ccgtccggca ttaactcctc ggacgattgg acccaggcca tgcaacgtat 11940

catggcgttg acgactcgca accccgaagc ctttagacag caaccccagg ccaaccgtct 12000

atcggccatc atggaagctg tagtgccttc ccgctctaat cccactcatg agaaggtcct 12060

ggccatcgtg aacgcgttgg tggagaacaa agctattcgt ccagatgagg ccggactggt 12120

atacaacgct ctcttagaac gcgtggctcg ctacaacagt agcaatgtgc aaaccaattt 12180

ggaccgtatg ataacagatg tacgcgaagc cgtgtctcag cgcgaaaggt tccagcgtga 12240

tgccaacctg ggttcgctgg tggcgttaaa tgctttcttg agtactcagc ctgctaatgt 12300

gccgcgtggt caacaggatt atactaactt tttaagtgct ttgagactga tggtatcaga 12360

agtacctcag agcgaagtgt atcagtccgg tcctgattac ttctttcaga ctagcagaca 12420

gggcttgcag acggtaaatc tgagccaagc ttttaaaaac cttaaaggtt tgtggggagt 12480

gcatgccccg gtaggagaaa gagcaaccgt gtctagcttg ttaactccga actcccgcct 12540

attattactg ttggtagctc ctttcaccga cagcggtagc atcgaccgta attcctattt 12600

gggttaccta ctaaacctgt atcgcgaagc catagggcaa agtcaggtgg acgagcagac 12660

ctatcaagaa attacccaag tcagtcgcgc tttgggacag gaagacactg gcagtttgga 12720

agccactctg aacttcttgc ttaccaatcg gtctcaaaag atccctcctc aatatgctct 12780

tactgcggag gaggagagga tccttagata tgtgcagcag agcgtgggat tgtttctgat 12840

gcaagagggg gcaactccga ctgcagcact ggacatgaca gcgcgaaata tggagcccag 12900

catgtatgcc agtaaccgac ctttcattaa caaactgctg gactacttgc acagagctgc 12960

cgctatgaac tctgattatt tcaccaatgc catcttaaac ccgcactggc tgcccccacc 13020

tggtttctac acgggcgaat atgacatgcc cgaccctaat gacggatttc tgtgggacga 13080

cgtggacagc gatgtttttt cacctctttc tgatcatcgc acgtggaaaa aggaaggcgg 13140

cgatagaatg cattcttctg catcgctgtc cggggtcatg ggtgctaccg cggctgagcc 13200

cgagtctgca agtccttttc ctagtctacc cttttctcta cacagtgtac gtagcagcga 13260

agtgggtaga ataagtcgcc cgagtttaat gggcgaagag gagtatctaa acgattcctt 13320

gctcagaccg gcaagagaaa aaaatttccc aaacaatgga atagaaagtt tggtggataa 13380

aatgagtaga tggaagactt atgctcagga tcacagagac gagcctggga tcatggggat 13440

tacaagtaga gcgagccgta gacgccagcg ccatgacaga cagaggggtc ttgtgtggga 13500

cgatgaggat tcggccgatg atagcagcgt gctggacttg ggtgggagag gaaggggcaa 13560

cccgtttgct catttgcgcc ctcgcttggg tggtatgttg taaaaaaaaa taaaaaaaaa 13620

actcaccaag gccatggcga cgagcgtacg ttcgttcttc tttattatct gtgtctagta 13680

taatgaggcg agtcgtgcta ggcggagcgg tggtgtatcc ggagggtcct cctccttcgt 13740

acgagagcgt gatgcagcag cagcaggcga cggcggtgat gcaatcccca ctggaggctc 13800

cctttgtgcc tccgcgatac ctggcaccta cggagggcag aaacagcatt cgttattcgg 13860

aactggcacc tcagtacgat accaccaggt tgtatctggt ggacaacaag tcggcggaca 13920

ttgcttctct gaactatcag aatgaccaca gcaacttctt gaccacggtg gtgcaaaaca 13980

atgactttac ccctacggaa gccagcaccc agaccattaa ctttgatgaa cgatcgcggt 14040

ggggcggtca gctaaagacc atcatgcata ctaacatgcc aaacgtgaac gagtatatgt 14100

ttagtaacaa gttcaaagcg cgtgtgatgg tgtccagaaa acctcccgac ggtgctgcag 14160

ttggggatac ttatgatcac aagcaggata ttttgaaata tgagtggttc gagtttactt 14220

tgccagaagg caacttttca gttactatga ctattgattt gatgaacaat gccatcatag 14280

ataattactt gaaagtgggt agacagaatg gagtgcttga aagtgacatt ggtgttaagt 14340

tcgacaccag gaacttcaag ctgggatggg atcccgaaac caagttgatc atgcctggag 14400

tgtatacgta tgaagccttc catcctgaca ttgtcttact gcctggctgc ggagtggatt 14460

ttaccgagag tcgtttgagc aaccttcttg gtatcagaaa aaaacagcca tttcaagagg 14520

gttttaagat tttgtatgaa gatttagaag gtggtaatat tccggccctc ttggatgtag 14580

atgcctatga gaacagtaag aaagaacaaa aagccaaaat agaagctgct acagctgctg 14640

cagaagctaa ggcaaacata gttgccagcg actctacaag ggttgctaac gctggagagg 14700

tcagaggaga caattttgcg ccaacacctg ttccgactgc agaatcatta ttggccgatg 14760

tgtctgaagg aacggacgtg aaactcacta ttcaacctgt agaaaaagat agtaagaata 14820

gaagctataa tgtgttggaa gacaaaatca acacagccta tcgcagttgg tatctttcgt 14880

acaattatgg cgatcccgaa aaaggagtgc gttcctggac attgctcacc acctcagatg 14940

tcacctgcgg agcagagcag gtctactggt cgcttccaga catgatgaag gatcctgtca 15000

ctttccgctc cactagacaa gtcagtaact accctgtggt gggtgcagag cttatgcccg 15060

tcttctcaaa gagcttctac aacgaacaag ctgtgtactc ccagcagctc cgccagtcca 15120

cctcgcttac gcacgtcttc aaccgctttc ctgagaacca gattttaatc cgtccgccgg 15180

cgcccaccat taccaccgtc agtgaaaacg ttcctgctct cacagatcac gggaccctgc 15240

cgttgcgcag cagtatccgg ggagtccaac gtgtgaccgt tactgacgcc agacgccgca 15300

cctgtcccta cgtgtacaag gcactgggca tagtcgcacc gcgcgtcctt tcaagccgca 15360

ctttctaaaa aaaaaaaaaa tgtccattct tatctcgccc agtaataaca ccggttgggg 15420

tctgcgcgct ccaagcaaga tgtacggagg cgcacgcaaa cgttctaccc aacatcctgt 15480

ccgtgttcgc ggacattttc gcgctccatg gggcgccctc aagggccgca ctcgcgttcg 15540

aaccaccgtc gatgatgtaa tcgatcaggt ggttgccgac gcccgtaatt atactcctac 15600

tgcgcctaca tctactgtgg atgcagttat tgacagtgta gtggctgacg ctcgcaacta 15660

tgctcgacgt aagagccggc gaaggcgcat tgccagacgc caccgagcta ccactgccat 15720

gcgagccgca agagctctgc tacgaagagc tagacgcgtg gggcgaagag ccatgcttag 15780

ggcggccaga cgtgcagctt cgggcgccag cgccggcagg tcccgcaggc aagcagccgc 15840

tgtcgcagcg gcgactattg ccgacatggc ccaatcgcga agaggcaatg tatactgggt 15900

gcgtgacgct gccaccggtc aacgtgtacc cgtgcgcacc cgtccccctc gcacttagaa 15960

gatactgagc agtctccgat gttgtgtccc agcggcgagg atgtccaagc gcaaatacaa 16020

ggaagaaatg ctgcaggtta tcgcacctga agtctacggc caaccgttga aggatgaaaa 16080

aaaaccccgc aaaatcaagc gggttaaaaa ggacaaaaaa gaagaggaag atggcgatga 16140

tgggctggcg gagtttgtgc gcgagtttgc cccacggcga cgcgtgcaat ggcgtgggcg 16200

caaagttcga catgtgttga gacctggaac ttcggtggtc tttacacccg gcgagcgttc 16260

aagcgctact tttaagcgtt cctatgatga ggtgtacggg gatgatgata ttcttgagca 16320

ggcggctgac cgattaggcg agtttgctta tggcaagcgt agtagaataa cttccaagga 16380

tgagacagtg tcgataccct tggatcatgg aaatcccacc cctagtctta aaccggtcac 16440

tttgcagcaa gtgttacccg taactccgcg aacaggtgtt aaacgcgaag gtgaagattt 16500

gtatcccact atgcaactga tggtacccaa acgccagaag ttggaggacg ttttggagaa 16560

agtaaaagtg gatccagata ttcaacctga ggttaaagtg agacccatta agcaggtagc 16620

gcctggtctg ggggtacaaa ctgtagacat taagattccc actgaaagta tggaagtgca 16680

aactgaaccc gcaaagccta ctgccacctc cactgaagtg caaacggatc catggatgcc 16740

catgcctatt acaactgacg ccgccggtcc cactcgaaga tcccgacgaa agtacggtcc 16800

agcaagtctg ttgatgccca attatgttgt acacccatct attattccta ctcctggtta 16860

ccgaggcact cgctactatc gcagccgaaa cagtacctcc cgccgtcgcc gcaagacacc 16920

tgcaaatcgc agtcgtcgcc gtagacgcac aagcaaaccg actcccggcg ccctggtgcg 16980

gcaagtgtac cgcaatggta gtgcggaacc tttgacactg ccgcgtgcgc gttaccatcc 17040

gagtatcatc acttaatcaa tgttgccgct gcctccttgc agatatggcc ctcacttgtc 17100

gccttcgcgt tcccatcact ggttaccgag gaagaaactc gcgccgtaga agagggatgt 17160

tgggacgcgg aatgcgacgc tacaggcgac ggcgtgctat ccgcaagcaa ttgcggggtg 17220

gtttttacc agccttaatt ccaattatcg ctgctgcaat tggcgcgata ccaggcatag 17280

cttccgtggc ggttcaggcc tcgcaacgac attgacattg gaaaaaaacg tataaataaa 17340

aaaaaaaaaa tacaatggac tctgacactc ctggtcctgt gactatgttt tcttagagat 17400

ggaagacatc aatttttcat ccttggctcc gcgacacggc acgaagccgt acatgggcac 17460

ctggagcgac atcggcacga gccaactgaa cgggggcgcc ttcaattgga gcagtatctg 17520

gagcgggctt aaaaattttg gctcaaccat aaaaacatac gggaacaaag cttggaacag 17580

cagtacagga caggcgctta gaaataaact taaagaccag aacttccaac aaaaagtagt 17640

cgatgggata gcttccggca tcaatggagt ggtagatttg gctaaccagg ctgtgcagaa 17700

aaagataaac agtcgtttgg acccgccgcc agcaacccca ggtgaaatgc aagtggagga 17760

agaaattcct ccgccagaaa aacgaggcga caagcgtccg cgtcccgatt tggaagagac 17820

gctggtgacg cgcgtagatg aaccgccttc ttatgaggaa gcaacgaagc ttggaatgcc 17880

caccactaga ccgatagccc caatggccac cggggtgatg aaaccttctc agttgcatcg 17940

acccgtcacc ttggatttgc cccctccccc tgctgctact gctgtacccg cttctaagcc 18000

tgtcgctgcc ccgaaaccag tcgccgtagc caggtcacgt cccgggggcg ctcctcgtcc 18060

aaatgcgcac tggcaaaata ctctgaacag catcgtgggt ctaggcgtgc aaagtgtaaa 18120

acgccgtcgc tgcttttaat taaatatgga gtagcgctta acttgcctat ctgtgtatat 18180

gtgtcattac acgccgtcac agcagcagag gaaaaaagga agaggtcgtg cgtcgacgct 18240

gagttacttt caagatggcc accccatcga tgctgcccca atgggcatac atgcacatcg 18300

ccggacagga tgcttcggag tacctgagtc cgggtctggt gcagttcgcc cgcgccacag 18360

acacctactt caatctggga aataagttta gaaatcccac cgtagcgccg acccacgatg 18420

tgaccaccga ccgtagccag cggctcatgt tgcgcttcgt gcccgttgac cgggaggaca 18480

atacatactc ttacaaagtg cggtacaccc tggccgtggg cgacaacaga gtgctggata 18540

tggccagcac gttctttgac attaggggtg tgttggacag aggtcccagt ttcaaaccct 18600

attctggtac ggcttacaac tccctggctc ctaaaggcgc tccaaataca tctcagtgga 18660

ttgcagaagg tgtaaaaaat acaactggtg aggaacacgt aacagaagag gaaaccaata 18720

ctactactta cacttttggc aatgctcctg taaaagctga agctgaaatt acaaaagaag 18780

gactcccagt aggtttggaa gtttcagatg aagaaagtaa accgatttat gctgataaaa 18840

catatcagcc agaacctcag ctgggagatg aaacttggac tgaccttgat ggaaaaaccg 18900

aaaagtatgg aggcagggct ctcaaacccg atactaagat gaaaccatgc tacgggtcct 18960

ttgccaaacc tactaatgtg aaaggcggtc aggcaaaaca aaaaacaacg gagcagccaa 19020

atcagaaagt cgaatatgat atcgacatgg agtttttga tgcggcatcg cagaaaacaa 19080

acttaagtcc taaaattgtc atgtatgcag aaaatgtaaa tttggaaact ccagacactc 19140

atgtagtgta caaacctgga acagaagaca caagttccga agctaatttg ggacaacaat 19200

ctatgcccaa cagacccaac tacattggct tcagagataa ctttattgga cttatgtact 19260

ataacagtac tggtaacatg ggggtgctgg ctggtcaagc gtctcagtta aatgcagtgg 19320

ttgacttgca ggacagaaac acagaacttt cttaccaact cttgcttgac tctctgggcg 19380

acagaaccag atactttagc atgtggaatc aggctgtgga cagttatgat cctgatgtac 19440

gtgttattga aaatcatggt gtggaagatg aacttcccaa ctactgtttt ccactggacg 19500

gcataggtgt tccaacaacc agttacaaat caatagttcc aaatggagac aatgcgccta 19560

attggaagga acctgaagta aatggaacaa gtgagatcgg acagggtaat ttgtttgcca 19620

tggaaattaa ccttcaagcc aatctatggc gaagtttcct ttattccaat gtggctctat 19680

atctcccaga ctcgtacaaa tacaccccgt ccaatgtcac tcttccagaa aacaaaaaca 19740

cctacgacta catgaacggg cgggtggtgc cgccatctct agtagacacc tatgtgaaca 19800

ttggtgccag gtggtctctg gatgccatgg acaatgtcaa cccattcaac caccaccgta 19860

acgctggctt gcgttaccga tccatgcttc tgggtaacgg acgttatgtg cctttccaca 19920

tacaagtgcc tcaaaaattc ttcgctgtta aaaacctgct gcttctccca ggctcctaca 19980

cttatgagtg gaactttagg aaggatgtga acatggttct acagagttcc ctcggtaacg 20040

acctgcgggt agatggcgcc agcatcagtt tcacgagcat caacctctat gctacttttt 20100

tccccatggc tcacaacacc gcttccaccc ttgaagccat gctgcggaat gacaccaatg 20160

atcagtcatt caacgactac ctatctgcag ctaacatgct ctaccccatt cctgccaatg 20220

caaccaatat tcccatttcc attccttctc gcaactgggc ggctttcaga ggctggtcat 20280

ttaccagact gaaaaccaaa gaaactccct ctttggggtc tggatttgac ccctactttg 20340

tctattctgg ttctattccc tacctggatg gtaccttcta cctgaaccac acttttaaga 20400

aggtttccat catgtttgac tcttcagtga gctggcctgg aaatgacagg ttactatctc 20460

ctaacgaatt tgaaataaag cgcactgtgg atggcgaagg ctacaacgta gcccaatgca 20520

acatgaccaa agactggttc ttggtacaga tgctcgccaa ctacaacatc ggctatcagg 20580

gcttctacat tccagaagga tacaaagatc gcatgtattc atttttcaga aacttccagc 20640

ccatgagcag gcaggtggtt gatgaggtca attacaaaga cttcaaggcc gtcgccatac 20700

cctaccaaca caacaactct ggctttgtgg gttacatggc tccgaccatg cgccaaggtc 20760

aaccctatcc cgctaactat ccctatccac tcattggaac aactgccgta aatagtgtta 20820

cgcagaaaaa gttcttgtgt gacagaacca tgtggcgcat accgttctcg agcaacttca 20880

tgtctatggg ggcccttaca gacttgggac agaatatgct ctatgccaac tcagctcatg 20940

ctctggacat gacctttgag gtggatccca tggatgagcc caccctgctt tatcttctct 21000

tcgaagtttt cgacgtggtc agagtgcatc agccacaccg cggcatcatc gaggcagtct 21060

acctgcgtac accgttctcg gccggtaacg ctaccacgta agaagcttct tgcttcttgc 21120

aaatagcagc tgcaaccatg gcctgcggat cccaaaacgg ctccagcgag caagagctca 21180

gagccattgt ccaagacctg ggttgcggac cctatttttt gggaacctac gataagcgct 21240

tcccggggtt catggccccc gataagctcg cctgtgccat tgtaaatacg gccggacgtg 21300

agacgggggg agagcactgg ttggctttcg gttggaaccc acgttctaac acctgctacc 21360

tttttgatcc ttttggattc tcggatgatc gtctcaaaca gatttaccag tttgaatatg 21420

agggtctcct gcgccgcagc gctcttgcta ccaaggaccg ctgtattacg ctggaaaaat 21480

ctacccagac cgtgcagggt ccccgttctg ccgcctgcgg acttttctgc tgcatgttcc 21540

ttcacgcctt tgtgcactgg cctgaccgtc ccatggacgg aaaccccacc atgaaattgc 21600

taactggagt gccaaacaac atgcttcatt ctcctaaagt ccagcccacc ctgtgtgaca 21660

atcaaaaagc actctaccat tttcttaata cccattcgcc ttattttcgc tcccatcgta 21720

cacacatcga aagggccact gcgttcgacc gtatggatgt tcaataatga ctcatgtaaa 21780

caacgtgttc aataaacatc actttatttt tttacatgta tcaaggctct gcattactta 21840

tttatttaca agtcgaatgg gttctgacga gaatcagaat gacccgcagg cagtgatacg 21900

ttgcggaact gatacttggg ttgccacttg aattcgggaa tcaccaactt gggaaccggt 21960

atatcgggca ggatgtcact ccacagcttt ctggtcagct gcaaagctcc aagcaggtca 22020

ggagccgaaa tcttgaaatc acaattagga ccagtgcttt gagcgcgaga gttgcggtac 22080

accggattgc agcactgaaa caccatcagc gacggatgtc tcacgcttgc cagcacggtg 22140

ggatctgcaa tcatgcccac atccagatct tcagcattgg caatgctgaa cggggtcatc 22200

ttgcaggtct gcctacccat ggcgggcacc caattaggct tgtggttgca atcgcagtgc 22260

agggggatca gtatcatctt ggcctgatcc tgtctgattc ctggatacac ggctctcatg 22320

aaagcatcat attgcttgaa agcctgctgg gctttactac cctcggtata aaacatcccg 22380

caggacctgc tcgaaaactg gttagctgca cagccggcat cattcacaca gcagcgggcg 22440

tcattgttag ctatttgcac cacacttctg ccccagcggt tttgggtgat tttggttcgc 22500

tcgggattct cctttaaggc tcgttgtccg ttctcgctgg ccacatccat ctcgataatc 22560

tgctccttct gaatcataat attgccatgc aggcacttca gcttgccctc ataatcattg 22620

cagccatgag gccacaacgc acagcctgta cattcccaat tatggtgggc gatctgagaa 22680

aaagaatgta tcattccctg cagaaatctt cccatcatcg tgctcagtgt cttgtgacta 22740

gtgaaagtta actggatgcc tcggtgctcc tcgtttacgt actggtgaca gatgcgcttg 22800

tattgttcgt gttgctcagg cattagttta aaagaggttc taagttcgtt atccagcctg 22860

tacttctcca tcagcagaca catcacttcc atgcctttct cccaagcaga caccaggggc 22920

aagctaatcg gattcttaac agtgcaggca gcagctcctt tagccagagg gtcatcttta 22980

gcgatcttct caatgcttct tttgccatcc ttctcaacga tgcgcacggg cgggtagctg 23040

aaacccactg ctacaagttg cgcctcttct ctttcttctt cgctgtcttg actgatgtct 23100

tgcatgggga tatgtttggt cttccttggc ttctttttgg ggggtatcgg aggaggagga 23160

ctgtcgctcc gttccggaga cagggaggat tgtgacgttt cgctcaccat taccaactga 23220

ctgtcggtag aagaacctga ccccacacgg cgacaggtgt ttctcttcgg gggcagaggt 23280

ggaggcgatt gcgaagggct gcggtccgac ctggaaggcg gatgactggc agaacccctt 23340

ccgcgttcgg gggtgtgctc cctgtggcgg tcgcttaact gatttccttc gcggctggcc 23400

attgtgttct cctaggcaga gaaacaacag acatggaaac tcagccattg ctgtcaacat 23460

cgccacgagt gccatcacat ctcgtcctca gcgacgagga aaaggagcag agcttaagca 23520

ttccaccgcc cagtcctgcc accacctcta ccctagaaga taaggaggtc gacgcatctc 23580

atgacatgca gaataaaaaa gcgaaagagt ctgagacaga catcgagcaa gacccgggct 23640

atgtgacacc ggtggaacac gaggaagagt tgaaacgctt tctagagaga gaggatgaaa 23700

actgcccaaa acaacgagca gataactatc accaagatgc tggaaatagg gatcagaaca 23760

ccgactacct catagggctt gacggggaag acgcgctcct taaacatcta gcaagacagt 23820

cgctcatagt caaggatgca ttattggaca gaactgaagt gcccatcagt gtggaagagc 23880

tcagccgcgc ctacgagctt aacctctttt cacctcgtac tccccccaaa cgtcagccaa 23940

acggcacctg cgagccaaat cctcgcttaa acttttatcc agcttttgct gtgccagaag 24000

tactggctac ctatcacatc ttttttaaaa atcaaaaaat tccagtctcc tgccgcgcta 24060

atcgcacccg cgccgatgcc ctactcaatc tgggacctgg ttcacgctta cctgatatag 24120

cttccttgga agaggttcca aagatcttcg agggtctggg caataatgag actcgggccg 24180

caaatgctct gcaaaaggga gaaaatggca tggatgagca tcacagcgtt ctggtggaat 24240

tggaaggcga taatgccaga ctcgcagtac tcaagcgaag catcgaggtc acacacttcg 24300

catatcccgc tgtcaacctg ccccctaaag tcatgacggc ggtcatggac cagttactca 24360

ttaagcgcgc aagtcccctt tcagaagaca tgcatgaccc agatgcctgt gatgagggta 24420

aaccagtggt cagtgatgag cagctaaccc gatggctggg caccgactct cccagggatt 24480

tggaagagcg tcgcaagctt atgatggccg tggtgctggt taccgtagaa ctagagtgtc 24540

tccgacgttt ctttaccgat tcagaaacct tgcgcaaact cgaagagaat ctgcactaca 24600

cttttagaca cggctttgtg cggcaggcat gcaagatatc taacgtggaa ctcaccaacc 24660

tggtttccta catgggtatt ctgcatgaga atcgcctagg acaaagcgtg ctgcacagca 24720

ccctgaaggg ggaagcccgc cgtgattaca tccgcgattg tgtctatctg tacctgtgcc 24780

acacgtggca aaccggcatg ggtgtatggc agcaatgttt agaagaacag aacttgaaag 24840

agcttgacaa gctcttacag aaatctctta aggttctgtg gacagggttc gacgagcgca 24900

ccgtcgcttc cgacctggca gacctcatct tcccagagcg tctcagggtt actttgcgaa 24960

acggattgcc tgactttatg agccagagca tgcttaacaa ttttcgctct ttcatcctgg 25020

aacgctccgg tatcctgccc gccacctgct gcgcactgcc ctccgacttt gtgcctctca 25080

cctaccgcga gtgccccccg ccgctatgga gtcactgcta cctgttccgt ctggccaact 25140

atctctccta ccactcggat gtgatcgagg atgtgagcgg agacggcttg ctggagtgtc 25200

actgccgctg caatctgtgc acgccccacc ggtccctagc ttgcaacccc cagttgatga 25260

gcgaaaccca gataataggc acctttgaat tgcaaggccc cagcagccaa ggcgatgggt 25320

cttctcctgg gcaaagttta aaactgaccc cgggactgtg gacctccgcc tacttgcgca 25380

agtttgctcc ggaagattac cacccctatg aaatcaagtt ctatgaggac caatcacagc 25440

ctccaaaggc cgaactttcg gcctgcgtca tcacccaggg ggcaattctg gcccaattgc 25500

aagccatcca aaaatcccgc caagaatttc tactgaaaaa gggtaagggg gtctaccttg 25560

acccccagac cggcgaggaa ctcaacacaa ggttccctca ggatgtccca acgacgagaa 25620

aacaagaagt tgaaggtgca gccgccgccc ccagaagata tggaggaaga ttgggacagt 25680

caggcagagg aggcggagga ggacagtctg gaggacagtc tggaggaaga cagtttggag 25740

gaggaaaacg aggaggcaga ggaggtggaa gaagtaaccg ccgacaaaca gttatcctcg 25800

gctgcggaga caagcaacag cgctaccatc tccgctccga gtcgaggaac ccggcggcgt 25860

cccagcagta gatgggacga gaccggacgc ttcccgaacc caaccagcgc ttccaagacc 25920

ggtaagaagg atcggcaggg atacaagtcc tggcgggggc ataagaatgc catcatctcc 25980

tgcttgcatg agtgcggggg caacatatcc ttcacgcggc gctacttgct attccaccat 26040

ggggtgaact ttccgcgcaa tgttttgcat tactaccgtc acctccacag cccctactat 26100

agccagcaaa tcccggcagt ctcgacagat aaagacagcg gcggcgacct ccaacagaaa 26160

accagcagcg gcagttagaa aatacacaac aagtgcagca acaggaggat taaagattac 26220

agccaacgag ccagcgcaaa cccgagagtt aagaaatcgg atctttccaa ccctgtatgc 26280

catcttccag cagagtcggg gtcaagagca ggaactgaaa ataaaaaacc gatctctgcg 26340

ttcgctcacc agaagttgtt tgtatcacaa gagcgaagat caacttcagc gcactctcga 26400

ggacgccgag gctctcttca acaagtactg cgcgctgact cttaaagagt aggcagcgac 26460

cgcgcttatt caaaaaaggc gggaattaca tcatcctcga catgagtaaa gaaattccca 26520

cgccttacat gtggagttat caaccccaaa tgggattggc ggcaggcgcc tcccaggact 26580

actccacccg catgaattgg ctcagcgccg ggccttctat gatttctcga gttaatgata 26640

tacgcgccta ccgaaaccaa atacttttgg aacagtcagc tcttaccacc acgccccgcc 26700

aacaccttaa tcccagaaat tggcccgccg ccctagtgta ccaggaaagt cccgctccca 26760

ccactgtatt acttcctcga gacgcccagg ccgaagtcca aatgactaat gcaggtgcgc 26820

agttagctgg cggctccacc ctatgtcgtc acaggcctcg gcataatata aaacgcctga 26880

tgatcagagg ccgaggtatc cagctcaacg acgagtcggt gagctctccg cttggtctac 26940

gaccagacgg aatctttcag attgccggct gcgggagatc ttccttcacc cctcgtcagg 27000

ctgttctgac tttggaaagt tcgtcttcgc aaccccgctc gggcggaatc gggaccgttc 27060

aatttgtgga ggagtttact ccctctgtct acttcaaccc cttctccgga tctcctgggc 27120

attacccgga cgagttcata ccgaacttcg acgcgattag cgagtcagtg gacggctacg 27180

attgatgtct ggtgacgcgg ctgagctatc tcggctgcga catctagacc actgccgccg 27240

ctttcgctgc tttgcccggg aactcattga gttcatctac ttcgaactcc ccaaggatca 27300

ccctcaaggt ccggcccacg gagtgcggat ttctatcgaa ggcaaaatag actctcgcct 27360

gcaacgaatt ttctcccagc ggcccgtgct gatcgagcga gaccagggaa acaccacggt 27420

ttccatctac tgcatttgta atcaccccgg attgcatgaa agcctttgct gtcttatgtg 27480

tactgagttt aataaaaact gaattaagac tctcctacgg actgccgctt cttcaacccg 27540

gattttacaa ccagaagaac gaaacttttc ctgtcgtcca ggactctgtt aacttcacct 27600

ttcctactca caaactagaa gctcaacgac tacaccgctt ttccagaagc attttcccta 27660

ctaatactac tttcaaaacc ggaggtgagc tccaaggtct tcctacagaa aacccttggg 27720

tggaagcggg ccttgtagtg ctaggaattc ttgcgggtgg gcttgtgatt attctttgct 27780

acctatacac accttgcttc actttcttag tggtgttgtg gtattggttt aaaaaatggg 27840

gcccatacta gtcttgcttg ttttactttc gcttttggaa ccgggttctg ccaattacga 27900

tccatgtcta gacttcgacc cagaaaactg cacacttact tttgcacccg acacaagccg 27960

catctgtgga gttcatcgcc tctcttacga acttggcccc caacgacaaa aatttacctg 28020

catggtggga atcaacccca tagttatcac ccagcaaagt ggagatacta agggttgcat 28080

tcactgctcc tgcgattcca tcgagtgcac ctacaccctg ctgaagaccc tatgcggcct 28140

aagagacctg ctaccaatga attaaaaaat gattaataaa aaatcactta cttgaaatca 28200

gcaataaggt ctctgttgaa attttctccc agcagcacct cacttccctc ttcccaactc 28260

tggtattcta aaccccgttc agcggcatac tttctccata ctttaaaggg gatgtcaaat 28320

tttagctcct ctcctgtacc cacaatcttc atgtctttct tcccagatga ccaagagagt 28380

ccggctcagt gactccttca accctgtcta cccctatgaa gatgaaagca cctcccaaca 28440

ccccttttata aacccagggt ttatttcccc aaatggcttc acacaaagcc caaacggagt 28500

tcttacttta aaatgtttaa ccccactaac aaccacaggc ggatctctac agctaaaagt 28560

gggaggggga cttacagtgg atgacaccaa cggttttttg aaagaaaaca taagtgccac 28620

cacaccactc gttaagactg gtcactctat aggtttacca ctaggagccg gattgggaac 28680

gaatgaaaat aaactttgta tcaaattagg acaaggactt acattcaatt caaacaacat 28740

ttgcattgat gacaatatta acaccttatg gacaggagtc aaccccaccg aagccaactg 28800

tcaaatcatg aactccagtg aatctaatga ttgcaaatta attctaacac tagttaaaac 28860

tggagcacta gtcactgcat ttgtttatgt tataggagta tctaacaatt ttaatatgct 28920

aactacacac agaaatataa attttactgc agagctgttt ttcgattcta ctggtaattt 28980

actaactaga ctctcatccc tcaaaactcc acttaatcat aaatcaggac aaaacatggc 29040

tactggtgcc attactaatg ctaaaggttt catgcccagc acgactgcct atcctttcaa 29100

tgataattct agagaaaaag aaaactacat ttacggaact tgttactaca cagctagtga 29160

tcgcactgct tttcccattg acatatctgt catgcttaac cgaagagcaa taaatgacga 29220

gacatcatat tgtattcgta taacttggtc ctggaacaca ggagatgccc cagaggtgca 29280

aacctctgct acaaccctag tcacctcccc atttaccttt tactacatca gagaagacga 29340

ctgacaaata aagtttgcga tcgccaggcc caccatgggc tggagctgca tcatcttgtt 29400

cctggtcgca actgctaccg gagtccattc ggacatcgtc atgacccaaa gccctgactc 29460

gctcgctgtg tcactgggag agcgggcgac tatcaactgc aaatcatccc agagcctgct 29520

gtattcacgc aatcagaaaa actacctggc ctggtatcag cagaagccgg gccagcctcc 29580

caagctgctg atcttctggg cctccacccg cgaaagcggc gtgccggacc gcttcagcgg 29640

aagcggattc ggaactgact ttactctgac cattagctcc ttgcaggcgg aggacgtggc 29700

cgtctactac tgccagcagt atttctccta tccgctcacc tttgggcaag gcaccaaggt 29760

ggagattaag ggaggggcg gcagcggggg aggcggcagc ggcggcgggg gatcgcaggt 29820

ccagctcgtc caatccggag ccgaagtcaa gaagccggga gcgtcggtca aggtcagctg 29880

caaaacttcg cgctacacct tcactgagta cacgatccac tgggtccgcc aggcgcccgg 29940

ccagcggctg gagtggatcg gcgggatcaa cccaaacaac ggaatcccaa attacaatca 30000

gaaatttaaa gggcgggtga ctatcaccgt ggatacctcg gcctccacgg cgtacatgga 30060

gctctcatca ctcagatcgg aggacaccgc ggtctattac tgcgcccgcc gccggatcgc 30120

ttatggatac gatgaaggac atgcgatgga ttactggggc cagggcaccc tcgtcacggt 30180

gtcgtcagga ggcggcggtt cacaggtgca gctgcagcag tctggggctg aactggcaag 30240

acctggggcc tcagtgaaga tgtcctgcaa ggcttctggc tacaccttta ctaggtacac 30300

gatgcactgg gtaaaacaga ggcctggaca gggtctggaa tggattggat acattaatcc 30360

tagccgtggt tatactaatt acaatcagaa gttcaaggac aaggccacat tgactacaga 30420

caaatcctcc agcacagcct acatgcaact gagcagcctg acatctgagg actctgcagt 30480

ctattactgt gcaagatatt atgatgatca ttactgcctt gactactggg gccaaggcac 30540

cactctcaca gtctcctcag gtggcggtgg ctcgggcggt ggtggatctg gtggcggcgg 30600

atctgatatc gtgctcactc agtctccagc aatcatgtct gcatctccag gggagaaggt 30660

caccatgacc tgcagtgcca gctcaagtgt aagttacatg aactggtacc agcagaagtc 30720

aggcacctcc cccaaaagat ggatttatga cacatccaaa ctggcttctg gagtccctgc 30780

tcacttcagg ggcagtgggt ctgggacctc ttactctctc acaatcagcg gcatggaggc 30840

tgaagatgct gccacttatt actgccagca gtggagtagt aacccattca cgttcggctc 30900

ggggacaaag ttggaaataa accggggaag cggacagtgt actaattatg ctctcttgaa 30960

attggctgga gatgttgaga gcaaccctgg acctacagtg ctggcgccag cctggagccc 31020

aacaacctat ctcctcctgc tgctgctgct gagctcggga ctcagtggga cccaggactg 31080

ctccttccaa cacagcccca tctcctccga cttcgctgtc aaaatccgtg agctgtctga 31140

ctacctgctt caagattacc cagtcaccgt ggcctccaac ctccaggacg aggagctctg 31200

cgggggcctc tggcggctgg tcctggcaca gcgctggatg gagcggctca agactgtcgc 31260

tgggtccaag atgcaaggct tgctggagcg cgtgaacacg gagatacact ttgtcaccaa 31320

atgtgccttt cagcccccc ccagctgtct tcgcttcgtc cagaccaaca tctcccgcct 31380

cctacaggag acctccgagc agctggtggc gctgaagccc tggatcactc gccagaactt 31440

ctcccggtgc ctggagctgc agtgtcagcc cgactcctca accctgccac ccccatggag 31500

tccccggccc ctggaggcca cagccccggg aagcggagct actaacttca gcctgctgaa 31560

gcaggctgga gacgtggagg agaaccctgg acctcaggtc tccactgctg cccttgccgt 31620

cctcctctgc accatggctc tctgcaacca ggtcctctct gcaccacttg ctgctgacac 31680

gccgaccgcc tgctgcttca gctacacctc ccgacagatt ccacagaatt tcatagctga 31740

ctactttgag acgagcagcc agtgctccaa gcccagtgtc atcttcctaa ccaagagagg 31800

ccggcaggtc tgtgctgacc ccagtgagga gtgggtccag aaatacgtca gtgacctgga 31860

gctgagtgcc ggaagcggag agggcagagg aagtctgcta acatgcggtg acgtcgagga 31920

gaatcctgga cctgccttga cctttgcttt actggtggcc ctcctggtgc tcagctgcaa 31980

gtcaagctgc tctgtgggct gtgatctgcc tcaaacccac agcctgggta gcaggaggac 32040

cttgatgctc ctggcacaga tgaggagaat ctctcttttc tcctgcttga aggacagaca 32100

tgactttgga tttccccagg aggagtttgg caaccagttc caaaaggctg aaaccatccc 32160

tgtcctccat gagatgatcc agcagatctt caatctcttc agcacaaagg actcatctgc 32220

tgcttgggat gagaccctcc tagacaaatt ctacactgaa ctctaccagc agctgaatga 32280

cctggaagcc tgtgtgatac agggggtggg ggtgacagag actcccctga tgaaggagga 32340

ctccattctg gctgtgagga aatacttcca aagaatcact ctctatctga aagagaagaa 32400

atacagccct tgtgcctggg aggttgtcag agcagaaatc atgagatctt tttctttgtc 32460

aacaaacttg caagaaagtt taagaagtaa ggaataagct agcttgactg actgagatac 32520

agcgtacctt cagctcacag acatgataag atacattgat gagtttggac aaaccacaac 32580

tagaatgcag tgaaaaaaat gctttatttg tgaaatttgt gatgctattg ctttatttgt 32640

aaccattata agctgcaata aacaagttaa caacaacaat tgcattcatt ttatgtttca 32700

ggttcagggg gaggtgtggg aggtttttta aagcaagtaa aacctctaca aatgtggtag 32760

tcgtcagcta tcctgcagga acttgtttat ttgaaaatca attcacaaaa tccgagtagt 32820

tattttgcct ccccccttccc atttaacaga atacaccaat ctctccccac gcacagcttt 32880

aaacatttgg ataccattag atatagacat ggttttagat tccacattcc aaacagtttc 32940

agagcgagcc aatctggggt cagtgataga taaaaatcca tcgggatagt cttttaaagc 33000

gctttcacag tccaactgct gcggatgcga ctccggagtc tggatcacgg tcatctggaa 33060

gaagaacgat gggaatcata atccgaaaac ggtatcggac gattgtgtct catcaaaccc 33120

acaagcagcc gctgtctgcg tcgctccgtg cgactgctgt ttatgggatc agggtccaca 33180

gtgtcctgaa gcatgatttt aatagccctt aacatcaact ttctggtgcg atgcgcgcag 33240

caacgcattc tgatttcact caaatctttg cagtaggtac aacacattat tacaatattg 33300

tttaataaac cataattaaa agcgctccag ccaaaactca tatctgatat aatcgcccct 33360

gcatgaccat cataccaaag tttaatataa attaaatgac gttccctcaa aaacacacta 33420

cccacataca tgatctcttt tggcatgtgc atattaacaa tctgtctgta ccatggacaa 33480

cgttggttaa tcatgcaacc caatataacc ttccggaacc acactgccaa caccgctccc 33540

ccagccatgc attgaagtga accctgctga ttacaatgac aatgaagaac ccaattctct 33600

cgaccgtgaa tcacttgaga atgaaaaata tctatagtgg cacaacatag acataaatgc 33660

atgcatcttc tcataatttt taactcctca ggatttagaa acatatccca gggaatagga 33720

agctcttgca gaacagtaaa gctggcagaa caaggaagac cacgaacaca acttacacta 33780

tgcatagtca tagtatcaca atctggcaac agcgggtggt cttcagtcat agaagctcgg 33840

gtttcatttt cctcacaacg tggtaactgg gctctggtgt aagggtgatg tctggcgcat 33900

gatgtcgagc gtgcgcgcaa ccttgtcata atggagttgc ttcctgacat tctcgtattt 33960

tgtatagcaa aacgcggccc tggcagaaca cactcttctt cgccttctat cctgccgctt 34020

agcgtgttcc gtgtgatagt tcaagtacaa ccacactctt aagttggtca aaagaatgct 34080

ggcttcagtt gtaatcaaaa ctccatcgca tctaatcgtt ctgaggaaat catccaagca 34140

atgcaactgg attgtgtttc aagcaggaga ggagagggaa gagacggaag aaccatgtta 34200

atttttattc caaacgatct cgcagtactt caaattgtag atcgcgcaga tggcatctct 34260

cgcccccact gtgttggtga aaaagcacag ctagatcaaa agaaatgcga ttttcaaggt 34320

gctcaacggt ggcttccagc aaagcctcca cgcgcacatc caagaacaaa agaataccaa 34380

aagaaggagc attttctaac tcctcaatca tcatattaca ttcctgcacc attcccagat 34440

aattttcagc tttccagcct tgaattattc gtgtcagttc ttgtggtaaa tccaatccac 34500

acattacaaa caggtcccgg agggcgccct ccaccaccat tcttaaacac accctcataa 34560

tgacaaaata tcttgctcct gtgtcacctg tagcgaattg agaatggcaa catcaattga 34620

catgcccttg gctctaagtt cttctttaag ttctagttgt aaaaactctc tcatattatc 34680

accaaactgc ttagccagaa gccccccggg aacaagagca ggggacgcta cagtgcagta 34740

caagcgcaga cctccccaat tggctccagc aaaaacaaga ttggaataag catattggga 34800

accgccagta atatcatcga agttgctgga aatataatca ggcagagttt cttgtaaaaa 34860

ttgaataaaa gaaaaatttg ccaaaaaaac attcaaaacc tctgggatgc aaatgcaata 34920

ggttaccgcg ctgcgctcca acattgttag ttttgaatta gtctgcaaaa ataaaaaaaa 34980

aaacaagcgt catatcatag tagcctgacg aacagatgga taaatcagtc tttccatcac 35040

aagacaagcc acagggtctc cagctcgacc ctcgtaaaac ctgtcatcat gattaaacaa 35100

cagcaccgaa agttcctcgc ggtgaccagc atgaataatt cttgatgaag catacaatcc 35160

agacatgtta gcatcagtta acgagaaaaa acagccaaca tagcctttgg gtataattat 35220

gcttaatcgt aagtatagca aagccacccc tcgcggatac aaagtaaaag gcacaggaga 35280

ataaaaaata taattatttc tctgctgctg ttcaggcaac gtcgcccccg gtccctctaa 35340

atacacatac aaagcctcat cagccatggc ttaccagaca aagtacagcg ggcacacaaa 35400

gcacaagctc taaagtgact ctccaacctc tccacaatat atatatacac aagccctaaa 35460

ctgacgtaat gggagtaaag tgtaaaaaat cccgccaaac ccaacacaca ccccgaaact 35520

gcgtcaccag ggaaaagtac agtttcactt ccgcaatccc aacaggcgta acttcctctt 35580

tctcacggta cgtgatatcc cactaacttg caacgtcatt ttcccacggt cgcaccgccc 35640

cttttagccg ttaaccccac agccaatcac cacacgatcc acacttttta aaatcacctc 35700

atttacatat tggcaccatt ccatctataa ggtatattat atagataga 35749

<210> 83
<211> 34972
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-640 Genome

<400> 83
tctatctata taatatacct tatagatgga atggtgccaa tatgtaaatg aggtgatttt 60

aaaaagtgtg gatcgtgtgg tgattggctg tggggttaac ggctaaaagg ggcggtgcga 120

ccgtgggaaa atgacgtttt gtgggggtgg agttttttg caagttgtcg cgggaaatgt 180

gacgcataaa aaggcttttt tctcacggaa ctacttagtt ttcccacggt atttaacagg 240

aaatgaggta gttttgaccg gatgcaagtg aaaattgttg attttcgcgc gaaaactgaa 300

tgaggaagtg tttttctgaa taatgtggta tttatggcag ggtggagtat ttgttcaggg 360

ccaggtagac tttgacccat tacgtggagg tttcgattac cgtgtttttt acctgaattt 420

ccgcgtaccg tgtcaaagtc ttctgttttt acgtaggtgt cagctgatcg ctagggtatt 480

tatacctcag ggtttgtgtc aagaggccac tcttgagtgc cagcgagaag agttttctcc 540

tctgcgccgg cagtttaata ataaaaaaat gagagatttg cgatttctgc ctcaggaaat 600

aatctctgct gagactggaa atgaaatatt ggagcttgtg gtgcacgccc tgatgggaga 660

cgatccggag ccacctgtgc agctttttga gcctcctacg cttcaggaac tgtatgattt 720

agaggtagag ggatcggagg attctaatga ggaagctgta aatggctttt ttaccgattc 780

tatgctttta gctgctaatg aagggttaga attagatccg cctttggaca cttttgatac 840

tccaggggta attgtggaaa gcggtacagg tgtaagaaaa ttacctgatt tgagttccgt 900

ggactgtgat ttgcactgct atgaagacgg gtttcctccg agtgatgagg aggaccatga 960

aaaggagcag tccatgcaga ctgcagcggg tgagggagtg aaggctgcca atgttggttt 1020

tcagttggat tgcccggagc ttcctggaca tggctgtaag tcttgtgaat ttcacaggaa 1080

aaatactgga gtaaaggaac tgttatgttc gctttgttat atgagaacgc actgccactt 1140

tatttacagt aagtgtgttt aagttaaaat ttaaaggaat atgctgtttt tcacatgtat 1200

attgagtgtg agttttgtgc ttcttattat aggtcctgtg tctgatgctg atgaatcacc 1260

atctcctgat tctactacct cacctcctga gattcaagca cctgttcctg tggacgtgcg 1320

caagcccatt cctgtgaagc ttaagcctgg gaaacgtcca gcagtggaaa aacttgagga 1380

cttgttacag ggtggggacg gacctttgga cttgagtaca cggaaacgtc caagacaata 1440

agtgttccat atccgtgttt acttaaggtg acgtcaatat ttgtgtgaca gtgcaatgta 1500

ataaaaatat gttaactgtt cactggtttt tattgctttt tgggcgggga ctcaggtata 1560

taagtagaag cagacctgtg tggttagctc ataggagctg gctttcatcc atggaggttt 1620

gggccatttt ggaagacctt aggaagacta ggcaactgtt agagaacgct tcggacggag 1680

tctccggttt ttggagattc tggttcgcta gtgaattagc tagggtagtt tttaggataa 1740

aacaggacta taaacaagaa tttgaaaagt tgttggtaga ttgcccagga ctttttgaag 1800

ctcttaattt gggccatcag gttcacttta aagaaaaagt tttatcagtt ttagactttt 1860

caaccccagg tagaactgct gctgctgtgg cttttcttac ttttatatta gataaatgga 1920

tcccgcagac tcatttcagc aggggatacg ttttggattt catagccaca gcattgtgga 1980

gaacatggaa ggttcgcaag atgaggacaa tcttaggtta ctggccagtg cagcctttgg 2040

gtgtagcggg aatcctgagg catccaccgg tcatgccagc ggttctggag gaggaacagc 2100

aagaggacaa cccgagagcc ggcctggacc ctccagtgga ggaggcggag tagctgactt 2160

gtctcctgaa ctgcaacggg tgcttactgg atctacgtcc actggacggg ataggggcgt 2220

taagagggag agggcatcta gtggtactga tgctagatct gagttggctt taagtttaat 2280

gagtcgcaga cgtcctgaaa ccatttggtg gcatgaggtt cagaaagagg gaagggatga 2340

agtttctgta ttgcaggaga aatattcact ggaacaggtg aaaacatgtt ggttggagcc 2400

tgaggatgat tgggaggtgg ccattaaaaa ttatgccaag atagctttga ggcctgataa 2460

acagtataag attactagac ggattaatat ccggaatgct tgttacatat ctggaaatgg 2520

ggctgaggtg gtaatagata ctcaagacaa ggcagttatt agatgctgca tgatggatat 2580

gtggcctggg gtagtcggta tggaagcagt aacttttgta aatgttaagt ttaggggaga 2640

tggttataat ggaatagtgt ttatggccaa taccaaactt atattgcatg gttgtagctt 2700

ttttggtttc aacaatacct gtgtagatgc ctggggacag gttagtgtac ggggatgtag 2760

tttctatgcg tgttggattg ccacagctgg cagaaccaag agtcaattgt ctctgaagaa 2820

atgcatattt caaagatgta acctgggcat tctgaatgaa ggcgaagcaa gggtccgcca 2880

ctgcgcttct acagatactg gatgttttat tttgattaag ggaaatgcca gcgtaaagca 2940

taacatgatt tgcggtgctt ccgatgagag gccttatcaa atgctcactt gtgctggtgg 3000

gcattgtaat atgctggcta ctgtgcatat tgtttcccat caacgcaaaa aatggcctgt 3060

ttttgatcac aatgtgatga cgaagtgtac catgcatgca ggtgggcgta gaggaatgtt 3120

tatgccttac cagtgtaaca tgaatcatgt gaaagtgttg ttggaaccag atgccttttc 3180

cagaatgagc ctaacaggaa tttttgacat gaacatgcaa atctggaaga tcctgaggta 3240

tgatgatacg agatcgaggg tacgcgcatg cgaatgcgga ggcaagcatg ccaggttcca 3300

gccggtgtgt gtagatgtga ctgaagatct cagaccggat catttggtta ttgcccgcac 3360

tggagcagag ttcggatcca gtggagaaga aactgactaa ggtgagtatt gggaaaactt 3420

tggggtggga ttttcagatg gacagattga gtaaaaattt gtttttttctg tcttgcagct 3480

gtcatgagtg gaaacgcttc ttttaagggg ggagtcttca gcccttatct gacagggcgt 3540

ctcccatcct gggcaggagt tcgtcagaat gttatgggat ctactgtgga tggaagaccc 3600

gtccaacccg ccaattcttc aacgctgacc tatgctactt taagttcttc acctttggac 3660

gcagctgcag ctgccgccgc cgcttctgtt gccgctaaca ctgtgcttgg aatgggttac 3720

tatggaagca tcatggctaa ttccacttcc tctaataacc cttctaccct gactcaggac 3780

aagttacttg tccttttggc ccagctggag gctttgaccc aacgtctggg tgaactttct 3840

cagcaggtgg tcgagttgcg agtacaaact gagtctgctg tcggcacggc aaagtctaaa 3900

taaaaaaatc ccagaatcaa tgaataaata aacaagcttg ttgttgattt aaaatcaagt 3960

gtttttattt catttttcgc gcacggtatg ccctagacca ccgatctcta tcattgagaa 4020

ctcggtggat tttttccagg atcctataga ggtgggattg aatgtttaga tacatgggca 4080

ttaggccgtc tttggggtgg agatagctcc attgaaggga ttcatgctcc ggggtagtgt 4140

tgtaaatcac ccagtcataa caaggtcgca gtgcatggtg ttgcacaata tcttttagaa 4200

gtaggctgat tgccacagat aagcccttgg tgtaggtgtt tacaaaccgg ttgagctggg 4260

atgggtgcat tcggggtgaa attatgtgca ttttggattg gatttttaag ttggcaatat 4320

tgccgccaag atcccgtctt gggttcatgt tatgaaggac caccaagacg gtgtatccgg 4380

tacatttagg aaatttatcg tgcagcttgg atggaaaagc gtggaaaaat ttggagacac 4440

ccttgtgtcc tccaagattt tccatgcact catccatgat aatagcaatg gggccgtggg 4500

cagcggcgcg ggcaaacacg ttccgtgggt ctgacacatc atagttatgt tcctgagtta 4560

aatcatcata agccatttta atgaatttgg ggcggagagt accagattgg ggtatgaatg 4620

ttccttcggg ccccggagca tagttcccct cacagatttg catttcccaa gctttcagtt 4680

ccgagggtgg aatcatgtcc acctgggggg ctatgaaaaa caccgtttct ggggcggggg 4740

tgattaattg tgatgatagc aaatttctga gcaattgaga tttgccacat ccggtggggc 4800

cataaatgat tccgattacg ggttgcaggt ggtagtttag ggaacggcaa ctgccgtctt 4860

ctcgaagcaa gggggccacc tcgttcatca tttcccttac atgcatattt tcccgcacca 4920

aatccattag gaggcgctct cctcctagtg atagaagttc ttgtagtgag gaaaagtttt 4980

tcagcggttt cagaccgtca gccatgggca ttttggagag agtttgctgc aaaagttcta 5040

gtctgttcca cagttcagtg atgtgttcta tggcatctcg atccagcaga cctcctcgtt 5100

tcgcgggttt ggacggctcc tggaataggg tatgagacga tgggcgtcca gcgctgccag 5160

ggttcggtcc ttccagggtc tcagtgttcg agtcagggtt gtttccgtca cagtgaaggg 5220

gtgtgcgcct gcttgggcgc ttgccagggt gcgcttcaga ctcatcctgc tggtcgaaaa 5280

cttctgtcgc ttggcgccct gtatgtcggc caagtagcag tttaccatga gttcgtagtt 5340

gagcgcctcg gctgcgtggc ctttggcgcg gagcttacct ttggaagttt tcttgcatac 5400

cgggcagtat aggcatttca gcgcatacaa cttgggcgca aggaaaacgg attctgggga 5460

gtatgcatct gcgccgcagg aggcgcaaac agtttcacat tccaccagcc aggttaaatc 5520

cggttcattg gggtcaaaaa caagttttcc gccatatttt ttgatgcgtt tcttaccttt 5580

ggtctccatg agttcgtgtc ctcgttgagt gacaaacagg ctgtccgtgt ccccgtagac 5640

tgattttaca ggcctcttct ccagtggagt gcctcggtct tcttcgtaca ggaactctga 5700

ccactctgat acaaaggcgc gcgtccaggc cagcacaaag gaggctatgt gggaggggta 5760

gcgatcgttg tcaaccaggg ggtccacctt ttccaaagta tgcaaacaca tgtcaccctc 5820

ttcaacatcc aggaatgtga ttggcttgta ggtgtatttc acgtgacctg gggtccccgc 5880

tgggggggta taaaaggggg cggttctttg ctcttcctca ctgtcttccg gatcgctgtc 5940

caggaacgtc agctgttggg gtaggtattc cctctcgaag gcgggcatga cctctgcact 6000

caggttgtca gtttctaaga acgaggagga tttgatattg acagtgccgg ttgagatgcc 6060

tttcatgagg ttttcgtcca tctggtcaga aaacacaatt tttttattgt caagtttggt 6120

ggcaaatgat ccatacaggg cgttggataa aagtttggca atggatcgca tggtttggtt 6180

cttttccttg tccgcgcgct ctttggcggc gatgttgagt tggacatact cgcgtgccag 6240

gcacttccat tcggggaaga tagttgttaa ttcatctggc acgattctca cttgccaccc 6300

tcgattatgc aaggtaatta aatccacact ggtggccacc tcgcctcgaa ggggttcatt 6360

ggtccaacag agcctacctc ctttcctaga acagaaaggg ggaagtgggt ctagcataag 6420

ttcatcggga gggtctgcat ccatggtaaa gattcccgga agtaaatcct tatcaaaata 6480

gctgatggga gtggggtcat ctaaggccat ttgccattct cgagctgcca gtgcgcgctc 6540

atatgggtta aggggactgc cccatggcat gggatgggtg agtgcagagg catacatgcc 6600

acagatgtca tagacgtaga tgggatcctc aaagatgcct atgtaggttg gatagcatcg 6660

ccccccctctg atacttgctc gcacatagtc atatagttca tgtgatggcg ctagcagccc 6720

cggacccaag ttggtgcgat tgggtttttc tgttctgtag acgatctggc gaaagatggc 6780

gtgagaattg gaagagatgg tgggtctttg aaaaatgttg aaatgggcat gaggtagacc 6840

tacagagtct ctgacaaagt gggcataaga ttcttgaagc ttggttacca gttcggcggt 6900

gacaagtacg tctagggcgc agtagtcaag tgtttcttga atgatgtcat aacctggttg 6960

gtttttcttt tcccacagtt cgcggttgag aaggtattct tcgcgatcct tccagtactc 7020

ttctagcgga aacccgtctt tgtctgcacg gtaagatcct agcatgtaga actgattaac 7080

tgccttgtaa gggcagcagc ccttctctac gggtagagag tatgcttgag cagcttttcg 7140

tagcgaagcg tgagtaaggg caaaggtgtc tctgaccatg actttgagga attggtattt 7200

gaagtcgatg tcgtcacagg ctccctgttc ccagagttgg aagtctaccc gtttcttgta 7260

ggcggggttg ggcaaagcga aagtaacatc attgaagaga atcttgccgg ccctgggcat 7320

gaaattgcga gtgatgcgaa aaggctgtgg tacttccgct cggttattga taacctgggc 7380

agctaggacg atctcgtcga aaccgttgat gttgtgtcct acgatgtata attctatgaa 7440

acgcggcgtg cctctgacgt gaggtagctt actgagctca tcaaaggtta ggtctgtggg 7500

gtcagataag gcgtagtgtt cgagagccca ttcgtgcagg tgaggattcg ctttaaggaa 7560

ggaggaccag aggtccactg ccagtgctgt ttgtaactgg tcccggtact gacgaaaatg 7620

ccgtccgact gccatttttt ctggggtgac gcaatagaag gtttgggggt cctgccgcca 7680

gcgatcccac ttgagtttta tggcgaggtc ataggcgatg ttgacgagcc gctggtctcc 7740

agagagtttc atgaccagca tgaaggggat tagctgcttg ccaaaggacc ccatccaggt 7800

gtaggtttcc acatcgtagg tgagaaagag cctttctgtg cgaggatgag agccaatcgg 7860

gaagaactgg atctcctgcc accagttgga ggaatggctg ttgatgtgat ggaagtagaa 7920

ctccctgcga cgcgccgagc attcatgctt gtgcttgtac agacggccgc agtagtcgca 7980

gcgttgcacg ggttgtatct cgtgaatgag ttgtacctgg cttcccttga cgagaaattt 8040

cagtgggaag ccgaggcctg gcgattgtat ctcgtgcttt actatgttgt ctgcatcggc 8100

ctgttcatct tctgtctcga tggtggtcat gctgacgagc cctcgcggga ggcaagtcca 8160

gacctcggcg cggcaggggc ggagctcgag gacgagagcg cgcaggctgg agctgtccag 8220

ggtcctgaga cgctgcggac tcaggttagt aggcagtgtc aggagattaa cttgcatgat 8280

cttttggagg gcgtgcggga ggttcagata gtacttgatc tcaacgggtc cgttggtgga 8340

gatgtcgatg gcttgcaggg ttccgtgtcc cttgggcgct accaccgtgc ccttgttttt 8400

cattttggac ggcggtggct ctgttgcttc ttgcatgttt agaagcggtg tcgagggcgc 8460

gcaccgggcg gcaggggcgg ctcgggaccc ggcggcatgg ctggcagtgg tacgtcggcg 8520

ccgcgcgcgg gtaggttctg gtactgcgcc ctgagaagac tcgcatgcgc gacgacgcgg 8580

cggttgacat cctggatctg acgcctctgg gtgaaagcta ccggccccgt gagcttgaac 8640

ctgaaagaga gttcaacaga atcaatctcg gtatcgttga cggcggcttg cctaaggatt 8700

tcttgcacgt caccagagtt gtcctggtag gcgatctccg ccatgaactg ctcgatctct 8760

tcctcttgaa gatctccgcg gcccgctctc tcgacggtgg ccgcgaggtc gttggagatg 8820

cgcccaatga gttgagagaa tgcattcatg cccgcctcgt tccagacgcg gctgtagacc 8880

acggccccca cgggatctct cgcgcgcatg accacctggg cgaggttgag ctccacgtgg 8940

cgggtgaaga ccgcatagtt gcataggcgc tggaaaaggt agttgagtgt ggtggcgatg 9000

tgctcggtga cgaagaaata catgatccat cgtctcagcg gcatctcgct gacatcgccc 9060

agagcttcca agcgctccat ggcctcgtag aagtccacgg caaaattaaa aaactgggag 9120

tttcgcgcgg acacggtcaa ctcctcttcc agaagacgga taagttcggc gatggtggtg 9180

cgcacctcgc gctcgaaagc ccctgggatt tcttcctcaa tctcttcttc ttccactaac 9240

atctcttcct cttcaggtgg ggctgcagga ggagggggaa cgcggcgacg ccggcggcgc 9300

acgggcagac ggtcgatgaa tctttcaatg acctctccgc ggcggcggcg catggtttca 9360

gtgacggcgc ggccgttctc gcgcggtcgc agagtaaaaa caccgccgcg catctcctta 9420

aagtggtgac tgggaggttc tccgtttggg agggagaggg cgctgattat acattttatt 9480

aattggcccg tagggactgc acgcagagat ctgatcgtgt caagatccac gggatctgaa 9540

aacctttcga cgaaagcgtc taaccagtca cagtcacaag gtaggctgag tacggcttct 9600

tgtgggcggg ggtggttatg tgttcggtct gggtcttctg tttcttcttc atctcgggaa 9660

ggtgagacga tgctgctggt gatgaaatta aagtaggcag ttctaagacg gcggatggtg 9720

gcgaggagca ccaggtcttt gggtccggct tgctggatac gcaggcgatt ggccattccc 9780

caagcattat cctgacatct agcaagatct ttgtagtagt cttgcatgag ccgttctacg 9840

ggcacttctt cctcacccgt tctgccatgc atacgtgtga gtccaaatcc gcgcattggt 9900

tgtaccagtg ccaagtcagc tacgactctt tcggcgagga tggcttgctg tacttgggta 9960

agggtggctt gaaagtcatc aaaatccaca aagcggtggt aagctcctgt attaatggtg 10020

taagcacagt tggccatgac tgaccagtta actgtctggt gaccagggcg cacgagctcg 10080

gtgtatttaa ggcgcgaata ggcgcgggtg tcaaagatgt aatcgttgca ggtgcgcacc 10140

agatactggt accctataag aaaatgcggc ggtggttggc ggtagagagg ccatcgttct 10200

gtagctggag cgccaggggc gaggtcttcc aacataaggc ggtgatagcc gtagatgtac 10260

ctggacatcc aggtgattcc tgcggcggta gtagaagccc gaggaaactc gcgtacgcgg 10320

ttccaaatgt tgcgtagcgg catgaagtag ttcattgtag gcacggtttg accagtgagg 10380

cgcgcgcagt cattgatgct ctatagacac ggagaaaatg aaagcgttca gcgactcgac 10440

tccgtagcct ggaggaacgt gaacgggttg ggtcgcggtg taccccggtt cgagacttgt 10500

actcgagccg gccggagccg cggctaacgt ggtattggca ctcccgtctc gacccagcct 10560

acaaaaatcc aggatacgga atcgagtcgt tttgctggtt tccgaatggc agggaagtga 10620

gtcctatttt tttttttgc cgctcagatg catcccgtgc tgcgacagat gcgcccccaa 10680

caacagcccc cctcgcagca gcagcagcag caatcacaaa aggctgtccc tgcaactact 10740

gcaactgccg ccgtgagcgg tgcgggacag cccgcctatg atctggactt ggaagagggc 10800

gaaggactgg cacgtctagg tgcgccttca cccgagcggc atccgcgagt tcaactgaaa 10860

aaagattctc gcgaggcgta tgtgccccaa cagaacctat ttagagacag aagcggcgag 10920

gagccggagg agatgcgagc ttcccgcttt aacgcgggtc gtgagctgcg tcacggtttg 10980

gaccgaagac gagtgttgcg ggacgaggat ttcgaagttg atgaaatgac agggatcagt 11040

cctgccaggg cacacgtggc tgcagccaac cttgtatcgg cttacgagca gacagtaaag 11100

gaagagcgta acttccaaaa gtcttttaat aatcatgtgc gaaccctgat tgcccgcgaa 11160

gaagttaccc ttggtttgat gcatttgtgg gatttgatgg aagctatcat tcagaaccct 11220

actagcaaac ctctgaccgc ccagctgttt ctggtggtgc aacacagcag agacaatgag 11280

gctttcagag aggcgctgct gaacatcacc gaacccgagg ggagatggtt gtatgatctt 11340

atcaacattc tacagagtat catagtgcag gagcggagcc tgggcctggc cgagaaggtg 11400

gctgccatca attactcggt tttgagcttg ggaaaatatt acgctcgcaa aatctacaag 11460

actccatacg ttcccataga caaggaggtg aagatagatg ggttctacat gcgcatgacg 11520

ctcaaggtct tgaccctgag cgatgatctt ggggtgtatc gcaatgacag aatgcatcgc 11580

gcggttagcg ccagcaggag gcgcgagtta agcgacaggg aactgatgca cagtttgcaa 11640

agagctctga ctggagctgg aaccgagggt gagaattact tcgacatggg agctgacttg 11700

cagtggcagc ctagtcgcag ggctctgagc gccgcgacgg caggatgtga gcttccttac 11760

atagaagagg cggatgaagg cgaggaggaa gagggcgagt acttggaaga ctgatggcac 11820

aacccgtgtt ttttgctaga tggaacagca agcaccggat cccgcaatgc gggcggcgct 11880

gcagagccag ccgtccggca ttaactcctc ggacgattgg acccaggcca tgcaacgtat 11940

catggcgttg acgactcgca accccgaagc ctttagacag caaccccagg ccaaccgtct 12000

atcggccatc atggaagctg tagtgccttc ccgctctaat cccactcatg agaaggtcct 12060

ggccatcgtg aacgcgttgg tggagaacaa agctattcgt ccagatgagg ccggactggt 12120

atacaacgct ctcttagaac gcgtggctcg ctacaacagt agcaatgtgc aaaccaattt 12180

ggaccgtatg ataacagatg tacgcgaagc cgtgtctcag cgcgaaaggt tccagcgtga 12240

tgccaacctg ggttcgctgg tggcgttaaa tgctttcttg agtactcagc ctgctaatgt 12300

gccgcgtggt caacaggatt atactaactt tttaagtgct ttgagactga tggtatcaga 12360

agtacctcag agcgaagtgt atcagtccgg tcctgattac ttctttcaga ctagcagaca 12420

gggcttgcag acggtaaatc tgagccaagc ttttaaaaac cttaaaggtt tgtggggagt 12480

gcatgccccg gtaggagaaa gagcaaccgt gtctagcttg ttaactccga actcccgcct 12540

attattactg ttggtagctc ctttcaccga cagcggtagc atcgaccgta attcctattt 12600

gggttaccta ctaaacctgt atcgcgaagc catagggcaa agtcaggtgg acgagcagac 12660

ctatcaagaa attacccaag tcagtcgcgc tttgggacag gaagacactg gcagtttgga 12720

agccactctg aacttcttgc ttaccaatcg gtctcaaaag atccctcctc aatatgctct 12780

tactgcggag gaggagagga tccttagata tgtgcagcag agcgtgggat tgtttctgat 12840

gcaagagggg gcaactccga ctgcagcact ggacatgaca gcgcgaaata tggagcccag 12900

catgtatgcc agtaaccgac ctttcattaa caaactgctg gactacttgc acagagctgc 12960

cgctatgaac tctgattatt tcaccaatgc catcttaaac ccgcactggc tgcccccacc 13020

tggtttctac acgggcgaat atgacatgcc cgaccctaat gacggatttc tgtgggacga 13080

cgtggacagc gatgtttttt cacctctttc tgatcatcgc acgtggaaaa aggaaggcgg 13140

cgatagaatg cattcttctg catcgctgtc cggggtcatg ggtgctaccg cggctgagcc 13200

cgagtctgca agtccttttc ctagtctacc cttttctcta cacagtgtac gtagcagcga 13260

agtgggtaga ataagtcgcc cgagtttaat gggcgaagag gagtatctaa acgattcctt 13320

gctcagaccg gcaagagaaa aaaatttccc aaacaatgga atagaaagtt tggtggataa 13380

aatgagtaga tggaagactt atgctcagga tcacagagac gagcctggga tcatggggat 13440

tacaagtaga gcgagccgta gacgccagcg ccatgacaga cagaggggtc ttgtgtggga 13500

cgatgaggat tcggccgatg atagcagcgt gctggacttg ggtgggagag gaaggggcaa 13560

cccgtttgct catttgcgcc ctcgcttggg tggtatgttg taaaaaaaaa taaaaaaaaa 13620

actcaccaag gccatggcga cgagcgtacg ttcgttcttc tttattatct gtgtctagta 13680

taatgaggcg agtcgtgcta ggcggagcgg tggtgtatcc ggagggtcct cctccttcgt 13740

acgagagcgt gatgcagcag cagcaggcga cggcggtgat gcaatcccca ctggaggctc 13800

cctttgtgcc tccgcgatac ctggcaccta cggagggcag aaacagcatt cgttattcgg 13860

aactggcacc tcagtacgat accaccaggt tgtatctggt ggacaacaag tcggcggaca 13920

ttgcttctct gaactatcag aatgaccaca gcaacttctt gaccacggtg gtgcaaaaca 13980

atgactttac ccctacggaa gccagcaccc agaccattaa ctttgatgaa cgatcgcggt 14040

ggggcggtca gctaaagacc atcatgcata ctaacatgcc aaacgtgaac gagtatatgt 14100

ttagtaacaa gttcaaagcg cgtgtgatgg tgtccagaaa acctcccgac ggtgctgcag 14160

ttggggatac ttatgatcac aagcaggata ttttgaaata tgagtggttc gagtttactt 14220

tgccagaagg caacttttca gttactatga ctattgattt gatgaacaat gccatcatag 14280

ataattactt gaaagtgggt agacagaatg gagtgcttga aagtgacatt ggtgttaagt 14340

tcgacaccag gaacttcaag ctgggatggg atcccgaaac caagttgatc atgcctggag 14400

tgtatacgta tgaagccttc catcctgaca ttgtcttact gcctggctgc ggagtggatt 14460

ttaccgagag tcgtttgagc aaccttcttg gtatcagaaa aaaacagcca tttcaagagg 14520

gttttaagat tttgtatgaa gatttagaag gtggtaatat tccggccctc ttggatgtag 14580

atgcctatga gaacagtaag aaagaacaaa aagccaaaat agaagctgct acagctgctg 14640

cagaagctaa ggcaaacata gttgccagcg actctacaag ggttgctaac gctggagagg 14700

tcagaggaga caattttgcg ccaacacctg ttccgactgc agaatcatta ttggccgatg 14760

tgtctgaagg aacggacgtg aaactcacta ttcaacctgt agaaaaagat agtaagaata 14820

gaagctataa tgtgttggaa gacaaaatca acacagccta tcgcagttgg tatctttcgt 14880

acaattatgg cgatcccgaa aaaggagtgc gttcctggac attgctcacc acctcagatg 14940

tcacctgcgg agcagagcag gtctactggt cgcttccaga catgatgaag gatcctgtca 15000

ctttccgctc cactagacaa gtcagtaact accctgtggt gggtgcagag cttatgcccg 15060

tcttctcaaa gagcttctac aacgaacaag ctgtgtactc ccagcagctc cgccagtcca 15120

cctcgcttac gcacgtcttc aaccgctttc ctgagaacca gattttaatc cgtccgccgg 15180

cgcccaccat taccaccgtc agtgaaaacg ttcctgctct cacagatcac gggaccctgc 15240

cgttgcgcag cagtatccgg ggagtccaac gtgtgaccgt tactgacgcc agacgccgca 15300

cctgtcccta cgtgtacaag gcactgggca tagtcgcacc gcgcgtcctt tcaagccgca 15360

ctttctaaaa aaaaaaaaaa tgtccattct tatctcgccc agtaataaca ccggttgggg 15420

tctgcgcgct ccaagcaaga tgtacggagg cgcacgcaaa cgttctaccc aacatcctgt 15480

ccgtgttcgc ggacattttc gcgctccatg gggcgccctc aagggccgca ctcgcgttcg 15540

aaccaccgtc gatgatgtaa tcgatcaggt ggttgccgac gcccgtaatt atactcctac 15600

tgcgcctaca tctactgtgg atgcagttat tgacagtgta gtggctgacg ctcgcaacta 15660

tgctcgacgt aagagccggc gaaggcgcat tgccagacgc caccgagcta ccactgccat 15720

gcgagccgca agagctctgc tacgaagagc tagacgcgtg gggcgaagag ccatgcttag 15780

ggcggccaga cgtgcagctt cgggcgccag cgccggcagg tcccgcaggc aagcagccgc 15840

tgtcgcagcg gcgactattg ccgacatggc ccaatcgcga agaggcaatg tatactgggt 15900

gcgtgacgct gccaccggtc aacgtgtacc cgtgcgcacc cgtccccctc gcacttagaa 15960

gatactgagc agtctccgat gttgtgtccc agcggcgagg atgtccaagc gcaaatacaa 16020

ggaagaaatg ctgcaggtta tcgcacctga agtctacggc caaccgttga aggatgaaaa 16080

aaaaccccgc aaaatcaagc gggttaaaaa ggacaaaaaa gaagaggaag atggcgatga 16140

tgggctggcg gagtttgtgc gcgagtttgc cccacggcga cgcgtgcaat ggcgtgggcg 16200

caaagttcga catgtgttga gacctggaac ttcggtggtc tttacacccg gcgagcgttc 16260

aagcgctact tttaagcgtt cctatgatga ggtgtacggg gatgatgata ttcttgagca 16320

ggcggctgac cgattaggcg agtttgctta tggcaagcgt agtagaataa cttccaagga 16380

tgagacagtg tcgataccct tggatcatgg aaatcccacc cctagtctta aaccggtcac 16440

tttgcagcaa gtgttacccg taactccgcg aacaggtgtt aaacgcgaag gtgaagattt 16500

gtatcccact atgcaactga tggtacccaa acgccagaag ttggaggacg ttttggagaa 16560

agtaaaagtg gatccagata ttcaacctga ggttaaagtg agacccatta agcaggtagc 16620

gcctggtctg ggggtacaaa ctgtagacat taagattccc actgaaagta tggaagtgca 16680

aactgaaccc gcaaagccta ctgccacctc cactgaagtg caaacggatc catggatgcc 16740

catgcctatt acaactgacg ccgccggtcc cactcgaaga tcccgacgaa agtacggtcc 16800

agcaagtctg ttgatgccca attatgttgt acacccatct attattccta ctcctggtta 16860

ccgaggcact cgctactatc gcagccgaaa cagtacctcc cgccgtcgcc gcaagacacc 16920

tgcaaatcgc agtcgtcgcc gtagacgcac aagcaaaccg actcccggcg ccctggtgcg 16980

gcaagtgtac cgcaatggta gtgcggaacc tttgacactg ccgcgtgcgc gttaccatcc 17040

gagtatcatc acttaatcaa tgttgccgct gcctccttgc agatatggcc ctcacttgtc 17100

gccttcgcgt tcccatcact ggttaccgag gaagaaactc gcgccgtaga agagggatgt 17160

tgggacgcgg aatgcgacgc tacaggcgac ggcgtgctat ccgcaagcaa ttgcggggtg 17220

gtttttacc agccttaatt ccaattatcg ctgctgcaat tggcgcgata ccaggcatag 17280

cttccgtggc ggttcaggcc tcgcaacgac attgacattg gaaaaaaacg tataaataaa 17340

aaaaaaaaaa tacaatggac tctgacactc ctggtcctgt gactatgttt tcttagagat 17400

ggaagacatc aatttttcat ccttggctcc gcgacacggc acgaagccgt acatgggcac 17460

ctggagcgac atcggcacga gccaactgaa cgggggcgcc ttcaattgga gcagtatctg 17520

gagcgggctt aaaaattttg gctcaaccat aaaaacatac gggaacaaag cttggaacag 17580

cagtacagga caggcgctta gaaataaact taaagaccag aacttccaac aaaaagtagt 17640

cgatgggata gcttccggca tcaatggagt ggtagatttg gctaaccagg ctgtgcagaa 17700

aaagataaac agtcgtttgg acccgccgcc agcaacccca ggtgaaatgc aagtggagga 17760

agaaattcct ccgccagaaa aacgaggcga caagcgtccg cgtcccgatt tggaagagac 17820

gctggtgacg cgcgtagatg aaccgccttc ttatgaggaa gcaacgaagc ttggaatgcc 17880

caccactaga ccgatagccc caatggccac cggggtgatg aaaccttctc agttgcatcg 17940

acccgtcacc ttggatttgc ccctcccccc tgctgctact gctgtacccg cttctaagcc 18000

tgtcgctgcc ccgaaaccag tcgccgtagc caggtcacgt cccgggggcg ctcctcgtcc 18060

aaatgcgcac tggcaaaata ctctgaacag catcgtgggt ctaggcgtgc aaagtgtaaa 18120

acgccgtcgc tgcttttaat taaatatgga gtagcgctta acttgcctat ctgtgtatat 18180

gtgtcattac acgccgtcac agcagcagag gaaaaaagga agaggtcgtg cgtcgacgct 18240

gagttacttt caagatggcc accccatcga tgctgcccca atgggcatac atgcacatcg 18300

ccggacagga tgcttcggag tacctgagtc cgggtctggt gcagttcgcc cgcgccacag 18360

acacctactt caatctggga aataagttta gaaatcccac cgtagcgccg acccacgatg 18420

tgaccaccga ccgtagccag cggctcatgt tgcgcttcgt gcccgttgac cgggaggaca 18480

atacatactc ttacaaagtg cggtacaccc tggccgtggg cgacaacaga gtgctggata 18540

tggccagcac gttctttgac attaggggtg tgttggacag aggtcccagt ttcaaaccct 18600

attctggtac ggcttacaac tccctggctc ctaaaggcgc tccaaataca tctcagtgga 18660

ttgcagaagg tgtaaaaaat acaactggtg aggaacacgt aacagaagag gaaaccaata 18720

ctactactta cacttttggc aatgctcctg taaaagctga agctgaaatt acaaaagaag 18780

gactcccagt aggtttggaa gtttcagatg aagaaagtaa accgatttat gctgataaaa 18840

catatcagcc agaacctcag ctgggagatg aaacttggac tgaccttgat ggaaaaaccg 18900

aaaagtatgg aggcagggct ctcaaacccg atactaagat gaaaccatgc tacgggtcct 18960

ttgccaaacc tactaatgtg aaaggcggtc aggcaaaaca aaaaacaacg gagcagccaa 19020

atcagaaagt cgaatatgat atcgacatgg agtttttga tgcggcatcg cagaaaacaa 19080

acttaagtcc taaaattgtc atgtatgcag aaaatgtaaa tttggaaact ccagacactc 19140

atgtagtgta caaacctgga acagaagaca caagttccga agctaatttg ggacaacaat 19200

ctatgcccaa cagacccaac tacattggct tcagagataa ctttattgga cttatgtact 19260

ataacagtac tggtaacatg ggggtgctgg ctggtcaagc gtctcagtta aatgcagtgg 19320

ttgacttgca ggacagaaac acagaacttt cttaccaact cttgcttgac tctctgggcg 19380

acagaaccag atactttagc atgtggaatc aggctgtgga cagttatgat cctgatgtac 19440

gtgttattga aaatcatggt gtggaagatg aacttcccaa ctactgtttt ccactggacg 19500

gcataggtgt tccaacaacc agttacaaat caatagttcc aaatggagac aatgcgccta 19560

attggaagga acctgaagta aatggaacaa gtgagatcgg acagggtaat ttgtttgcca 19620

tggaaattaa ccttcaagcc aatctatggc gaagtttcct ttattccaat gtggctctat 19680

atctcccaga ctcgtacaaa tacaccccgt ccaatgtcac tcttccagaa aacaaaaaca 19740

cctacgacta catgaacggg cgggtggtgc cgccatctct agtagacacc tatgtgaaca 19800

ttggtgccag gtggtctctg gatgccatgg acaatgtcaa cccattcaac caccaccgta 19860

acgctggctt gcgttaccga tccatgcttc tgggtaacgg acgttatgtg cctttccaca 19920

tacaagtgcc tcaaaaattc ttcgctgtta aaaacctgct gcttctccca ggctcctaca 19980

cttatgagtg gaactttagg aaggatgtga acatggttct acagagttcc ctcggtaacg 20040

acctgcgggt agatggcgcc agcatcagtt tcacgagcat caacctctat gctacttttt 20100

tccccatggc tcacaacacc gcttccaccc ttgaagccat gctgcggaat gacaccaatg 20160

atcagtcatt caacgactac ctatctgcag ctaacatgct ctaccccatt cctgccaatg 20220

caaccaatat tcccatttcc attccttctc gcaactgggc ggctttcaga ggctggtcat 20280

ttaccagact gaaaaccaaa gaaactccct ctttggggtc tggatttgac ccctactttg 20340

tctattctgg ttctattccc tacctggatg gtaccttcta cctgaaccac acttttaaga 20400

aggtttccat catgtttgac tcttcagtga gctggcctgg aaatgacagg ttactatctc 20460

ctaacgaatt tgaaataaag cgcactgtgg atggcgaagg ctacaacgta gcccaatgca 20520

acatgaccaa agactggttc ttggtacaga tgctcgccaa ctacaacatc ggctatcagg 20580

gcttctacat tccagaagga tacaaagatc gcatgtattc atttttcaga aacttccagc 20640

ccatgagcag gcaggtggtt gatgaggtca attacaaaga cttcaaggcc gtcgccatac 20700

cctaccaaca caacaactct ggctttgtgg gttacatggc tccgaccatg cgccaaggtc 20760

aaccctatcc cgctaactat ccctatccac tcattggaac aactgccgta aatagtgtta 20820

cgcagaaaaa gttcttgtgt gacagaacca tgtggcgcat accgttctcg agcaacttca 20880

tgtctatggg ggcccttaca gacttgggac agaatatgct ctatgccaac tcagctcatg 20940

ctctggacat gacctttgag gtggatccca tggatgagcc caccctgctt tatcttctct 21000

tcgaagtttt cgacgtggtc agagtgcatc agccacaccg cggcatcatc gaggcagtct 21060

acctgcgtac accgttctcg gccggtaacg ctaccacgta agaagcttct tgcttcttgc 21120

aaatagcagc tgcaaccatg gcctgcggat cccaaaacgg ctccagcgag caagagctca 21180

gagccattgt ccaagacctg ggttgcggac cctatttttt gggaacctac gataagcgct 21240

tcccggggtt catggccccc gataagctcg cctgtgccat tgtaaatacg gccggacgtg 21300

agacgggggg agagcactgg ttggctttcg gttggaaccc acgttctaac acctgctacc 21360

tttttgatcc ttttggattc tcggatgatc gtctcaaaca gatttaccag tttgaatatg 21420

agggtctcct gcgccgcagc gctcttgcta ccaaggaccg ctgtattacg ctggaaaaat 21480

ctacccagac cgtgcagggt ccccgttctg ccgcctgcgg acttttctgc tgcatgttcc 21540

ttcacgcctt tgtgcactgg cctgaccgtc ccatggacgg aaaccccacc atgaaattgc 21600

taactggagt gccaaacaac atgcttcatt ctcctaaagt ccagcccacc ctgtgtgaca 21660

atcaaaaagc actctaccat tttcttaata cccattcgcc ttattttcgc tcccatcgta 21720

cacacatcga aagggccact gcgttcgacc gtatggatgt tcaataatga ctcatgtaaa 21780

caacgtgttc aataaacatc actttatttt tttacatgta tcaaggctct gcattactta 21840

tttatttaca agtcgaatgg gttctgacga gaatcagaat gacccgcagg cagtgatacg 21900

ttgcggaact gatacttggg ttgccacttg aattcgggaa tcaccaactt gggaaccggt 21960

atatcgggca ggatgtcact ccacagcttt ctggtcagct gcaaagctcc aagcaggtca 22020

ggagccgaaa tcttgaaatc acaattagga ccagtgcttt gagcgcgaga gttgcggtac 22080

accggattgc agcactgaaa caccatcagc gacggatgtc tcacgcttgc cagcacggtg 22140

ggatctgcaa tcatgcccac atccagatct tcagcattgg caatgctgaa cggggtcatc 22200

ttgcaggtct gcctacccat ggcgggcacc caattaggct tgtggttgca atcgcagtgc 22260

agggggatca gtatcatctt ggcctgatcc tgtctgattc ctggatacac ggctctcatg 22320

aaagcatcat attgcttgaa agcctgctgg gctttactac cctcggtata aaacatcccg 22380

caggacctgc tcgaaaactg gttagctgca cagccggcat cattcacaca gcagcgggcg 22440

tcattgttag ctatttgcac cacacttctg ccccagcggt tttgggtgat tttggttcgc 22500

tcgggattct cctttaaggc tcgttgtccg ttctcgctgg ccacatccat ctcgataatc 22560

tgctccttct gaatcataat attgccatgc aggcacttca gcttgccctc ataatcattg 22620

cagccatgag gccacaacgc acagcctgta cattcccaat tatggtgggc gatctgagaa 22680

aaagaatgta tcattccctg cagaaatctt cccatcatcg tgctcagtgt cttgtgacta 22740

gtgaaagtta actggatgcc tcggtgctcc tcgtttacgt actggtgaca gatgcgcttg 22800

tattgttcgt gttgctcagg cattagttta aaagaggttc taagttcgtt atccagcctg 22860

tacttctcca tcagcagaca catcacttcc atgcctttct cccaagcaga caccaggggc 22920

aagctaatcg gattcttaac agtgcaggca gcagctcctt tagccagagg gtcatcttta 22980

gcgatcttct caatgcttct tttgccatcc ttctcaacga tgcgcacggg cgggtagctg 23040

aaacccactg ctacaagttg cgcctcttct ctttcttctt cgctgtcttg actgatgtct 23100

tgcatgggga tatgtttggt cttccttggc ttctttttgg ggggtatcgg aggaggagga 23160

ctgtcgctcc gttccggaga cagggaggat tgtgacgttt cgctcaccat taccaactga 23220

ctgtcggtag aagaacctga ccccacacgg cgacaggtgt ttctcttcgg gggcagaggt 23280

ggaggcgatt gcgaagggct gcggtccgac ctggaaggcg gatgactggc agaacccctt 23340

ccgcgttcgg gggtgtgctc cctgtggcgg tcgcttaact gatttccttc gcggctggcc 23400

attgtgttct cctaggcaga gaaacaacag acatggaaac tcagccattg ctgtcaacat 23460

cgccacgagt gccatcacat ctcgtcctca gcgacgagga aaaggagcag agcttaagca 23520

ttccaccgcc cagtcctgcc accacctcta ccctagaaga taaggaggtc gacgcatctc 23580

atgacatgca gaataaaaaa gcgaaagagt ctgagacaga catcgagcaa gacccgggct 23640

atgtgacacc ggtggaacac gaggaagagt tgaaacgctt tctagagaga gaggatgaaa 23700

actgcccaaa acaacgagca gataactatc accaagatgc tggaaatagg gatcagaaca 23760

ccgactacct catagggctt gacggggaag acgcgctcct taaacatcta gcaagacagt 23820

cgctcatagt caaggatgca ttattggaca gaactgaagt gcccatcagt gtggaagagc 23880

tcagccgcgc ctacgagctt aacctctttt cacctcgtac tccccccaaa cgtcagccaa 23940

acggcacctg cgagccaaat cctcgcttaa acttttatcc agcttttgct gtgccagaag 24000

tactggctac ctatcacatc ttttttaaaa atcaaaaaat tccagtctcc tgccgcgcta 24060

atcgcacccg cgccgatgcc ctactcaatc tgggacctgg ttcacgctta cctgatatag 24120

cttccttgga agaggttcca aagatcttcg agggtctggg caataatgag actcgggccg 24180

caaatgctct gcaaaaggga gaaaatggca tggatgagca tcacagcgtt ctggtggaat 24240

tggaaggcga taatgccaga ctcgcagtac tcaagcgaag catcgaggtc acacacttcg 24300

catatcccgc tgtcaacctg ccccctaaag tcatgacggc ggtcatggac cagttactca 24360

ttaagcgcgc aagtcccctt tcagaagaca tgcatgaccc agatgcctgt gatgagggta 24420

aaccagtggt cagtgatgag cagctaaccc gatggctggg caccgactct cccagggatt 24480

tggaagagcg tcgcaagctt atgatggccg tggtgctggt taccgtagaa ctagagtgtc 24540

tccgacgttt ctttaccgat tcagaaacct tgcgcaaact cgaagagaat ctgcactaca 24600

cttttagaca cggctttgtg cggcaggcat gcaagatatc taacgtggaa ctcaccaacc 24660

tggtttccta catgggtatt ctgcatgaga atcgcctagg acaaagcgtg ctgcacagca 24720

ccctgaaggg ggaagcccgc cgtgattaca tccgcgattg tgtctatctg tacctgtgcc 24780

acacgtggca aaccggcatg ggtgtatggc agcaatgttt agaagaacag aacttgaaag 24840

agcttgacaa gctcttacag aaatctctta aggttctgtg gacagggttc gacgagcgca 24900

ccgtcgcttc cgacctggca gacctcatct tcccagagcg tctcagggtt actttgcgaa 24960

acggattgcc tgactttatg agccagagca tgcttaacaa ttttcgctct ttcatcctgg 25020

aacgctccgg tatcctgccc gccacctgct gcgcactgcc ctccgacttt gtgcctctca 25080

cctaccgcga gtgcccccg ccgctatgga gtcactgcta cctgttccgt ctggccaact 25140

atctctccta ccactcggat gtgatcgagg atgtgagcgg agacggcttg ctggagtgtc 25200

actgccgctg caatctgtgc acgccccacc ggtccctagc ttgcaacccc cagttgatga 25260

gcgaaaccca gataataggc acctttgaat tgcaaggccc cagcagccaa ggcgatgggt 25320

cttctcctgg gcaaagttta aaactgaccc cgggactgtg gacctccgcc tacttgcgca 25380

agtttgctcc ggaagattac cacccctatg aaatcaagtt ctatgaggac caatcacagc 25440

ctccaaaggc cgaactttcg gcctgcgtca tcacccaggg ggcaattctg gcccaattgc 25500

aagccatcca aaaatcccgc caagaatttc tactgaaaaa gggtaagggg gtctaccttg 25560

acccccagac cggcgaggaa ctcaacacaa ggttccctca ggatgtccca acgacgagaa 25620

aacaagaagt tgaaggtgca gccgccgccc ccagaagata tggaggaaga ttgggacagt 25680

caggcagagg aggcggagga ggacagtctg gaggacagtc tggaggaaga cagtttggag 25740

gaggaaaacg aggaggcaga ggaggtggaa gaagtaaccg ccgacaaaca gttatcctcg 25800

gctgcggaga caagcaacag cgctaccatc tccgctccga gtcgaggaac ccggcggcgt 25860

cccagcagta gatgggacga gaccggacgc ttcccgaacc caaccagcgc ttccaagacc 25920

ggtaagaagg atcggcaggg atacaagtcc tggcgggggc ataagaatgc catcatctcc 25980

tgcttgcatg agtgcggggg caacatatcc ttcacgcggc gctacttgct attccaccat 26040

ggggtgaact ttccgcgcaa tgttttgcat tactaccgtc acctccacag cccctactat 26100

agccagcaaa tcccggcagt ctcgacagat aaagacagcg gcggcgacct ccaacagaaa 26160

accagcagcg gcagttagaa aatacacaac aagtgcagca acaggaggat taaagattac 26220

agccaacgag ccagcgcaaa cccgagagtt aagaaatcgg atctttccaa ccctgtatgc 26280

catcttccag cagagtcggg gtcaagagca ggaactgaaa ataaaaaacc gatctctgcg 26340

ttcgctcacc agaagttgtt tgtatcacaa gagcgaagat caacttcagc gcactctcga 26400

ggacgccgag gctctcttca acaagtactg cgcgctgact cttaaagagt aggcagcgac 26460

cgcgcttatt caaaaaaggc gggaattaca tcatcctcga catgagtaaa gaaattccca 26520

cgccttacat gtggagttat caaccccaaa tgggattggc ggcaggcgcc tcccaggact 26580

actccacccg catgaattgg ctcagcgccg ggccttctat gatttctcga gttaatgata 26640

tacgcgccta ccgaaaccaa atacttttgg aacagtcagc tcttaccacc acgccccgcc 26700

aacaccttaa tcccagaaat tggcccgccg ccctagtgta ccaggaaagt cccgctccca 26760

ccactgtatt acttcctcga gacgcccagg ccgaagtcca aatgactaat gcaggtgcgc 26820

agttagctgg cggctccacc ctatgtcgtc acaggcctcg gcataatata aaacgcctga 26880

tgatcagagg ccgaggtatc cagctcaacg acgagtcggt gagctctccg cttggtctac 26940

gaccagacgg aatctttcag attgccggct gcgggagatc ttccttcacc cctcgtcagg 27000

ctgttctgac tttggaaagt tcgtcttcgc aaccccgctc gggcggaatc gggaccgttc 27060

aatttgtgga ggagtttact ccctctgtct acttcaaccc cttctccgga tctcctgggc 27120

attacccgga cgagttcata ccgaacttcg acgcgattag cgagtcagtg gacggctacg 27180

attgatgtct ggtgacgcgg ctgagctatc tcggctgcga catctagacc actgccgccg 27240

ctttcgctgc tttgcccggg aactcattga gttcatctac ttcgaactcc ccaaggatca 27300

ccctcaaggt ccggcccacg gagtgcggat ttctatcgaa ggcaaaatag actctcgcct 27360

gcaacgaatt ttctcccagc ggcccgtgct gatcgagcga gaccagggaa acaccacggt 27420

ttccatctac tgcatttgta atcaccccgg attgcatgaa agcctttgct gtcttatgtg 27480

tactgagttt aataaaaact gaattaagac tctcctacgg actgccgctt cttcaacccg 27540

gattttacaa ccagaagaac gaaacttttc ctgtcgtcca ggactctgtt aacttcacct 27600

ttcctactca caaactagaa gctcaacgac tacaccgctt ttccagaagc attttcccta 27660

ctaatactac tttcaaaacc ggaggtgagc tccaaggtct tcctacagaa aacccttggg 27720

tggaagcggg ccttgtagtg ctaggaattc ttgcgggtgg gcttgtgatt attctttgct 27780

acctatacac accttgcttc actttcttag tggtgttgtg gtattggttt aaaaaatggg 27840

gcccatacta gtcttgcttg ttttactttc gcttttggaa ccgggttctg ccaattacga 27900

tccatgtcta gacttcgacc cagaaaactg cacacttact tttgcacccg acacaagccg 27960

catctgtgga gttcatcgcc tctcttacga acttggcccc caacgacaaa aatttacctg 28020

catggtggga atcaacccca tagttatcac ccagcaaagt ggagatacta agggttgcat 28080

tcactgctcc tgcgattcca tcgagtgcac ctacaccctg ctgaagaccc tatgcggcct 28140

aagagacctg ctaccaatga attaaaaaat gattaataaa aaatcactta cttgaaatca 28200

gcaataaggt ctctgttgaa attttctccc agcagcacct cacttccctc ttcccaactc 28260

tggtattcta aaccccgttc agcggcatac tttctccata ctttaaaggg gatgtcaaat 28320

tttagctcct ctcctgtacc cacaatcttc atgtctttct tcccagatga ccaagagagt 28380

ccggctcagt gactccttca accctgtcta cccctatgaa gatgaaagca cctcccaaca 28440

ccccttttata aacccagggt ttatttcccc aaatggcttc acacaaagcc caaacggagt 28500

tcttacttta aaatgtttaa ccccactaac aaccacaggc ggatctctac agctaaaagt 28560

gggaggggga cttacagtgg atgacaccaa cggttttttg aaagaaaaca taagtgccac 28620

cacaccactc gttaagactg gtcactctat aggtttacca ctaggagccg gattgggaac 28680

gaatgaaaat aaactttgta tcaaattagg acaaggactt acattcaatt caaacaacat 28740

ttgcattgat gacaatatta acaccttatg gacaggagtc aaccccaccg aagccaactg 28800

tcaaatcatg aactccagtg aatctaatga ttgcaaatta attctaacac tagttaaaac 28860

tggagcacta gtcactgcat ttgtttatgt tataggagta tctaacaatt ttaatatgct 28920

aactacacac agaaatataa attttactgc agagctgttt ttcgattcta ctggtaattt 28980

actaactaga ctctcatccc tcaaaactcc acttaatcat aaatcaggac aaaacatggc 29040

tactggtgcc attactaatg ctaaaggttt catgcccagc acgactgcct atcctttcaa 29100

tgataattct agagaaaaag aaaactacat ttacggaact tgttactaca cagctagtga 29160

tcgcactgct tttcccattg acatatctgt catgcttaac cgaagagcaa taaatgacga 29220

gacatcatat tgtattcgta taacttggtc ctggaacaca ggagatgccc cagaggtgca 29280

aacctctgct acaaccctag tcacctcccc atttaccttt tactacatca gagaagacga 29340

ctgacaaata aagtttgcga tcgccaggcc caccatgggc tggagctgca tcatcttgtt 29400

cctggtcgca actgctaccg gagtccattc ggacatcgtc atgacccaaa gccctgactc 29460

gctcgctgtg tcactgggag agcgggcgac tatcaactgc aaatcatccc agagcctgct 29520

gtattcacgc aatcagaaaa actacctggc ctggtatcag cagaagccgg gccagcctcc 29580

caagctgctg atcttctggg cctccacccg cgaaagcggc gtgccggacc gcttcagcgg 29640

aagcggattc ggaactgact ttactctgac cattagctcc ttgcaggcgg aggacgtggc 29700

cgtctactac tgccagcagt atttctccta tccgctcacc tttgggcaag gcaccaaggt 29760

ggagattaag ggagggggcg gcagcggggg aggcggcagc ggcggcgggg gatcgcaggt 29820

ccagctcgtc caatccggag ccgaagtcaa gaagccggga gcgtcggtca aggtcagctg 29880

caaaacttcg cgctacacct tcactgagta cacgatccac tgggtccgcc aggcgcccgg 29940

ccagcggctg gagtggatcg gcgggatcaa cccaaacaac ggaatcccaa attacaatca 30000

gaaatttaaa gggcgggtga ctatcaccgt ggatacctcg gcctccacgg cgtacatgga 30060

gctctcatca ctcagatcgg aggacaccgc ggtctattac tgcgcccgcc gccggatcgc 30120

ttatggatac gatgaaggac atgcgatgga ttactggggc cagggcaccc tcgtcacggt 30180

gtcgtcagga ggcggcggtt cacaggtgca gctgcagcag tctggggctg aactggcaag 30240

acctggggcc tcagtgaaga tgtcctgcaa ggcttctggc tacaccttta ctaggtacac 30300

gatgcactgg gtaaaacaga ggcctggaca gggtctggaa tggattggat acattaatcc 30360

tagccgtggt tatactaatt acaatcagaa gttcaaggac aaggccacat tgactacaga 30420

caaatcctcc agcacagcct acatgcaact gagcagcctg acatctgagg actctgcagt 30480

ctattactgt gcaagatatt atgatgatca ttactgcctt gactactggg gccaaggcac 30540

cactctcaca gtctcctcag gtggcggtgg ctcgggcggt ggtggatctg gtggcggcgg 30600

atctgatatc gtgctcactc agtctccagc aatcatgtct gcatctccag gggagaaggt 30660

caccatgacc tgcagtgcca gctcaagtgt aagttacatg aactggtacc agcagaagtc 30720

aggcacctcc cccaaaagat ggatttatga cacatccaaa ctggcttctg gagtccctgc 30780

tcacttcagg ggcagtgggt ctgggacctc ttactctctc acaatcagcg gcatggaggc 30840

tgaagatgct gccacttatt actgccagca gtggagtagt aacccattca cgttcggctc 30900

ggggacaaag ttggaaataa accggggaag cggagctact aacttcagcc tgctgaagca 30960

ggctggagac gtggaggaga accctggacc taatcaaact gccattctga tttgctgcct 31020

tatctttctg actctaagtg gcattcaagg agtacctctc tctagaactg tacgctgtac 31080

ctgcatcagc attagtaatc aacctgttaa tccaaggtct ttagaaaaac ttgaaattat 31140

tcctgcaagc caattttgtc cacgtgttga gatcattgct acaatgaaaa agaagggtga 31200

gaagagatgt ctgaatccag aatcgaaggc catcaagaat ttactgaaag cagttagcaa 31260

ggaaaggtct aaaagatctc ctggaagcgg agagggcaga ggaagtctgc taacatgcgg 31320

tgacgtcgag gagaatcctg gacctaagaa aagtggtgtt cttttcctct tgggcatcat 31380

cttgctggtt ctgattggag tgcaaggaac cccagtagtg agaaagggtc gctgttcctg 31440

catcagcacc aaccaaggga ctatccacct acaatccttg aaagacctta aacaatttgc 31500

cccaagccct tcctgcgaga aaattgaaat cattgctaca ctgaagaatg gagttcaaac 31560

atgtctaaac ccagattcag cagatgtgaa ggaactgatt aaaaagtggg agaaacaggt 31620

cagccaaaag aaaaagcaaa agaatgggaa aaaacatcaa aaaaagaaag ttctgaaagt 31680

tcgaaaatct caacgttctc gtcaaaagaa gactacataa gctagcttga ctgactgaga 31740

tacagcgtac cttcagctca cagacatgat aagatacatt gatgagtttg gacaaaccac 31800

aactagaatg cagtgaaaaa aatgctttat ttgtgaaatt tgtgatgcta ttgctttatt 31860

tgtaaccatt ataagctgca ataaacaagt taacaacaac aattgcattc attttatgtt 31920

tcaggttcag ggggaggtgt gggaggtttt ttaaagcaag taaaacctct acaaatgtgg 31980

tagtcgtcag ctatcctgca ggaacttgtt tatttgaaaa tcaattcaca aaatccgagt 32040

agttattttg cctccccctt cccatttaac agaatacacc aatctctccc cacgcacagc 32100

tttaaacatt tggataccat tagatataga catggtttta gattccacat tccaaacagt 32160

ttcagagcga gccaatctgg ggtcagtgat agataaaaat ccatcgggat agtcttttaa 32220

agcgctttca cagtccaact gctgcggatg cgactccgga gtctggatca cggtcatctg 32280

gaagaagaac gatgggaatc ataatccgaa aacggtatcg gacgattgtg tctcatcaaa 32340

cccacaagca gccgctgtct gcgtcgctcc gtgcgactgc tgtttatggg atcagggtcc 32400

acagtgtcct gaagcatgat tttaatagcc cttaacatca actttctggt gcgatgcgcg 32460

cagcaacgca ttctgatttc actcaaatct ttgcagtagg tacaacacat tattacaata 32520

ttgtttaata aaccataatt aaaagcgctc cagccaaaac tcatatctga tataatcgcc 32580

cctgcatgac catcatacca aagtttaata taaattaaat gacgttccct caaaaacaca 32640

ctacccacat acatgatctc ttttggcatg tgcatattaa caatctgtct gtaccatgga 32700

caacgttggt taatcatgca acccaatata accttccgga accacactgc caacaccgct 32760

cccccagcca tgcattgaag tgaaccctgc tgattacaat gacaatgaag aacccaattc 32820

tctcgaccgt gaatcacttg agaatgaaaa atatctatag tggcacaaca tagacataaa 32880

tgcatgcatc ttctcataat ttttaactcc tcaggattta gaaacatatc ccagggaata 32940

ggaagctctt gcagaacagt aaagctggca gaacaaggaa gaccacgaac acaacttaca 33000

ctatgcatag tcatagtatc acaatctggc aacagcgggt ggtcttcagt catagaagct 33060

cgggtttcat tttcctcaca acgtggtaac tgggctctgg tgtaagggtg atgtctggcg 33120

catgatgtcg agcgtgcgcg caaccttgtc ataatggagt tgcttcctga cattctcgta 33180

ttttgtatag caaaacgcgg ccctggcaga acacactctt cttcgccttc tatcctgccg 33240

cttagcgtgt tccgtgtgat agttcaagta caaccacact cttaagttgg tcaaaagaat 33300

gctggcttca gttgtaatca aaactccatc gcatctaatc gttctgagga aatcatccaa 33360

gcaatgcaac tggattgtgt ttcaagcagg agaggagagg gaagagacgg aagaaccatg 33420

ttaattttta ttccaaacga tctcgcagta cttcaaattg tagatcgcgc agatggcatc 33480

tctcgccccc actgtgttgg tgaaaaagca cagctagatc aaaagaaatg cgattttcaa 33540

ggtgctcaac ggtggcttcc agcaaagcct ccacgcgcac atccaagaac aaaagaatac 33600

caaaagaagg agcattttct aactcctcaa tcatcatatt acattcctgc accattccca 33660

gataattttc agctttccag ccttgaatta ttcgtgtcag ttcttgtggt aaatccaatc 33720

cacacattac aaacaggtcc cggagggcgc cctccaccac cattcttaaa cacaccctca 33780

taatgacaaa atatcttgct cctgtgtcac ctgtagcgaa ttgagaatgg caacatcaat 33840

tgacatgccc ttggctctaa gttcttcttt aagttctagt tgtaaaaact ctctcatatt 33900

atcaccaaac tgcttagcca gaagcccccc gggaacaaga gcaggggacg ctacagtgca 33960

gtacaagcgc agacctcccc aattggctcc agcaaaaaca agattggaat aagcatattg 34020

ggaaccgcca gtaatatcat cgaagttgct ggaaatataa tcaggcagag tttcttgtaa 34080

aaattgaata aaagaaaaat ttgccaaaaa aacattcaaa acctctggga tgcaaatgca 34140

ataggttacc gcgctgcgct ccaacattgt tagttttgaa ttagtctgca aaaataaaaa 34200

aaaaaacaag cgtcatatca tagtagcctg acgaacagat ggataaatca gtctttccat 34260

cacaagacaa gccacagggt ctccagctcg accctcgtaa aacctgtcat catgattaaa 34320

caacagcacc gaaagttcct cgcggtgacc agcatgaata attcttgatg aagcatacaa 34380

tccagacatg ttagcatcag ttaacgagaa aaaacagcca acatagcctt tgggtataat 34440

tatgcttaat cgtaagtata gcaaagccac ccctcgcgga tacaaagtaa aaggcacagg 34500

agaataaaaa atataattat ttctctgctg ctgttcaggc aacgtcgccc ccggtccctc 34560

taaatacaca tacaaagcct catcagccat ggcttaccag acaaagtaca gcgggcacac 34620

aaagcacaag ctctaaagtg actctccaac ctctccacaa tatatatata cacaagccct 34680

aaactgacgt aatgggagta aagtgtaaaa aatcccgcca aacccaacac acaccccgaa 34740

actgcgtcac cagggaaaag tacagtttca cttccgcaat cccaacaggc gtaacttcct 34800

ctttctcacg gtacgtgata tcccactaac ttgcaacgtc attttcccac ggtcgcaccg 34860

ccccttttag ccgttaaccc cacagccaat caccacacga tccacacttt ttaaaatcac 34920

ctcatttaca tattggcacc attccatcta taaggtatat tatatagata ga 34972

<210> 84
<211> 35602
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-641 Genome

<400> 84
tctatctata taatatacct tatagatgga atggtgccaa tatgtaaatg aggtgatttt 60

aaaaagtgtg gatcgtgtgg tgattggctg tggggttaac ggctaaaagg ggcggtgcga 120

ccgtgggaaa atgacgtttt gtgggggtgg agtttttttg caagttgtcg cgggaaatgt 180

gacgcataaa aaggcttttt tctcacggaa ctacttagtt ttcccacggt atttaacagg 240

aaatgaggta gttttgaccg gatgcaagtg aaaattgttg attttcgcgc gaaaactgaa 300

tgaggaagtg tttttctgaa taatgtggta tttatggcag ggtggagtat ttgttcaggg 360

ccaggtagac tttgacccat tacgtggagg tttcgattac cgtgtttttt acctgaattt 420

ccgcgtaccg tgtcaaagtc ttctgttttt acgtaggtgt cagctgatcg ctagggtatt 480

tatacctcag ggtttgtgtc aagaggccac tcttgagtgc cagcgagaag agttttctcc 540

tctgcgccgg cagtttaata ataaaaaaat gagagatttg cgatttctgc ctcaggaaat 600

aatctctgct gagactggaa atgaaatatt ggagcttgtg gtgcacgccc tgatgggaga 660

cgatccggag ccacctgtgc agctttttga gcctcctacg cttcaggaac tgtatgattt 720

agaggtagag ggatcggagg attctaatga ggaagctgta aatggctttt ttaccgattc 780

tatgctttta gctgctaatg aagggttaga attagatccg cctttggaca cttttgatac 840

tccaggggta attgtggaaa gcggtacagg tgtaagaaaa ttacctgatt tgagttccgt 900

ggactgtgat ttgcactgct atgaagacgg gtttcctccg agtgatgagg aggaccatga 960

aaaggagcag tccatgcaga ctgcagcggg tgagggagtg aaggctgcca atgttggttt 1020

tcagttggat tgcccggagc ttcctggaca tggctgtaag tcttgtgaat ttcacaggaa 1080

aaatactgga gtaaaggaac tgttatgttc gctttgttat atgagaacgc actgccactt 1140

tatttacagt aagtgtgttt aagttaaaat ttaaaggaat atgctgtttt tcacatgtat 1200

attgagtgtg agttttgtgc ttcttattat aggtcctgtg tctgatgctg atgaatcacc 1260

atctcctgat tctactacct cacctcctga gattcaagca cctgttcctg tggacgtgcg 1320

caagcccatt cctgtgaagc ttaagcctgg gaaacgtcca gcagtggaaa aacttgagga 1380

cttgttacag ggtggggacg gacctttgga cttgagtaca cggaaacgtc caagacaata 1440

agtgttccat atccgtgttt acttaaggtg acgtcaatat ttgtgtgaca gtgcaatgta 1500

ataaaaatat gttaactgtt cactggtttt tattgctttt tgggcgggga ctcaggtata 1560

taagtagaag cagacctgtg tggttagctc ataggagctg gctttcatcc atggaggttt 1620

gggccatttt ggaagacctt aggaagacta ggcaactgtt agagaacgct tcggacggag 1680

tctccggttt ttggagattc tggttcgcta gtgaattagc tagggtagtt tttaggataa 1740

aacaggacta taaacaagaa tttgaaaagt tgttggtaga ttgcccagga ctttttgaag 1800

ctcttaattt gggccatcag gttcacttta aagaaaaagt tttatcagtt ttagactttt 1860

caaccccagg tagaactgct gctgctgtgg cttttcttac ttttatatta gataaatgga 1920

tcccgcagac tcatttcagc aggggatacg ttttggattt catagccaca gcattgtgga 1980

gaacatggaa ggttcgcaag atgaggacaa tcttaggtta ctggccagtg cagcctttgg 2040

gtgtagcggg aatcctgagg catccaccgg tcatgccagc ggttctggag gaggaacagc 2100

aagaggacaa cccgagagcc ggcctggacc ctccagtgga ggaggcggag tagctgactt 2160

gtctcctgaa ctgcaacggg tgcttactgg atctacgtcc actggacggg ataggggcgt 2220

taagagggag agggcatcta gtggtactga tgctagatct gagttggctt taagtttaat 2280

gagtcgcaga cgtcctgaaa ccatttggtg gcatgaggtt cagaaagagg gaagggatga 2340

agtttctgta ttgcaggaga aatattcact ggaacaggtg aaaacatgtt ggttggagcc 2400

tgaggatgat tgggaggtgg ccattaaaaa ttatgccaag atagctttga ggcctgataa 2460

acagtataag attactagac ggattaatat ccggaatgct tgttacatat ctggaaatgg 2520

ggctgaggtg gtaatagata ctcaagacaa ggcagttatt agatgctgca tgatggatat 2580

gtggcctggg gtagtcggta tggaagcagt aacttttgta aatgttaagt ttaggggaga 2640

tggttataat ggaatagtgt ttatggccaa taccaaactt atattgcatg gttgtagctt 2700

ttttggtttc aacaatacct gtgtagatgc ctggggacag gttagtgtac ggggatgtag 2760

tttctatgcg tgttggattg ccacagctgg cagaaccaag agtcaattgt ctctgaagaa 2820

atgcatattt caaagatgta acctgggcat tctgaatgaa ggcgaagcaa gggtccgcca 2880

ctgcgcttct acagatactg gatgttttat tttgattaag ggaaatgcca gcgtaaagca 2940

taacatgatt tgcggtgctt ccgatgagag gccttatcaa atgctcactt gtgctggtgg 3000

gcattgtaat atgctggcta ctgtgcatat tgtttcccat caacgcaaaa aatggcctgt 3060

ttttgatcac aatgtgatga cgaagtgtac catgcatgca ggtgggcgta gaggaatgtt 3120

tatgccttac cagtgtaaca tgaatcatgt gaaagtgttg ttggaaccag atgccttttc 3180

cagaatgagc ctaacaggaa tttttgacat gaacatgcaa atctggaaga tcctgaggta 3240

tgatgatacg agatcgaggg tacgcgcatg cgaatgcgga ggcaagcatg ccaggttcca 3300

gccggtgtgt gtagatgtga ctgaagatct cagaccggat catttggtta ttgcccgcac 3360

tggagcagag ttcggatcca gtggagaaga aactgactaa ggtgagtatt gggaaaactt 3420

tggggtggga ttttcagatg gacagattga gtaaaaattt gtttttttctg tcttgcagct 3480

gtcatgagtg gaaacgcttc ttttaagggg ggagtcttca gcccttatct gacagggcgt 3540

ctcccatcct gggcaggagt tcgtcagaat gttatgggat ctactgtgga tggaagaccc 3600

gtccaacccg ccaattcttc aacgctgacc tatgctactt taagttcttc acctttggac 3660

gcagctgcag ctgccgccgc cgcttctgtt gccgctaaca ctgtgcttgg aatgggttac 3720

tatggaagca tcatggctaa ttccacttcc tctaataacc cttctaccct gactcaggac 3780

aagttacttg tccttttggc ccagctggag gctttgaccc aacgtctggg tgaactttct 3840

cagcaggtgg tcgagttgcg agtacaaact gagtctgctg tcggcacggc aaagtctaaa 3900

taaaaaaatc ccagaatcaa tgaataaata aacaagcttg ttgttgattt aaaatcaagt 3960

gtttttattt catttttcgc gcacggtatg ccctagacca ccgatctcta tcattgagaa 4020

ctcggtggat tttttccagg atcctataga ggtgggattg aatgtttaga tacatgggca 4080

ttaggccgtc tttggggtgg agatagctcc attgaaggga ttcatgctcc ggggtagtgt 4140

tgtaaatcac ccagtcataa caaggtcgca gtgcatggtg ttgcacaata tcttttagaa 4200

gtaggctgat tgccacagat aagcccttgg tgtaggtgtt tacaaaccgg ttgagctggg 4260

atgggtgcat tcggggtgaa attatgtgca ttttggattg gatttttaag ttggcaatat 4320

tgccgccaag atcccgtctt gggttcatgt tatgaaggac caccaagacg gtgtatccgg 4380

tacatttagg aaatttatcg tgcagcttgg atggaaaagc gtggaaaaat ttggagacac 4440

ccttgtgtcc tccaagattt tccatgcact catccatgat aatagcaatg gggccgtggg 4500

cagcggcgcg ggcaaacacg ttccgtgggt ctgacacatc atagttatgt tcctgagtta 4560

aatcatcata agccatttta atgaatttgg ggcggagagt accagattgg ggtatgaatg 4620

ttccttcggg ccccggagca tagttcccct cacagatttg catttcccaa gctttcagtt 4680

ccgagggtgg aatcatgtcc acctgggggg ctatgaaaaa caccgtttct ggggcggggg 4740

tgattaattg tgatgatagc aaatttctga gcaattgaga tttgccacat ccggtggggc 4800

cataaatgat tccgattacg ggttgcaggt ggtagtttag ggaacggcaa ctgccgtctt 4860

ctcgaagcaa gggggccacc tcgttcatca tttcccttac atgcatattt tcccgcacca 4920

aatccattag gaggcgctct cctcctagtg atagaagttc ttgtagtgag gaaaagtttt 4980

tcagcggttt cagaccgtca gccatgggca ttttggagag agtttgctgc aaaagttcta 5040

gtctgttcca cagttcagtg atgtgttcta tggcatctcg atccagcaga cctcctcgtt 5100

tcgcgggttt ggacggctcc tggaataggg tatgagacga tgggcgtcca gcgctgccag 5160

ggttcggtcc ttccagggtc tcagtgttcg agtcagggtt gtttccgtca cagtgaaggg 5220

gtgtgcgcct gcttgggcgc ttgccagggt gcgcttcaga ctcatcctgc tggtcgaaaa 5280

cttctgtcgc ttggcgccct gtatgtcggc caagtagcag tttaccatga gttcgtagtt 5340

gagcgcctcg gctgcgtggc ctttggcgcg gagcttacct ttggaagttt tcttgcatac 5400

cgggcagtat aggcatttca gcgcatacaa cttgggcgca aggaaaacgg attctgggga 5460

gtatgcatct gcgccgcagg aggcgcaaac agtttcacat tccaccagcc aggttaaatc 5520

cggttcattg gggtcaaaaa caagttttcc gccatatttt ttgatgcgtt tcttaccttt 5580

ggtctccatg agttcgtgtc ctcgttgagt gacaaacagg ctgtccgtgt ccccgtagac 5640

tgattttaca ggcctcttct ccagtggagt gcctcggtct tcttcgtaca ggaactctga 5700

ccactctgat acaaaggcgc gcgtccaggc cagcacaaag gaggctatgt gggaggggta 5760

gcgatcgttg tcaaccaggg ggtccacctt ttccaaagta tgcaaacaca tgtcaccctc 5820

ttcaacatcc aggaatgtga ttggcttgta ggtgtatttc acgtgacctg gggtccccgc 5880

tgggggggta taaaaggggg cggttctttg ctcttcctca ctgtcttccg gatcgctgtc 5940

caggaacgtc agctgttggg gtaggtattc cctctcgaag gcgggcatga cctctgcact 6000

caggttgtca gtttctaaga acgaggagga tttgatattg acagtgccgg ttgagatgcc 6060

tttcatgagg ttttcgtcca tctggtcaga aaacacaatt tttttattgt caagtttggt 6120

ggcaaatgat ccatacaggg cgttggataa aagtttggca atggatcgca tggtttggtt 6180

cttttccttg tccgcgcgct ctttggcggc gatgttgagt tggacatact cgcgtgccag 6240

gcacttccat tcggggaaga tagttgttaa ttcatctggc acgattctca cttgccaccc 6300

tcgattatgc aaggtaatta aatccacact ggtggccacc tcgcctcgaa ggggttcatt 6360

ggtccaacag agcctacctc ctttcctaga acagaaaggg ggaagtgggt ctagcataag 6420

ttcatcggga gggtctgcat ccatggtaaa gattcccgga agtaaatcct tatcaaaata 6480

gctgatggga gtggggtcat ctaaggccat ttgccattct cgagctgcca gtgcgcgctc 6540

atatgggtta aggggactgc cccatggcat gggatgggtg agtgcagagg catacatgcc 6600

acagatgtca tagacgtaga tgggatcctc aaagatgcct atgtaggttg gatagcatcg 6660

ccccccctctg atacttgctc gcacatagtc atatagttca tgtgatggcg ctagcagccc 6720

cggacccaag ttggtgcgat tgggtttttc tgttctgtag acgatctggc gaaagatggc 6780

gtgagaattg gaagagatgg tgggtctttg aaaaatgttg aaatgggcat gaggtagacc 6840

tacagagtct ctgacaaagt gggcataaga ttcttgaagc ttggttacca gttcggcggt 6900

gacaagtacg tctagggcgc agtagtcaag tgtttcttga atgatgtcat aacctggttg 6960

gtttttcttt tcccacagtt cgcggttgag aaggtattct tcgcgatcct tccagtactc 7020

ttctagcgga aacccgtctt tgtctgcacg gtaagatcct agcatgtaga actgattaac 7080

tgccttgtaa gggcagcagc ccttctctac gggtagagag tatgcttgag cagcttttcg 7140

tagcgaagcg tgagtaaggg caaaggtgtc tctgaccatg actttgagga attggtattt 7200

gaagtcgatg tcgtcacagg ctccctgttc ccagagttgg aagtctaccc gtttcttgta 7260

ggcggggttg ggcaaagcga aagtaacatc attgaagaga atcttgccgg ccctgggcat 7320

gaaattgcga gtgatgcgaa aaggctgtgg tacttccgct cggttattga taacctgggc 7380

agctaggacg atctcgtcga aaccgttgat gttgtgtcct acgatgtata attctatgaa 7440

acgcggcgtg cctctgacgt gaggtagctt actgagctca tcaaaggtta ggtctgtggg 7500

gtcagataag gcgtagtgtt cgagagccca ttcgtgcagg tgaggattcg ctttaaggaa 7560

ggaggaccag aggtccactg ccagtgctgt ttgtaactgg tcccggtact gacgaaaatg 7620

ccgtccgact gccatttttt ctggggtgac gcaatagaag gtttgggggt cctgccgcca 7680

gcgatcccac ttgagtttta tggcgaggtc ataggcgatg ttgacgagcc gctggtctcc 7740

agagagtttc atgaccagca tgaaggggat tagctgcttg ccaaaggacc ccatccaggt 7800

gtaggtttcc acatcgtagg tgagaaagag cctttctgtg cgaggatgag agccaatcgg 7860

gaagaactgg atctcctgcc accagttgga ggaatggctg ttgatgtgat ggaagtagaa 7920

ctccctgcga cgcgccgagc attcatgctt gtgcttgtac agacggccgc agtagtcgca 7980

gcgttgcacg ggttgtatct cgtgaatgag ttgtacctgg cttcccttga cgagaaattt 8040

cagtgggaag ccgaggcctg gcgattgtat ctcgtgcttt actatgttgt ctgcatcggc 8100

ctgttcatct tctgtctcga tggtggtcat gctgacgagc cctcgcggga ggcaagtcca 8160

gacctcggcg cggcaggggc ggagctcgag gacgagagcg cgcaggctgg agctgtccag 8220

ggtcctgaga cgctgcggac tcaggttagt aggcagtgtc aggagattaa cttgcatgat 8280

cttttggagg gcgtgcggga ggttcagata gtacttgatc tcaacgggtc cgttggtgga 8340

gatgtcgatg gcttgcaggg ttccgtgtcc cttgggcgct accaccgtgc ccttgttttt 8400

cattttggac ggcggtggct ctgttgcttc ttgcatgttt agaagcggtg tcgagggcgc 8460

gcaccgggcg gcaggggcgg ctcgggaccc ggcggcatgg ctggcagtgg tacgtcggcg 8520

ccgcgcgcgg gtaggttctg gtactgcgcc ctgagaagac tcgcatgcgc gacgacgcgg 8580

cggttgacat cctggatctg acgcctctgg gtgaaagcta ccggccccgt gagcttgaac 8640

ctgaaagaga gttcaacaga atcaatctcg gtatcgttga cggcggcttg cctaaggatt 8700

tcttgcacgt caccagagtt gtcctggtag gcgatctccg ccatgaactg ctcgatctct 8760

tcctcttgaa gatctccgcg gcccgctctc tcgacggtgg ccgcgaggtc gttggagatg 8820

cgcccaatga gttgagagaa tgcattcatg cccgcctcgt tccagacgcg gctgtagacc 8880

acggccccca cgggatctct cgcgcgcatg accacctggg cgaggttgag ctccacgtgg 8940

cgggtgaaga ccgcatagtt gcataggcgc tggaaaaggt agttgagtgt ggtggcgatg 9000

tgctcggtga cgaagaaata catgatccat cgtctcagcg gcatctcgct gacatcgccc 9060

agagcttcca agcgctccat ggcctcgtag aagtccacgg caaaattaaa aaactgggag 9120

tttcgcgcgg acacggtcaa ctcctcttcc agaagacgga taagttcggc gatggtggtg 9180

cgcacctcgc gctcgaaagc ccctgggatt tcttcctcaa tctcttcttc ttccactaac 9240

atctcttcct cttcaggtgg ggctgcagga ggagggggaa cgcggcgacg ccggcggcgc 9300

acgggcagac ggtcgatgaa tctttcaatg acctctccgc ggcggcggcg catggtttca 9360

gtgacggcgc ggccgttctc gcgcggtcgc agagtaaaaa caccgccgcg catctcctta 9420

aagtggtgac tgggaggttc tccgtttggg agggagaggg cgctgattat acattttatt 9480

aattggcccg tagggactgc acgcagagat ctgatcgtgt caagatccac gggatctgaa 9540

aacctttcga cgaaagcgtc taaccagtca cagtcacaag gtaggctgag tacggcttct 9600

tgtgggcggg ggtggttatg tgttcggtct gggtcttctg tttcttcttc atctcgggaa 9660

ggtgagacga tgctgctggt gatgaaatta aagtaggcag ttctaagacg gcggatggtg 9720

gcgaggagca ccaggtcttt gggtccggct tgctggatac gcaggcgatt ggccattccc 9780

caagcattat cctgacatct agcaagatct ttgtagtagt cttgcatgag ccgttctacg 9840

ggcacttctt cctcacccgt tctgccatgc atacgtgtga gtccaaatcc gcgcattggt 9900

tgtaccagtg ccaagtcagc tacgactctt tcggcgagga tggcttgctg tacttgggta 9960

agggtggctt gaaagtcatc aaaatccaca aagcggtggt aagctcctgt attaatggtg 10020

taagcacagt tggccatgac tgaccagtta actgtctggt gaccagggcg cacgagctcg 10080

gtgtatttaa ggcgcgaata ggcgcgggtg tcaaagatgt aatcgttgca ggtgcgcacc 10140

agatactggt accctataag aaaatgcggc ggtggttggc ggtagagagg ccatcgttct 10200

gtagctggag cgccaggggc gaggtcttcc aacataaggc ggtgatagcc gtagatgtac 10260

ctggacatcc aggtgattcc tgcggcggta gtagaagccc gaggaaactc gcgtacgcgg 10320

ttccaaatgt tgcgtagcgg catgaagtag ttcattgtag gcacggtttg accagtgagg 10380

cgcgcgcagt cattgatgct ctatagacac ggagaaaatg aaagcgttca gcgactcgac 10440

tccgtagcct ggaggaacgt gaacgggttg ggtcgcggtg taccccggtt cgagacttgt 10500

actcgagccg gccggagccg cggctaacgt ggtattggca ctcccgtctc gacccagcct 10560

acaaaaatcc aggatacgga atcgagtcgt tttgctggtt tccgaatggc agggaagtga 10620

gtcctatttt tttttttgc cgctcagatg catcccgtgc tgcgacagat gcgcccccaa 10680

caacagcccc cctcgcagca gcagcagcag caatcacaaa aggctgtccc tgcaactact 10740

gcaactgccg ccgtgagcgg tgcgggacag cccgcctatg atctggactt ggaagagggc 10800

gaaggactgg cacgtctagg tgcgccttca cccgagcggc atccgcgagt tcaactgaaa 10860

aaagattctc gcgaggcgta tgtgccccaa cagaacctat ttagagacag aagcggcgag 10920

gagccggagg agatgcgagc ttcccgcttt aacgcgggtc gtgagctgcg tcacggtttg 10980

gaccgaagac gagtgttgcg ggacgaggat ttcgaagttg atgaaatgac agggatcagt 11040

cctgccaggg cacacgtggc tgcagccaac cttgtatcgg cttacgagca gacagtaaag 11100

gaagagcgta acttccaaaa gtcttttaat aatcatgtgc gaaccctgat tgcccgcgaa 11160

gaagttaccc ttggtttgat gcatttgtgg gatttgatgg aagctatcat tcagaaccct 11220

actagcaaac ctctgaccgc ccagctgttt ctggtggtgc aacacagcag agacaatgag 11280

gctttcagag aggcgctgct gaacatcacc gaacccgagg ggagatggtt gtatgatctt 11340

atcaacattc tacagagtat catagtgcag gagcggagcc tgggcctggc cgagaaggtg 11400

gctgccatca attactcggt tttgagcttg ggaaaatatt acgctcgcaa aatctacaag 11460

actccatacg ttcccataga caaggaggtg aagatagatg ggttctacat gcgcatgacg 11520

ctcaaggtct tgaccctgag cgatgatctt ggggtgtatc gcaatgacag aatgcatcgc 11580

gcggttagcg ccagcaggag gcgcgagtta agcgacaggg aactgatgca cagtttgcaa 11640

agagctctga ctggagctgg aaccgagggt gagaattact tcgacatggg agctgacttg 11700

cagtggcagc ctagtcgcag ggctctgagc gccgcgacgg caggatgtga gcttccttac 11760

atagaagagg cggatgaagg cgaggaggaa gagggcgagt acttggaaga ctgatggcac 11820

aacccgtgtt ttttgctaga tggaacagca agcaccggat cccgcaatgc gggcggcgct 11880

gcagagccag ccgtccggca ttaactcctc ggacgattgg acccaggcca tgcaacgtat 11940

catggcgttg acgactcgca accccgaagc ctttagacag caaccccagg ccaaccgtct 12000

atcggccatc atggaagctg tagtgccttc ccgctctaat cccactcatg agaaggtcct 12060

ggccatcgtg aacgcgttgg tggagaacaa agctattcgt ccagatgagg ccggactggt 12120

atacaacgct ctcttagaac gcgtggctcg ctacaacagt agcaatgtgc aaaccaattt 12180

ggaccgtatg ataacagatg tacgcgaagc cgtgtctcag cgcgaaaggt tccagcgtga 12240

tgccaacctg ggttcgctgg tggcgttaaa tgctttcttg agtactcagc ctgctaatgt 12300

gccgcgtggt caacaggatt atactaactt tttaagtgct ttgagactga tggtatcaga 12360

agtacctcag agcgaagtgt atcagtccgg tcctgattac ttctttcaga ctagcagaca 12420

gggcttgcag acggtaaatc tgagccaagc ttttaaaaac cttaaaggtt tgtggggagt 12480

gcatgccccg gtaggagaaa gagcaaccgt gtctagcttg ttaactccga actcccgcct 12540

attattactg ttggtagctc ctttcaccga cagcggtagc atcgaccgta attcctattt 12600

gggttaccta ctaaacctgt atcgcgaagc catagggcaa agtcaggtgg acgagcagac 12660

ctatcaagaa attacccaag tcagtcgcgc tttgggacag gaagacactg gcagtttgga 12720

agccactctg aacttcttgc ttaccaatcg gtctcaaaag atccctcctc aatatgctct 12780

tactgcggag gaggagagga tccttagata tgtgcagcag agcgtgggat tgtttctgat 12840

gcaagagggg gcaactccga ctgcagcact ggacatgaca gcgcgaaata tggagcccag 12900

catgtatgcc agtaaccgac ctttcattaa caaactgctg gactacttgc acagagctgc 12960

cgctatgaac tctgattatt tcaccaatgc catcttaaac ccgcactggc tgcccccacc 13020

tggtttctac acgggcgaat atgacatgcc cgaccctaat gacggatttc tgtgggacga 13080

cgtggacagc gatgtttttt cacctctttc tgatcatcgc acgtggaaaa aggaaggcgg 13140

cgatagaatg cattcttctg catcgctgtc cggggtcatg ggtgctaccg cggctgagcc 13200

cgagtctgca agtccttttc ctagtctacc cttttctcta cacagtgtac gtagcagcga 13260

agtgggtaga ataagtcgcc cgagtttaat gggcgaagag gagtatctaa acgattcctt 13320

gctcagaccg gcaagagaaa aaaatttccc aaacaatgga atagaaagtt tggtggataa 13380

aatgagtaga tggaagactt atgctcagga tcacagagac gagcctggga tcatggggat 13440

tacaagtaga gcgagccgta gacgccagcg ccatgacaga cagaggggtc ttgtgtggga 13500

cgatgaggat tcggccgatg atagcagcgt gctggacttg ggtgggagag gaaggggcaa 13560

cccgtttgct catttgcgcc ctcgcttggg tggtatgttg taaaaaaaaa taaaaaaaaa 13620

actcaccaag gccatggcga cgagcgtacg ttcgttcttc tttattatct gtgtctagta 13680

taatgaggcg agtcgtgcta ggcggagcgg tggtgtatcc ggagggtcct cctccttcgt 13740

acgagagcgt gatgcagcag cagcaggcga cggcggtgat gcaatcccca ctggaggctc 13800

cctttgtgcc tccgcgatac ctggcaccta cggagggcag aaacagcatt cgttattcgg 13860

aactggcacc tcagtacgat accaccaggt tgtatctggt ggacaacaag tcggcggaca 13920

ttgcttctct gaactatcag aatgaccaca gcaacttctt gaccacggtg gtgcaaaaca 13980

atgactttac ccctacggaa gccagcaccc agaccattaa ctttgatgaa cgatcgcggt 14040

ggggcggtca gctaaagacc atcatgcata ctaacatgcc aaacgtgaac gagtatatgt 14100

ttagtaacaa gttcaaagcg cgtgtgatgg tgtccagaaa acctcccgac ggtgctgcag 14160

ttggggatac ttatgatcac aagcaggata ttttgaaata tgagtggttc gagtttactt 14220

tgccagaagg caacttttca gttactatga ctattgattt gatgaacaat gccatcatag 14280

ataattactt gaaagtgggt agacagaatg gagtgcttga aagtgacatt ggtgttaagt 14340

tcgacaccag gaacttcaag ctgggatggg atcccgaaac caagttgatc atgcctggag 14400

tgtatacgta tgaagccttc catcctgaca ttgtcttact gcctggctgc ggagtggatt 14460

ttaccgagag tcgtttgagc aaccttcttg gtatcagaaa aaaacagcca tttcaagagg 14520

gttttaagat tttgtatgaa gatttagaag gtggtaatat tccggccctc ttggatgtag 14580

atgcctatga gaacagtaag aaagaacaaa aagccaaaat agaagctgct acagctgctg 14640

cagaagctaa ggcaaacata gttgccagcg actctacaag ggttgctaac gctggagagg 14700

tcagaggaga caattttgcg ccaacacctg ttccgactgc agaatcatta ttggccgatg 14760

tgtctgaagg aacggacgtg aaactcacta ttcaacctgt agaaaaagat agtaagaata 14820

gaagctataa tgtgttggaa gacaaaatca acacagccta tcgcagttgg tatctttcgt 14880

acaattatgg cgatcccgaa aaaggagtgc gttcctggac attgctcacc acctcagatg 14940

tcacctgcgg agcagagcag gtctactggt cgcttccaga catgatgaag gatcctgtca 15000

ctttccgctc cactagacaa gtcagtaact accctgtggt gggtgcagag cttatgcccg 15060

tcttctcaaa gagcttctac aacgaacaag ctgtgtactc ccagcagctc cgccagtcca 15120

cctcgcttac gcacgtcttc aaccgctttc ctgagaacca gattttaatc cgtccgccgg 15180

cgcccaccat taccaccgtc agtgaaaacg ttcctgctct cacagatcac gggaccctgc 15240

cgttgcgcag cagtatccgg ggagtccaac gtgtgaccgt tactgacgcc agacgccgca 15300

cctgtcccta cgtgtacaag gcactgggca tagtcgcacc gcgcgtcctt tcaagccgca 15360

ctttctaaaa aaaaaaaaaa tgtccattct tatctcgccc agtaataaca ccggttgggg 15420

tctgcgcgct ccaagcaaga tgtacggagg cgcacgcaaa cgttctaccc aacatcctgt 15480

ccgtgttcgc ggacattttc gcgctccatg gggcgccctc aagggccgca ctcgcgttcg 15540

aaccaccgtc gatgatgtaa tcgatcaggt ggttgccgac gcccgtaatt atactcctac 15600

tgcgcctaca tctactgtgg atgcagttat tgacagtgta gtggctgacg ctcgcaacta 15660

tgctcgacgt aagagccggc gaaggcgcat tgccagacgc caccgagcta ccactgccat 15720

gcgagccgca agagctctgc tacgaagagc tagacgcgtg gggcgaagag ccatgcttag 15780

ggcggccaga cgtgcagctt cgggcgccag cgccggcagg tcccgcaggc aagcagccgc 15840

tgtcgcagcg gcgactattg ccgacatggc ccaatcgcga agaggcaatg tatactgggt 15900

gcgtgacgct gccaccggtc aacgtgtacc cgtgcgcacc cgtccccctc gcacttagaa 15960

gatactgagc agtctccgat gttgtgtccc agcggcgagg atgtccaagc gcaaatacaa 16020

ggaagaaatg ctgcaggtta tcgcacctga agtctacggc caaccgttga aggatgaaaa 16080

aaaaccccgc aaaatcaagc gggttaaaaa ggacaaaaaa gaagaggaag atggcgatga 16140

tgggctggcg gagtttgtgc gcgagtttgc cccacggcga cgcgtgcaat ggcgtgggcg 16200

caaagttcga catgtgttga gacctggaac ttcggtggtc tttacacccg gcgagcgttc 16260

aagcgctact tttaagcgtt cctatgatga ggtgtacggg gatgatgata ttcttgagca 16320

ggcggctgac cgattaggcg agtttgctta tggcaagcgt agtagaataa cttccaagga 16380

tgagacagtg tcgataccct tggatcatgg aaatcccacc cctagtctta aaccggtcac 16440

tttgcagcaa gtgttacccg taactccgcg aacaggtgtt aaacgcgaag gtgaagattt 16500

gtatcccact atgcaactga tggtacccaa acgccagaag ttggaggacg ttttggagaa 16560

agtaaaagtg gatccagata ttcaacctga ggttaaagtg agacccatta agcaggtagc 16620

gcctggtctg ggggtacaaa ctgtagacat taagattccc actgaaagta tggaagtgca 16680

aactgaaccc gcaaagccta ctgccacctc cactgaagtg caaacggatc catggatgcc 16740

catgcctatt acaactgacg ccgccggtcc cactcgaaga tcccgacgaa agtacggtcc 16800

agcaagtctg ttgatgccca attatgttgt acacccatct attattccta ctcctggtta 16860

ccgaggcact cgctactatc gcagccgaaa cagtacctcc cgccgtcgcc gcaagacacc 16920

tgcaaatcgc agtcgtcgcc gtagacgcac aagcaaaccg actcccggcg ccctggtgcg 16980

gcaagtgtac cgcaatggta gtgcggaacc tttgacactg ccgcgtgcgc gttaccatcc 17040

gagtatcatc acttaatcaa tgttgccgct gcctccttgc agatatggcc ctcacttgtc 17100

gccttcgcgt tcccatcact ggttaccgag gaagaaactc gcgccgtaga agagggatgt 17160

tgggacgcgg aatgcgacgc tacaggcgac ggcgtgctat ccgcaagcaa ttgcggggtg 17220

gtttttacc agccttaatt ccaattatcg ctgctgcaat tggcgcgata ccaggcatag 17280

cttccgtggc ggttcaggcc tcgcaacgac attgacattg gaaaaaaacg tataaataaa 17340

aaaaaaaaaa tacaatggac tctgacactc ctggtcctgt gactatgttt tcttagagat 17400

ggaagacatc aatttttcat ccttggctcc gcgacacggc acgaagccgt acatgggcac 17460

ctggagcgac atcggcacga gccaactgaa cgggggcgcc ttcaattgga gcagtatctg 17520

gagcgggctt aaaaattttg gctcaaccat aaaaacatac gggaacaaag cttggaacag 17580

cagtacagga caggcgctta gaaataaact taaagaccag aacttccaac aaaaagtagt 17640

cgatgggata gcttccggca tcaatggagt ggtagatttg gctaaccagg ctgtgcagaa 17700

aaagataaac agtcgtttgg acccgccgcc agcaacccca ggtgaaatgc aagtggagga 17760

agaaattcct ccgccagaaa aacgaggcga caagcgtccg cgtcccgatt tggaagagac 17820

gctggtgacg cgcgtagatg aaccgccttc ttatgaggaa gcaacgaagc ttggaatgcc 17880

caccactaga ccgatagccc caatggccac cggggtgatg aaaccttctc agttgcatcg 17940

acccgtcacc ttggatttgc ccctcccccc tgctgctact gctgtacccg cttctaagcc 18000

tgtcgctgcc ccgaaaccag tcgccgtagc caggtcacgt cccgggggcg ctcctcgtcc 18060

aaatgcgcac tggcaaaata ctctgaacag catcgtgggt ctaggcgtgc aaagtgtaaa 18120

acgccgtcgc tgcttttaat taaatatgga gtagcgctta acttgcctat ctgtgtatat 18180

gtgtcattac acgccgtcac agcagcagag gaaaaaagga agaggtcgtg cgtcgacgct 18240

gagttacttt caagatggcc accccatcga tgctgcccca atgggcatac atgcacatcg 18300

ccggacagga tgcttcggag tacctgagtc cgggtctggt gcagttcgcc cgcgccacag 18360

acacctactt caatctggga aataagttta gaaatcccac cgtagcgccg acccacgatg 18420

tgaccaccga ccgtagccag cggctcatgt tgcgcttcgt gcccgttgac cgggaggaca 18480

atacatactc ttacaaagtg cggtacaccc tggccgtggg cgacaacaga gtgctggata 18540

tggccagcac gttctttgac attaggggtg tgttggacag aggtcccagt ttcaaaccct 18600

attctggtac ggcttacaac tccctggctc ctaaaggcgc tccaaataca tctcagtgga 18660

ttgcagaagg tgtaaaaaat acaactggtg aggaacacgt aacagaagag gaaaccaata 18720

ctactactta cacttttggc aatgctcctg taaaagctga agctgaaatt acaaaagaag 18780

gactcccagt aggtttggaa gtttcagatg aagaaagtaa accgatttat gctgataaaa 18840

catatcagcc agaacctcag ctgggagatg aaacttggac tgaccttgat ggaaaaaccg 18900

aaaagtatgg aggcagggct ctcaaacccg atactaagat gaaaccatgc tacgggtcct 18960

ttgccaaacc tactaatgtg aaaggcggtc aggcaaaaca aaaaacaacg gagcagccaa 19020

atcagaaagt cgaatatgat atcgacatgg agtttttga tgcggcatcg cagaaaacaa 19080

acttaagtcc taaaattgtc atgtatgcag aaaatgtaaa tttggaaact ccagacactc 19140

atgtagtgta caaacctgga acagaagaca caagttccga agctaatttg ggacaacaat 19200

ctatgcccaa cagacccaac tacattggct tcagagataa ctttattgga cttatgtact 19260

ataacagtac tggtaacatg ggggtgctgg ctggtcaagc gtctcagtta aatgcagtgg 19320

ttgacttgca ggacagaaac acagaacttt cttaccaact cttgcttgac tctctgggcg 19380

acagaaccag atactttagc atgtggaatc aggctgtgga cagttatgat cctgatgtac 19440

gtgttattga aaatcatggt gtggaagatg aacttcccaa ctactgtttt ccactggacg 19500

gcataggtgt tccaacaacc agttacaaat caatagttcc aaatggagac aatgcgccta 19560

attggaagga acctgaagta aatggaacaa gtgagatcgg acagggtaat ttgtttgcca 19620

tggaaattaa ccttcaagcc aatctatggc gaagtttcct ttattccaat gtggctctat 19680

atctcccaga ctcgtacaaa tacaccccgt ccaatgtcac tcttccagaa aacaaaaaca 19740

cctacgacta catgaacggg cgggtggtgc cgccatctct agtagacacc tatgtgaaca 19800

ttggtgccag gtggtctctg gatgccatgg acaatgtcaa cccattcaac caccaccgta 19860

acgctggctt gcgttaccga tccatgcttc tgggtaacgg acgttatgtg cctttccaca 19920

tacaagtgcc tcaaaaattc ttcgctgtta aaaacctgct gcttctccca ggctcctaca 19980

cttatgagtg gaactttagg aaggatgtga acatggttct acagagttcc ctcggtaacg 20040

acctgcgggt agatggcgcc agcatcagtt tcacgagcat caacctctat gctacttttt 20100

tccccatggc tcacaacacc gcttccaccc ttgaagccat gctgcggaat gacaccaatg 20160

atcagtcatt caacgactac ctatctgcag ctaacatgct ctaccccatt cctgccaatg 20220

caaccaatat tcccatttcc attccttctc gcaactgggc ggctttcaga ggctggtcat 20280

ttaccagact gaaaaccaaa gaaactccct ctttggggtc tggatttgac ccctactttg 20340

tctattctgg ttctattccc tacctggatg gtaccttcta cctgaaccac acttttaaga 20400

aggtttccat catgtttgac tcttcagtga gctggcctgg aaatgacagg ttactatctc 20460

ctaacgaatt tgaaataaag cgcactgtgg atggcgaagg ctacaacgta gcccaatgca 20520

acatgaccaa agactggttc ttggtacaga tgctcgccaa ctacaacatc ggctatcagg 20580

gcttctacat tccagaagga tacaaagatc gcatgtattc atttttcaga aacttccagc 20640

ccatgagcag gcaggtggtt gatgaggtca attacaaaga cttcaaggcc gtcgccatac 20700

cctaccaaca caacaactct ggctttgtgg gttacatggc tccgaccatg cgccaaggtc 20760

aaccctatcc cgctaactat ccctatccac tcattggaac aactgccgta aatagtgtta 20820

cgcagaaaaa gttcttgtgt gacagaacca tgtggcgcat accgttctcg agcaacttca 20880

tgtctatggg ggcccttaca gacttgggac agaatatgct ctatgccaac tcagctcatg 20940

ctctggacat gacctttgag gtggatccca tggatgagcc caccctgctt tatcttctct 21000

tcgaagtttt cgacgtggtc agagtgcatc agccacaccg cggcatcatc gaggcagtct 21060

acctgcgtac accgttctcg gccggtaacg ctaccacgta agaagcttct tgcttcttgc 21120

aaatagcagc tgcaaccatg gcctgcggat cccaaaacgg ctccagcgag caagagctca 21180

gagccattgt ccaagacctg ggttgcggac cctatttttt gggaacctac gataagcgct 21240

tcccggggtt catggccccc gataagctcg cctgtgccat tgtaaatacg gccggacgtg 21300

agacgggggg agagcactgg ttggctttcg gttggaaccc acgttctaac acctgctacc 21360

tttttgatcc ttttggattc tcggatgatc gtctcaaaca gatttaccag tttgaatatg 21420

agggtctcct gcgccgcagc gctcttgcta ccaaggaccg ctgtattacg ctggaaaaat 21480

ctacccagac cgtgcagggt ccccgttctg ccgcctgcgg acttttctgc tgcatgttcc 21540

ttcacgcctt tgtgcactgg cctgaccgtc ccatggacgg aaaccccacc atgaaattgc 21600

taactggagt gccaaacaac atgcttcatt ctcctaaagt ccagcccacc ctgtgtgaca 21660

atcaaaaagc actctaccat tttcttaata cccattcgcc ttattttcgc tcccatcgta 21720

cacacatcga aagggccact gcgttcgacc gtatggatgt tcaataatga ctcatgtaaa 21780

caacgtgttc aataaacatc actttatttt tttacatgta tcaaggctct gcattactta 21840

tttatttaca agtcgaatgg gttctgacga gaatcagaat gacccgcagg cagtgatacg 21900

ttgcggaact gatacttggg ttgccacttg aattcgggaa tcaccaactt gggaaccggt 21960

atatcgggca ggatgtcact ccacagcttt ctggtcagct gcaaagctcc aagcaggtca 22020

ggagccgaaa tcttgaaatc acaattagga ccagtgcttt gagcgcgaga gttgcggtac 22080

accggattgc agcactgaaa caccatcagc gacggatgtc tcacgcttgc cagcacggtg 22140

ggatctgcaa tcatgcccac atccagatct tcagcattgg caatgctgaa cggggtcatc 22200

ttgcaggtct gcctacccat ggcgggcacc caattaggct tgtggttgca atcgcagtgc 22260

agggggatca gtatcatctt ggcctgatcc tgtctgattc ctggatacac ggctctcatg 22320

aaagcatcat attgcttgaa agcctgctgg gctttactac cctcggtata aaacatcccg 22380

caggacctgc tcgaaaactg gttagctgca cagccggcat cattcacaca gcagcgggcg 22440

tcattgttag ctatttgcac cacacttctg ccccagcggt tttgggtgat tttggttcgc 22500

tcgggattct cctttaaggc tcgttgtccg ttctcgctgg ccacatccat ctcgataatc 22560

tgctccttct gaatcataat attgccatgc aggcacttca gcttgccctc ataatcattg 22620

cagccatgag gccacaacgc acagcctgta cattcccaat tatggtgggc gatctgagaa 22680

aaagaatgta tcattccctg cagaaatctt cccatcatcg tgctcagtgt cttgtgacta 22740

gtgaaagtta actggatgcc tcggtgctcc tcgtttacgt actggtgaca gatgcgcttg 22800

tattgttcgt gttgctcagg cattagttta aaagaggttc taagttcgtt atccagcctg 22860

tacttctcca tcagcagaca catcacttcc atgcctttct cccaagcaga caccaggggc 22920

aagctaatcg gattcttaac agtgcaggca gcagctcctt tagccagagg gtcatcttta 22980

gcgatcttct caatgcttct tttgccatcc ttctcaacga tgcgcacggg cgggtagctg 23040

aaacccactg ctacaagttg cgcctcttct ctttcttctt cgctgtcttg actgatgtct 23100

tgcatgggga tatgtttggt cttccttggc ttctttttgg ggggtatcgg aggaggagga 23160

ctgtcgctcc gttccggaga cagggaggat tgtgacgttt cgctcaccat taccaactga 23220

ctgtcggtag aagaacctga ccccacacgg cgacaggtgt ttctcttcgg gggcagaggt 23280

ggaggcgatt gcgaagggct gcggtccgac ctggaaggcg gatgactggc agaacccctt 23340

ccgcgttcgg gggtgtgctc cctgtggcgg tcgcttaact gatttccttc gcggctggcc 23400

attgtgttct cctaggcaga gaaacaacag acatggaaac tcagccattg ctgtcaacat 23460

cgccacgagt gccatcacat ctcgtcctca gcgacgagga aaaggagcag agcttaagca 23520

ttccaccgcc cagtcctgcc accacctcta ccctagaaga taaggaggtc gacgcatctc 23580

atgacatgca gaataaaaaa gcgaaagagt ctgagacaga catcgagcaa gacccgggct 23640

atgtgacacc ggtggaacac gaggaagagt tgaaacgctt tctagagaga gaggatgaaa 23700

actgcccaaa acaacgagca gataactatc accaagatgc tggaaatagg gatcagaaca 23760

ccgactacct catagggctt gacggggaag acgcgctcct taaacatcta gcaagacagt 23820

cgctcatagt caaggatgca ttattggaca gaactgaagt gcccatcagt gtggaagagc 23880

tcagccgcgc ctacgagctt aacctctttt cacctcgtac tccccccaaa cgtcagccaa 23940

acggcacctg cgagccaaat cctcgcttaa acttttatcc agcttttgct gtgccagaag 24000

tactggctac ctatcacatc ttttttaaaa atcaaaaaat tccagtctcc tgccgcgcta 24060

atcgcacccg cgccgatgcc ctactcaatc tgggacctgg ttcacgctta cctgatatag 24120

cttccttgga agaggttcca aagatcttcg agggtctggg caataatgag actcgggccg 24180

caaatgctct gcaaaaggga gaaaatggca tggatgagca tcacagcgtt ctggtggaat 24240

tggaaggcga taatgccaga ctcgcagtac tcaagcgaag catcgaggtc acacacttcg 24300

catatcccgc tgtcaacctg ccccctaaag tcatgacggc ggtcatggac cagttactca 24360

ttaagcgcgc aagtcccctt tcagaagaca tgcatgaccc agatgcctgt gatgagggta 24420

aaccagtggt cagtgatgag cagctaaccc gatggctggg caccgactct cccagggatt 24480

tggaagagcg tcgcaagctt atgatggccg tggtgctggt taccgtagaa ctagagtgtc 24540

tccgacgttt ctttaccgat tcagaaacct tgcgcaaact cgaagagaat ctgcactaca 24600

cttttagaca cggctttgtg cggcaggcat gcaagatatc taacgtggaa ctcaccaacc 24660

tggtttccta catgggtatt ctgcatgaga atcgcctagg acaaagcgtg ctgcacagca 24720

ccctgaaggg ggaagcccgc cgtgattaca tccgcgattg tgtctatctg tacctgtgcc 24780

acacgtggca aaccggcatg ggtgtatggc agcaatgttt agaagaacag aacttgaaag 24840

agcttgacaa gctcttacag aaatctctta aggttctgtg gacagggttc gacgagcgca 24900

ccgtcgcttc cgacctggca gacctcatct tcccagagcg tctcagggtt actttgcgaa 24960

acggattgcc tgactttatg agccagagca tgcttaacaa ttttcgctct ttcatcctgg 25020

aacgctccgg tatcctgccc gccacctgct gcgcactgcc ctccgacttt gtgcctctca 25080

cctaccgcga gtgccccccg ccgctatgga gtcactgcta cctgttccgt ctggccaact 25140

atctctccta ccactcggat gtgatcgagg atgtgagcgg agacggcttg ctggagtgtc 25200

actgccgctg caatctgtgc acgccccacc ggtccctagc ttgcaacccc cagttgatga 25260

gcgaaaccca gataataggc acctttgaat tgcaaggccc cagcagccaa ggcgatgggt 25320

cttctcctgg gcaaagttta aaactgaccc cgggactgtg gacctccgcc tacttgcgca 25380

agtttgctcc ggaagattac cacccctatg aaatcaagtt ctatgaggac caatcacagc 25440

ctccaaaggc cgaactttcg gcctgcgtca tcacccaggg ggcaattctg gcccaattgc 25500

aagccatcca aaaatcccgc caagaatttc tactgaaaaa gggtaagggg gtctaccttg 25560

acccccagac cggcgaggaa ctcaacacaa ggttccctca ggatgtccca acgacgagaa 25620

aacaagaagt tgaaggtgca gccgccgccc ccagaagata tggaggaaga ttgggacagt 25680

caggcagagg aggcggagga ggacagtctg gaggacagtc tggaggaaga cagtttggag 25740

gaggaaaacg aggaggcaga ggaggtggaa gaagtaaccg ccgacaaaca gttatcctcg 25800

gctgcggaga caagcaacag cgctaccatc tccgctccga gtcgaggaac ccggcggcgt 25860

cccagcagta gatgggacga gaccggacgc ttcccgaacc caaccagcgc ttccaagacc 25920

ggtaagaagg atcggcaggg atacaagtcc tggcgggggc ataagaatgc catcatctcc 25980

tgcttgcatg agtgcggggg caacatatcc ttcacgcggc gctacttgct attccaccat 26040

ggggtgaact ttccgcgcaa tgttttgcat tactaccgtc acctccacag cccctactat 26100

agccagcaaa tcccggcagt ctcgacagat aaagacagcg gcggcgacct ccaacagaaa 26160

accagcagcg gcagttagaa aatacacaac aagtgcagca acaggaggat taaagattac 26220

agccaacgag ccagcgcaaa cccgagagtt aagaaatcgg atctttccaa ccctgtatgc 26280

catcttccag cagagtcggg gtcaagagca ggaactgaaa ataaaaaacc gatctctgcg 26340

ttcgctcacc agaagttgtt tgtatcacaa gagcgaagat caacttcagc gcactctcga 26400

ggacgccgag gctctcttca acaagtactg cgcgctgact cttaaagagt aggcagcgac 26460

cgcgcttatt caaaaaaggc gggaattaca tcatcctcga catgagtaaa gaaattccca 26520

cgccttacat gtggagttat caaccccaaa tgggattggc ggcaggcgcc tcccaggact 26580

actccacccg catgaattgg ctcagcgccg ggccttctat gatttctcga gttaatgata 26640

tacgcgccta ccgaaaccaa atacttttgg aacagtcagc tcttaccacc acgccccgcc 26700

aacaccttaa tcccagaaat tggcccgccg ccctagtgta ccaggaaagt cccgctccca 26760

ccactgtatt acttcctcga gacgcccagg ccgaagtcca aatgactaat gcaggtgcgc 26820

agttagctgg cggctccacc ctatgtcgtc acaggcctcg gcataatata aaacgcctga 26880

tgatcagagg ccgaggtatc cagctcaacg acgagtcggt gagctctccg cttggtctac 26940

gaccagacgg aatctttcag attgccggct gcgggagatc ttccttcacc cctcgtcagg 27000

ctgttctgac tttggaaagt tcgtcttcgc aaccccgctc gggcggaatc gggaccgttc 27060

aatttgtgga ggagtttact ccctctgtct acttcaaccc cttctccgga tctcctgggc 27120

attacccgga cgagttcata ccgaacttcg acgcgattag cgagtcagtg gacggctacg 27180

attgatgtct ggtgacgcgg ctgagctatc tcggctgcga catctagacc actgccgccg 27240

ctttcgctgc tttgcccggg aactcattga gttcatctac ttcgaactcc ccaaggatca 27300

ccctcaaggt ccggcccacg gagtgcggat ttctatcgaa ggcaaaatag actctcgcct 27360

gcaacgaatt ttctcccagc ggcccgtgct gatcgagcga gaccagggaa acaccacggt 27420

ttccatctac tgcatttgta atcaccccgg attgcatgaa agcctttgct gtcttatgtg 27480

tactgagttt aataaaaact gaattaagac tctcctacgg actgccgctt cttcaacccg 27540

gattttacaa ccagaagaac gaaacttttc ctgtcgtcca ggactctgtt aacttcacct 27600

ttcctactca caaactagaa gctcaacgac tacaccgctt ttccagaagc attttcccta 27660

ctaatactac tttcaaaacc ggaggtgagc tccaaggtct tcctacagaa aacccttggg 27720

tggaagcggg ccttgtagtg ctaggaattc ttgcgggtgg gcttgtgatt attctttgct 27780

acctatacac accttgcttc actttcttag tggtgttgtg gtattggttt aaaaaatggg 27840

gcccatacta gtcttgcttg ttttactttc gcttttggaa ccgggttctg ccaattacga 27900

tccatgtcta gacttcgacc cagaaaactg cacacttact tttgcacccg acacaagccg 27960

catctgtgga gttcatcgcc tctcttacga acttggcccc caacgacaaa aatttacctg 28020

catggtggga atcaacccca tagttatcac ccagcaaagt ggagatacta agggttgcat 28080

tcactgctcc tgcgattcca tcgagtgcac ctacaccctg ctgaagaccc tatgcggcct 28140

aagagacctg ctaccaatga attaaaaaat gattaataaa aaatcactta cttgaaatca 28200

gcaataaggt ctctgttgaa attttctccc agcagcacct cacttccctc ttcccaactc 28260

tggtattcta aaccccgttc agcggcatac tttctccata ctttaaaggg gatgtcaaat 28320

tttagctcct ctcctgtacc cacaatcttc atgtctttct tcccagatga ccaagagagt 28380

ccggctcagt gactccttca accctgtcta cccctatgaa gatgaaagca cctcccaaca 28440

ccccttttata aacccagggt ttatttcccc aaatggcttc acacaaagcc caaacggagt 28500

tcttacttta aaatgtttaa ccccactaac aaccacaggc ggatctctac agctaaaagt 28560

gggaggggga cttacagtgg atgacaccaa cggtttttg aaagaaaaca taagtgccac 28620

cacaccactc gttaagactg gtcactctat aggtttacca ctaggagccg gattgggaac 28680

gaatgaaaat aaactttgta tcaaattagg acaaggactt acattcaatt caaacaacat 28740

ttgcattgat gacaatatta acaccttatg gacaggagtc aaccccaccg aagccaactg 28800

tcaaatcatg aactccagtg aatctaatga ttgcaaatta attctaacac tagttaaaac 28860

tggagcacta gtcactgcat ttgtttatgt tataggagta tctaacaatt ttaatatgct 28920

aactacacac agaaatataa attttactgc agagctgttt ttcgattcta ctggtaattt 28980

actaactaga ctctcatccc tcaaaactcc acttaatcat aaatcaggac aaaacatggc 29040

tactggtgcc attactaatg ctaaaggttt catgcccagc acgactgcct atcctttcaa 29100

tgataattct agagaaaaag aaaactacat ttacggaact tgttactaca cagctagtga 29160

tcgcactgct tttcccattg acatatctgt catgcttaac cgaagagcaa taaatgacga 29220

gacatcatat tgtattcgta taacttggtc ctggaacaca ggagatgccc cagaggtgca 29280

aacctctgct acaaccctag tcacctcccc atttaccttt tactacatca gagaagacga 29340

ctgacaaata aagtttgcga tcgccaggcc caccatgggc tggagctgca tcatcttgtt 29400

cctggtcgca actgctaccg gagtccattc ggacatcgtc atgacccaaa gccctgactc 29460

gctcgctgtg tcactgggag agcgggcgac tatcaactgc aaatcatccc agagcctgct 29520

gtattcacgc aatcagaaaa actacctggc ctggtatcag cagaagccgg gccagcctcc 29580

caagctgctg atcttctggg cctccacccg cgaaagcggc gtgccggacc gcttcagcgg 29640

aagcggattc ggaactgact ttactctgac cattagctcc ttgcaggcgg aggacgtggc 29700

cgtctactac tgccagcagt atttctccta tccgctcacc tttgggcaag gcaccaaggt 29760

ggagattaag ggaggggcg gcagcggggg aggcggcagc ggcggcgggg gatcgcaggt 29820

ccagctcgtc caatccggag ccgaagtcaa gaagccggga gcgtcggtca aggtcagctg 29880

caaaacttcg cgctacacct tcactgagta cacgatccac tgggtccgcc aggcgcccgg 29940

ccagcggctg gagtggatcg gcgggatcaa cccaaacaac ggaatcccaa attacaatca 30000

gaaatttaaa gggcgggtga ctatcaccgt ggatacctcg gcctccacgg cgtacatgga 30060

gctctcatca ctcagatcgg aggacaccgc ggtctattac tgcgcccgcc gccggatcgc 30120

ttatggatac gatgaaggac atgcgatgga ttactggggc cagggcaccc tcgtcacggt 30180

gtcgtcagga ggcggcggtt cacaggtgca gctgcagcag tctggggctg aactggcaag 30240

acctggggcc tcagtgaaga tgtcctgcaa ggcttctggc tacaccttta ctaggtacac 30300

gatgcactgg gtaaaacaga ggcctggaca gggtctggaa tggattggat acattaatcc 30360

tagccgtggt tatactaatt acaatcagaa gttcaaggac aaggccacat tgactacaga 30420

caaatcctcc agcacagcct acatgcaact gagcagcctg acatctgagg actctgcagt 30480

ctattactgt gcaagatatt atgatgatca ttactgcctt gactactggg gccaaggcac 30540

cactctcaca gtctcctcag gtggcggtgg ctcgggcggt ggtggatctg gtggcggcgg 30600

atctgatatc gtgctcactc agtctccagc aatcatgtct gcatctccag gggagaaggt 30660

caccatgacc tgcagtgcca gctcaagtgt aagttacatg aactggtacc agcagaagtc 30720

aggcacctcc cccaaaagat ggatttatga cacatccaaa ctggcttctg gagtccctgc 30780

tcacttcagg ggcagtgggt ctgggacctc ttactctctc acaatcagcg gcatggaggc 30840

tgaagatgct gccacttatt actgccagca gtggagtagt aacccattca cgttcggctc 30900

ggggacaaag ttggaaataa accggggaag cggagctact aacttcagcc tgctgaagca 30960

ggctggagac gtggaggaga accctggacc taatcaaact gccattctga tttgctgcct 31020

tatctttctg actctaagtg gcattcaagg agtacctctc tctagaactg tacgctgtac 31080

ctgcatcagc attagtaatc aacctgttaa tccaaggtct ttagaaaaac ttgaaattat 31140

tcctgcaagc caattttgtc cacgtgttga gatcattgct acaatgaaaa agaagggtga 31200

gaagagatgt ctgaatccag aatcgaaggc catcaagaat ttactgaaag cagttagcaa 31260

ggaaaggtct aaaagatctc ctggaagcgg agagggcaga ggaagtctgc taacatgcgg 31320

tgacgtcgag gagaatcctg gacctaagaa aagtggtgtt cttttcctct tgggcatcat 31380

cttgctggtt ctgattggag tgcaaggaac cccagtagtg agaaagggtc gctgttcctg 31440

catcagcacc aaccaaggga ctatccacct acaatccttg aaagacctta aacaatttgc 31500

cccaagccct tcctgcgaga aaattgaaat cattgctaca ctgaagaatg gagttcaaac 31560

atgtctaaac ccagattcag cagatgtgaa ggaactgatt aaaaagtggg agaaacaggt 31620

cagccaaaag aaaaagcaaa agaatgggaa aaaacatcaa aaaaagaaag ttctgaaagt 31680

tcgaaaatct caacgttctc gtcaaaagaa gactacagga agcggacagt gtactaatta 31740

tgctctcttg aaattggctg gagatgttga gagcaaccct ggacctgcct tgacctttgc 31800

tttactggtg gccctcctgg tgctcagctg caagtcaagc tgctctgtgg gctgtgatct 31860

gcctcaaacc cacagcctgg gtagcaggag gaccttgatg ctcctggcac agatgaggag 31920

aatctctctt ttctcctgct tgaaggacag acatgacttt ggatttcccc aggaggagtt 31980

tggcaaccag ttccaaaagg ctgaaaccat ccctgtcctc catgagatga tccagcagat 32040

cttcaatctc ttcagcacaa aggactcatc tgctgcttgg gatgagaccc tcctagacaa 32100

attctacact gaactctacc agcagctgaa tgacctggaa gcctgtgtga tacaggggt 32160

gggggtgaca gagactcccc tgatgaagga ggactccatt ctggctgtga ggaaatactt 32220

ccaaagaatc actctctatc tgaaagagaa gaaatacagc ccttgtgcct gggaggttgt 32280

cagagcagaa atcatgagat ctttttcttt gtcaacaaac ttgcaagaaa gtttaagaag 32340

taaggaataa gctagcttga ctgactgaga tacagcgtac cttcagctca cagacatgat 32400

aagatacatt gatgagtttg gacaaaccac aactagaatg cagtgaaaaa aatgctttat 32460

ttgtgaaatt tgtgatgcta ttgctttatt tgtaaccatt ataagctgca ataaacaagt 32520

taacaacaac aattgcattc attttatgtt tcaggttcag ggggaggtgt gggaggtttt 32580

ttaaagcaag taaaacctct acaaatgtgg tagtcgtcag ctatcctgca ggaacttgtt 32640

tatttgaaaa tcaattcaca aaatccgagt agttattttg cctccccctt cccatttaac 32700

agaatacacc aatctctccc cacgcacagc tttaaacatt tggataccat tagatataga 32760

catggtttta gattccacat tccaaacagt ttcagagcga gccaatctgg ggtcagtgat 32820

agataaaaat ccatcgggat agtcttttaa agcgctttca cagtccaact gctgcggatg 32880

cgactccgga gtctggatca cggtcatctg gaagaagaac gatgggaatc ataatccgaa 32940

aacggtatcg gacgattgtg tctcatcaaa cccacaagca gccgctgtct gcgtcgctcc 33000

gtgcgactgc tgtttatggg atcagggtcc acagtgtcct gaagcatgat tttaatagcc 33060

cttaacatca actttctggt gcgatgcgcg cagcaacgca ttctgatttc actcaaatct 33120

ttgcagtagg tacaacacat tattacaata ttgtttaata aaccataatt aaaagcgctc 33180

cagccaaaac tcatatctga tataatcgcc cctgcatgac catcatacca aagtttaata 33240

taaattaaat gacgttccct caaaaacaca ctacccacat acatgatctc ttttggcatg 33300

tgcatattaa caatctgtct gtaccatgga caacgttggt taatcatgca acccaatata 33360

accttccgga accacactgc caacaccgct cccccagcca tgcattgaag tgaaccctgc 33420

tgattacaat gacaatgaag aacccaattc tctcgaccgt gaatcacttg agaatgaaaa 33480

atatctatag tggcacaaca tagacataaa tgcatgcatc ttctcataat ttttaactcc 33540

tcaggattta gaaacatatc ccagggaata ggaagctctt gcagaacagt aaagctggca 33600

gaacaaggaa gaccacgaac acaacttaca ctatgcatag tcatagtatc acaatctggc 33660

aacagcgggt ggtcttcagt catagaagct cgggtttcat tttcctcaca acgtggtaac 33720

tgggctctgg tgtaagggtg atgtctggcg catgatgtcg agcgtgcgcg caaccttgtc 33780

ataatggagt tgcttcctga cattctcgta ttttgtatag caaaacgcgg ccctggcaga 33840

acacactctt cttcgccttc tatcctgccg cttagcgtgt tccgtgtgat agttcaagta 33900

caaccacact cttaagttgg tcaaaagaat gctggcttca gttgtaatca aaactccatc 33960

gcatctaatc gttctgagga aatcatccaa gcaatgcaac tggattgtgt ttcaagcagg 34020

agaggagagg gaagagacgg aagaaccatg ttaattttta ttccaaacga tctcgcagta 34080

cttcaaattg tagatcgcgc agatggcatc tctcgccccc actgtgttgg tgaaaaagca 34140

cagctagatc aaaagaaatg cgattttcaa ggtgctcaac ggtggcttcc agcaaagcct 34200

ccacgcgcac atccaagaac aaaagaatac caaaagaagg agcattttct aactcctcaa 34260

tcatcatatt acattcctgc accattccca gataattttc agctttccag ccttgaatta 34320

ttcgtgtcag ttcttgtggt aaatccaatc cacacattac aaacaggtcc cggagggcgc 34380

cctccaccac cattcttaaa cacaccctca taatgacaaa atatcttgct cctgtgtcac 34440

ctgtagcgaa ttgagaatgg caacatcaat tgacatgccc ttggctctaa gttcttcttt 34500

aagttctagt tgtaaaaact ctctcatatt atcaccaaac tgcttagcca gaagcccccc 34560

gggaacaaga gcaggggacg ctacagtgca gtacaagcgc agacctcccc aattggctcc 34620

agcaaaaaca agattggaat aagcatattg ggaaccgcca gtaatatcat cgaagttgct 34680

ggaaatataa tcaggcagag tttcttgtaa aaattgaata aaagaaaaat ttgccaaaaa 34740

aacattcaaa acctctggga tgcaaatgca ataggttacc gcgctgcgct ccaacattgt 34800

tagttttgaa ttagtctgca aaaataaaaa aaaaaacaag cgtcatatca tagtagcctg 34860

acgaacagat ggataaatca gtctttccat cacaagacaa gccacagggt ctccagctcg 34920

accctcgtaa aacctgtcat catgattaaa caacagcacc gaaagttcct cgcggtgacc 34980

agcatgaata attcttgatg aagcatacaa tccagacatg ttagcatcag ttaacgagaa 35040

aaaacagcca acatagcctt tgggtataat tatgcttaat cgtaagtata gcaaagccac 35100

ccctcgcgga tacaaagtaa aaggcacagg agaataaaaa atataattat ttctctgctg 35160

ctgttcaggc aacgtcgccc ccggtccctc taaatacaca tacaaagcct catcagccat 35220

ggcttaccag acaaagtaca gcgggcacac aaagcacaag ctctaaagtg actctccaac 35280

ctctccacaa tatatatata cacaagccct aaactgacgt aatgggagta aagtgtaaaa 35340

aatcccgcca aacccaacac acaccccgaa actgcgtcac cagggaaaag tacagtttca 35400

cttccgcaat cccaacaggc gtaacttcct ctttctcacg gtacgtgata tcccactaac 35460

ttgcaacgtc attttcccac ggtcgcaccg ccccttttag ccgttaaccc cacagccaat 35520

caccacacga tccacacttt ttaaaatcac ctcatttaca tattggcacc attccatcta 35580

taaggtatat tatatagata ga 35602

<210> 85

<400> 85
000

<210> 86
<211> 537
<212> DNA
<213> Artificial Sequence

<220>
<223> FLT3 Ligand nucleic acid sequence

<400> 86
atgacagtgc tggcgccagc ctggagccca acaacctatc tcctcctgct gctgctgctg 60

agctcgggac tcagtgggac ccaggactgc tccttccaac acagccccat ctcctccgac 120

ttcgctgtca aaatccgtga gctgtctgac tacctgcttc aagattaccc agtcaccgtg 180

gcctccaacc tccaggacga ggagctctgc gggggcctct ggcggctggt cctggcacag 240

cgctggatgg agcggctcaa gactgtcgct gggtccaaga tgcaaggctt gctggagcgc 300

gtgaacacgg agatacactt tgtcaccaaa tgtgcctttc agcccccccc cagctgtctt 360

cgcttcgtcc agaccaacat ctcccgcctc ctacaggaga cctccgagca gctggtggcg 420

ctgaagccct ggatcactcg ccagaacttc tcccggtgcc tggagctgca gtgtcagccc 480

gactcctcaa ccctgccacc cccatggagt ccccggcccc tggaggccac agccccg 537

<210> 87

<400> 87
000

<210> 88
<211> 279
<212> DNA
<213> Artificial Sequence

<220>
<223> MIP1 alpha nucleic acid sequence

<400> 88
atgcaggtct ccactgctgc ccttgccgtc ctcctctgca ccatggctct ctgcaaccag 60

gtcctctctg caccacttgc tgctgacacg ccgaccgcct gctgcttcag ctacacctcc 120

cgacagattc cacagaattt catagctgac tactttgaga cgagcagcca gtgctccaag 180

cccagtgtca tcttcctaac caagagaggc cggcaggtct gtgctgaccc cagtgaggag 240

tgggtccaga aatacgtcag tgacctggag ctgagtgcc 279

<210> 89
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 89

Ser Pro Gln Tyr Pro Ser Pro Leu Thr Leu Thr Leu Pro Pro His Pro
1 5 10 15

Ser Leu

<210> 90
<211> 564

<212> DNA
<213> Artificial Sequence

<220>
<223> IFN alpha nucleic acid sequence

<400> 90
atggccttga cctttgcttt actggtggcc ctcctggtgc tcagctgcaa gtcaagctgc 60

tctgtgggct gtgatctgcc tcaaacccac agcctgggta gcaggaggac cttgatgctc 120

ctggcacaga tgaggagaat ctctcttttc tcctgcttga aggacagaca tgactttgga 180

tttccccagg aggagtttgg caaccagttc caaaaggctg aaaccatccc tgtcctccat 240

gagatgatcc agcagatctt caatctcttc agcacaaagg actcatctgc tgcttgggat 300

gagaccctcc tagacaaatt ctacactgaa ctctaccagc agctgaatga cctggaagcc 360

tgtgtgatac agggggtggg ggtgacagag actcccctga tgaaggagga ctccattctg 420

gctgtgagga aatacttcca aagaatcact ctctatctga aagagaagaa atacagccct 480

tgtgcctggg aggttgtcag agcagaaatc atgagatctt tttctttgtc aacaaacttg 540

caagaaagtt taagaagtaa ggaa 564

<210> 91
<211> 294
<212> DNA
<213> Artificial Sequence

<220>
<223> CXCL10 nucleic acid sequence

<400> 91
atgaatcaaa ctgccattct gatttgctgc cttatctttc tgactctaag tggcattcaa 60

ggagtacctc tctctagaac tgtacgctgt acctgcatca gcattagtaa tcaacctgtt 120

aatccaaggt ctttagaaaa acttgaaatt attcctgcaa gccaattttg tccacgtgtt 180

gagatcattg ctacaatgaa aaagaagggt gagaagagat gtctgaatcc agaatcgaag 240

gccatcaaga atttactgaa agcagttagc aaggaaaggt ctaaaagatc tcct 294

<210> 92
<211> 372
<212> DNA
<213> Artificial Sequence

<220>

<223> CXCL9 nucleic acid sequence

<400> 92
aagaaaagtg gtgttctttt cctcttgggc atcatcttgc tggttctgat tggagtgcaa 60

ggaaccccag tagtgagaaa gggtcgctgt tcctgcatca gcaccaacca agggactatc 120

cacctacaat ccttgaaaga ccttaaacaa tttgccccaa gcccttcctg cgagaaaatt 180

gaaatcattg ctacactgaa gaatggagtt caaacatgtc taaacccaga ttcagcagat 240

gtgaaggaac tgattaaaaa gtgggagaaa caggtcagcc aaaagaaaaa gcaaaagaat 300

gggaaaaaac atcaaaaaaa gaaagttctg aaagttcgaa aatctcaacg ttctcgtcaa 360

aagaagacta ca 372

<210> 93
<211> 3407
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-615 Transgene Cassette

<400> 93
caggcccacc atgggctgga gctgcatcat cttgttcctg gtcgcaactg ctaccggagt 60

ccattcggac atcgtcatga cccaaagccc tgactcgctc gctgtgtcac tgggagagcg 120

ggcgactatc aactgcaaat catcccagag cctgctgtat tcacgcaatc agaaaaacta 180

cctggcctgg tatcagcaga agccgggcca gcctcccaag ctgctgatct tctgggcctc 240

cacccgcgaa agcggcgtgc cggaccgctt cagcggaagc ggattcggaa ctgactttac 300

tctgaccatt agctccttgc aggcggagga cgtggccgtc tactactgcc agcagtattt 360

ctcctatccg ctcacctttg ggcaaggcac caaggtggag attaagggag ggggcggcag 420

cgggggaggc ggcagcggcg gcgggggatc gcaggtccag ctcgtccaat ccggagccga 480

agtcaagaag ccgggagcgt cggtcaaggt cagctgcaaa acttcgcgct acaccttcac 540

tgagtacacg atccactggg tccgccaggc gcccggccag cggctggagt ggatcggcgg 600

gatcaaccca aacaacggaa tcccaaatta caatcagaaa tttaaagggc gggtgactat 660

caccgtggat acctcggcct ccacggcgta catggagctc tcatcactca gatcggagga 720

caccgcggtc tattactgcg cccgccgccg gatcgcttat ggatacgatg aaggacatgc 780

gatggattac tggggccagg gcaccctcgt cacggtgtcg tcaggaggcg gcggttcaca 840

ggtgcagctg cagcagtctg gggctgaact ggcaagacct ggggcctcag tgaagatgtc 900

ctgcaaggct tctggctaca cctttactag gtacacgatg cactgggtaa aacagaggcc 960

tggacagggt ctggaatgga ttggatacat taatcctagc cgtggttata ctaattacaa 1020

tcagaagttc aaggacaagg ccacattgac tacagacaaa tcctccagca cagcctacat 1080

gcaactgagc agcctgacat ctgaggactc tgcagtctat tactgtgcaa gatattatga 1140

tgatcattac tgccttgact actggggcca aggcaccact ctcacagtct cctcaggtgg 1200

cggtggctcg ggcggtggtg gatctggtgg cggcggatct gatatcgtgc tcactcagtc 1260

tccagcaatc atgtctgcat ctccagggga gaaggtcacc atgacctgca gtgccagctc 1320

aagtgtaagt tacatgaact ggtaccagca gaagtcaggc acctccccca aaagatggat 1380

ttatgacaca tccaaactgg cttctggagt ccctgctcac ttcaggggca gtgggtctgg 1440

gacctcttac tctctcacaa tcagcggcat ggaggctgaa gatgctgcca cttattactg 1500

ccagcagtgg agtagtaacc cattcacgtt cggctcgggg acaaagttgg aaataaaccg 1560

gggaagcgga cagtgtacta attatgctct cttgaaattg gctggagatg ttgagagcaa 1620

ccctggacct acagtgctgg cgccagcctg gagcccaaca acctatctcc tcctgctgct 1680

gctgctgagc tcgggactca gtgggaccca ggactgctcc ttccaacaca gccccatctc 1740

ctccgacttc gctgtcaaaa tccgtgagct gtctgactac ctgcttcaag attacccagt 1800

caccgtggcc tccaacctcc aggacgagga gctctgcggg ggcctctggc ggctggtcct 1860

ggcacagcgc tggatggagc ggctcaagac tgtcgctggg tccaagatgc aaggcttgct 1920

ggagcgcgtg aacacggaga tacactttgt caccaaatgt gcctttcagc ccccccccag 1980

ctgtcttcgc ttcgtccaga ccaacatctc ccgcctccta caggagacct ccgagcagct 2040

ggtggcgctg aagccctgga tcactcgcca gaacttctcc cggtgcctgg agctgcagtg 2100

tcagcccgac tcctcaaccc tgccaccccc atggagtccc cggcccctgg aggccacagc 2160

cccgggaagc ggagctacta acttcagcct gctgaagcag gctggagacg tggaggagaa 2220

ccctggacct caggtctcca ctgctgccct tgccgtcctc ctctgcacca tggctctctg 2280

caaccaggtc ctctctgcac cacttgctgc tgacacgccg accgcctgct gcttcagcta 2340

cacctcccga cagattccac agaatttcat agctgactac tttgagacga gcagccagtg 2400

ctccaagccc agtgtcatct tcctaaccaa gagaggccgg caggtctgtg ctgaccccag 2460

tgaggagtgg gtccagaaat acgtcagtga cctggagctg agtgccggaa gcggagaggg 2520

cagaggaagt ctgctaacat gcggtgacgt cgaggagaat cctggacctg ccttgacctt 2580

tgctttactg gtggccctcc tggtgctcag ctgcaagtca agctgctctg tgggctgtga 2640

tctgcctcaa acccacagcc tgggtagcag gaggaccttg atgctcctgg cacagatgag 2700

gagaatctct cttttctcct gcttgaagga cagacatgac tttggatttc cccaggagga 2760

gtttggcaac cagttccaaa aggctgaaac catccctgtc ctccatgaga tgatccagca 2820

gatcttcaat ctcttcagca caaaggactc atctgctgct tgggatgaga ccctcctaga 2880

caaattctac actgaactct accagcagct gaatgacctg gaagcctgtg tgatacaggg 2940

ggtgggggtg acagagactc ccctgatgaa ggaggactcc attctggctg tgaggaaata 3000

cttccaaaga atcactctct atctgaaaga gaagaaatac agcccttgtg cctgggaggt 3060

tgtcagagca gaaatcatga gatctttttc tttgtcaaca aacttgcaag aaagtttaag 3120

aagtaaggaa taagctagct tgactgactg agatacagcg taccttcagc tcacagacat 3180

gataagatac attgatgagt ttggacaaac cacaactaga atgcagtgaa aaaaatgctt 3240

tatttgtgaa atttgtgatg ctattgcttt atttgtaacc attataagct gcaataaaca 3300

agttaacaac aacaattgca ttcattttat gtttcaggtt cagggggagg tgtgggaggt 3360

tttttaaagc aagtaaaacc tctacaaatg tggtagtcgt cagctat 3407

<210> 94
<211> 2630
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-640 Transgene Cassette

<400> 94
caggcccacc atgggctgga gctgcatcat cttgttcctg gtcgcaactg ctaccggagt 60

ccattcggac atcgtcatga cccaaagccc tgactcgctc gctgtgtcac tgggagagcg 120

ggcgactatc aactgcaaat catcccagag cctgctgtat tcacgcaatc agaaaaacta 180

cctggcctgg tatcagcaga agccgggcca gcctcccaag ctgctgatct tctgggcctc 240

cacccgcgaa agcggcgtgc cggaccgctt cagcggaagc ggattcggaa ctgactttac 300

tctgaccatt agctccttgc aggcggagga cgtggccgtc tactactgcc agcagtattt 360

ctcctatccg ctcacctttg ggcaaggcac caaggtggag attaagggag ggggcggcag 420

cgggggaggc ggcagcggcg gcgggggatc gcaggtccag ctcgtccaat ccggagccga 480

agtcaagaag ccgggagcgt cggtcaaggt cagctgcaaa acttcgcgct acaccttcac 540

tgagtacacg atccactggg tccgccaggc gcccggccag cggctggagt ggatcggcgg 600

gatcaaccca aacaacggaa tcccaaatta caatcagaaa tttaaagggc gggtgactat 660

caccgtggat acctcggcct ccacggcgta catggagctc tcatcactca gatcggagga 720

caccgcggtc tattactgcg cccgccgccg gatcgcttat ggatacgatg aaggacatgc 780

gatggattac tggggccagg gcaccctcgt cacggtgtcg tcaggaggcg gcggttcaca 840

ggtgcagctg cagcagtctg gggctgaact ggcaagacct ggggcctcag tgaagatgtc 900

ctgcaaggct tctggctaca cctttactag gtacacgatg cactgggtaa aacagaggcc 960

tggacagggt ctggaatgga ttggatacat taatcctagc cgtggttata ctaattacaa 1020

tcagaagttc aaggacaagg ccacattgac tacagacaaa tcctccagca cagcctacat 1080

gcaactgagc agcctgacat ctgaggactc tgcagtctat tactgtgcaa gatattatga 1140

tgatcattac tgccttgact actggggcca aggcaccact ctcacagtct cctcaggtgg 1200

cggtggctcg ggcggtggtg gatctggtgg cggcggatct gatatcgtgc tcactcagtc 1260

tccagcaatc atgtctgcat ctccagggga gaaggtcacc atgacctgca gtgccagctc 1320

aagtgtaagt tacatgaact ggtaccagca gaagtcaggc acctccccca aaagatggat 1380

ttatgacaca tccaaactgg cttctggagt ccctgctcac ttcaggggca gtgggtctgg 1440

gacctcttac tctctcacaa tcagcggcat ggaggctgaa gatgctgcca cttattactg 1500

ccagcagtgg agtagtaacc cattcacgtt cggctcgggg acaaagttgg aaataaaccg 1560

gggaagcgga gctactaact tcagcctgct gaagcaggct ggagacgtgg aggagaaccc 1620

tggacctaat caaactgcca ttctgatttg ctgccttatc tttctgactc taagtggcat 1680

tcaaggagta cctctctcta gaactgtacg ctgtacctgc atcagcatta gtaatcaacc 1740

tgttaatcca aggtctttag aaaaacttga aattattcct gcaagccaat tttgtccacg 1800

tgttgagatc attgctacaa tgaaaaagaa gggtgagaag agatgtctga atccagaatc 1860

gaaggccatc aagaatttac tgaaagcagt tagcaaggaa aggtctaaaa gatctcctgg 1920

aagcggagag ggcagaggaa gtctgctaac atgcggtgac gtcgaggaga atcctggacc 1980

taagaaaagt ggtgttcttt tcctcttggg catcatcttg ctggttctga ttggagtgca 2040

aggaacccca gtagtgagaa agggtcgctg ttcctgcatc agcaccaacc aagggactat 2100

ccacctacaa tccttgaaag accttaaaca atttgcccca agcccttcct gcgagaaaat 2160

tgaaatcatt gctacactga agaatggagt tcaaacatgt ctaaacccag attcagcaga 2220

tgtgaaggaa ctgattaaaa agtgggagaa acaggtcagc caaaagaaaa agcaaaagaa 2280

tgggaaaaaa catcaaaaaa agaaagttct gaaagttcga aaatctcaac gttctcgtca 2340

aaagaagact acataagcta gcttgactga ctgagataca gcgtaccttc agctcacaga 2400

catgataaga tacattgatg agtttggaca aaccacaact agaatgcagt gaaaaaaatg 2460

ctttatttgt gaaatttgtg atgctattgc tttatttgta accattataa gctgcaataa 2520

acaagttaac aacaacaatt gcattcattt tatgtttcag gttcaggggg aggtgtggga 2580

ggttttttaa agcaagtaaa acctctacaa atgtggtagt cgtcagctat 2630

<210> 95
<211> 3260
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-641 Transgene Cassette

<400> 95
caggcccacc atgggctgga gctgcatcat cttgttcctg gtcgcaactg ctaccggagt 60

ccattcggac atcgtcatga cccaaagccc tgactcgctc gctgtgtcac tgggagagcg 120

ggcgactatc aactgcaaat catcccagag cctgctgtat tcacgcaatc agaaaaacta 180

cctggcctgg tatcagcaga agccgggcca gcctcccaag ctgctgatct tctgggcctc 240

cacccgcgaa agcggcgtgc cggaccgctt cagcggaagc ggattcggaa ctgactttac 300

tctgaccatt agctccttgc aggcggagga cgtggccgtc tactactgcc agcagtattt 360

ctcctatccg ctcacctttg ggcaaggcac caaggtggag attaagggag ggggcggcag 420

cgggggaggc ggcagcggcg gcgggggatc gcaggtccag ctcgtccaat ccggagccga 480

agtcaagaag ccgggagcgt cggtcaaggt cagctgcaaa acttcgcgct acaccttcac 540

tgagtacacg atccactggg tccgccaggc gcccggccag cggctggagt ggatcggcgg 600

gatcaaccca aacaacggaa tcccaaatta caatcagaaa tttaaagggc gggtgactat 660

caccgtggat acctcggcct ccacggcgta catggagctc tcatcactca gatcggagga 720

caccgcggtc tattactgcg cccgccgccg gatcgcttat ggatacgatg aaggacatgc 780

gatggattac tggggccagg gcaccctcgt cacggtgtcg tcaggaggcg gcggttcaca 840

ggtgcagctg cagcagtctg gggctgaact ggcaagacct ggggcctcag tgaagatgtc 900

ctgcaaggct tctggctaca cctttactag gtacacgatg cactgggtaa aacagaggcc 960

tggacagggt ctggaatgga ttggatacat taatcctagc cgtggttata ctaattacaa 1020

tcagaagttc aaggacaagg ccacattgac tacagacaaa tcctccagca cagcctacat 1080

gcaactgagc agcctgacat ctgaggactc tgcagtctat tactgtgcaa gatattatga 1140

tgatcattac tgccttgact actggggcca aggcaccact ctcacagtct cctcaggtgg 1200

cggtggctcg ggcggtggtg gatctggtgg cggcggatct gatatcgtgc tcactcagtc 1260

tccagcaatc atgtctgcat ctccagggga gaaggtcacc atgacctgca gtgccagctc 1320

aagtgtaagt tacatgaact ggtaccagca gaagtcaggc acctccccca aaagatggat 1380

ttatgacaca tccaaactgg cttctggagt ccctgctcac ttcaggggca gtgggtctgg 1440

gacctcttac tctctcacaa tcagcggcat ggaggctgaa gatgctgcca cttattactg 1500

ccagcagtgg agtagtaacc cattcacgtt cggctcgggg acaaagttgg aaataaaccg 1560

gggaagcgga gctactaact tcagcctgct gaagcaggct ggagacgtgg aggagaaccc 1620

tggacctaat caaactgcca ttctgatttg ctgccttatc tttctgactc taagtggcat 1680

tcaaggagta cctctctcta gaactgtacg ctgtacctgc atcagcatta gtaatcaacc 1740

tgttaatcca aggtctttag aaaaacttga aattattcct gcaagccaat tttgtccacg 1800

tgttgagatc attgctacaa tgaaaaagaa gggtgagaag agatgtctga atccagaatc 1860

gaaggccatc aagaatttac tgaaagcagt tagcaaggaa aggtctaaaa gatctcctgg 1920

aagcggagag ggcagaggaa gtctgctaac atgcggtgac gtcgaggaga atcctggacc 1980

taagaaaagt ggtgttcttt tcctcttggg catcatcttg ctggttctga ttggagtgca 2040

aggaacccca gtagtgagaa agggtcgctg ttcctgcatc agcaccaacc aagggactat 2100

ccacctacaa tccttgaaag accttaaaca atttgcccca agcccttcct gcgagaaaat 2160

tgaaatcatt gctacactga agaatggagt tcaaacatgt ctaaacccag attcagcaga 2220

tgtgaaggaa ctgattaaaa agtgggagaa acaggtcagc caaaagaaaa agcaaaagaa 2280

tgggaaaaaa catcaaaaaa agaaagttct gaaagttcga aaatctcaac gttctcgtca 2340

aaagaagact acaggaagcg gacagtgtac taattatgct ctcttgaaat tggctggaga 2400

tgttgagagc aaccctggac ctgccttgac ctttgcttta ctggtggccc tcctggtgct 2460

cagctgcaag tcaagctgct ctgtgggctg tgatctgcct caaacccaca gcctgggtag 2520

caggaggacc ttgatgctcc tggcacagat gaggagaatc tctcttttct cctgcttgaa 2580

ggacagacat gactttggat ttccccagga ggagtttggc aaccagttcc aaaaggctga 2640

aaccatccct gtcctccatg agatgatcca gcagatcttc aatctcttca gcacaaagga 2700

ctcatctgct gcttgggatg agaccctcct agacaaattc tacactgaac tctaccagca 2760

gctgaatgac ctggaagcct gtgtgataca gggggtgggg gtgacagaga ctcccctgat 2820

gaaggaggac tccattctgg ctgtgaggaa atacttccaa agaatcactc tctatctgaa 2880

agagaagaaa tacagccctt gtgcctggga ggttgtcaga gcagaaatca tgagatcttt 2940

ttctttgtca acaaacttgc aagaaagttt aagaagtaag gaataagcta gcttgactga 3000

ctgagataca gcgtaccttc agctcacaga catgataaga tacattgatg agtttggaca 3060

aaccacaact agaatgcagt gaaaaaaatg ctttatttgt gaaatttgtg atgctattgc 3120

tttatttgta accattataa gctgcaataa acaagttaac aacaacaatt gcattcattt 3180

tatgtttcag gttcaggggg aggtgtggga ggtttttaa agcaagtaaa acctctacaa 3240

atgtggtagt cgtcagctat 3260

<210> 96
<211> 154
<212> PRT
<213> Artificial Sequence

<220>
<223> FLT3 Ligand amino acid sequence

<400> 96

Met Thr Gln Asp Cys Ser Phe Gln His Ser Pro Ile Ser Ser Asp Phe
1 5 10 15

Ala Val Lys Ile Arg Glu Leu Ser Asp Tyr Leu Leu Gln Asp Tyr Pro
20 25 30

```
Val Thr Val Ala Ser Asn Leu Gln Asp Glu Glu Leu Cys Gly Gly Leu
        35                  40                  45


Trp Arg Leu Val Leu Ala Gln Arg Trp Met Glu Arg Leu Lys Thr Val
    50                  55                  60


Ala Gly Ser Lys Met Gln Gly Leu Leu Glu Arg Val Asn Thr Glu Ile
65                  70                  75                  80


His Phe Val Thr Lys Cys Ala Phe Gln Pro Pro Pro Ser Cys Leu Arg
                85                  90                  95


Phe Val Gln Thr Asn Ile Ser Arg Leu Leu Gln Glu Thr Ser Glu Gln
            100                 105                 110


Leu Val Ala Leu Lys Pro Trp Ile Thr Arg Gln Asn Phe Ser Arg Cys
        115                 120                 125


Leu Glu Leu Gln Cys Gln Pro Asp Ser Ser Thr Leu Pro Pro Pro Trp
    130                 135                 140


Ser Pro Arg Pro Leu Glu Ala Thr Ala Pro
145                 150


<210>  97
<211>  93
<212>  PRT
<213>  Artificial Sequence

<220>
<223>  MIP1 alpha amino acid sequence

<400>  97

Met Gln Val Ser Thr Ala Ala Leu Ala Val Leu Leu Cys Thr Met Ala
1               5                   10                  15


Leu Cys Asn Gln Val Leu Ser Ala Pro Leu Ala Ala Asp Thr Pro Thr
            20                  25                  30


Ala Cys Cys Phe Ser Tyr Thr Ser Arg Gln Ile Pro Gln Asn Phe Ile
        35                  40                  45
```

```
Ala Asp Tyr Phe Glu Thr Ser Ser Gln Cys Ser Lys Pro Ser Val Ile
    50                  55                  60

Phe Leu Thr Lys Arg Gly Arg Gln Val Cys Ala Asp Pro Ser Glu Glu
65                  70                  75                  80

Trp Val Gln Lys Tyr Val Ser Asp Leu Glu Leu Ser Ala
                85                  90
```

<210> 98
<211> 188
<212> PRT
<213> Artificial Sequence

<220>
<223> IFN alpha amino acid sequence

<400> 98

```
Met Ala Leu Thr Phe Ala Leu Leu Val Ala Leu Leu Val Leu Ser Cys
1               5                   10                  15

Lys Ser Ser Cys Ser Val Gly Cys Asp Leu Pro Gln Thr His Ser Leu
            20                  25                  30

Gly Ser Arg Arg Thr Leu Met Leu Leu Ala Gln Met Arg Arg Ile Ser
        35                  40                  45

Leu Phe Ser Cys Leu Lys Asp Arg His Asp Phe Gly Phe Pro Gln Glu
    50                  55                  60

Glu Phe Gly Asn Gln Phe Gln Lys Ala Glu Thr Ile Pro Val Leu His
65                  70                  75                  80

Glu Met Ile Gln Gln Ile Phe Asn Leu Phe Ser Thr Lys Asp Ser Ser
                85                  90                  95

Ala Ala Trp Asp Glu Thr Leu Leu Asp Lys Phe Tyr Thr Glu Leu Tyr
            100                 105                 110

Gln Gln Leu Asn Asp Leu Glu Ala Cys Val Ile Gln Gly Val Gly Val
        115                 120                 125
```

Thr Glu Thr Pro Leu Met Lys Glu Asp Ser Ile Leu Ala Val Arg Lys
130 135 140

Tyr Phe Gln Arg Ile Thr Leu Tyr Leu Lys Glu Lys Lys Tyr Ser Pro
145 150 155 160

Cys Ala Trp Glu Val Val Arg Ala Glu Ile Met Arg Ser Phe Ser Leu
165 170 175

Ser Thr Asn Leu Gln Glu Ser Leu Arg Ser Lys Glu
180 185

<210> 99
<211> 125
<212> PRT
<213> Artificial Sequence

<220>
<223> CXCL9 amino acid sequence

<400> 99

Met Lys Lys Ser Gly Val Leu Phe Leu Leu Gly Ile Ile Leu Leu Val
1 5 10 15

Leu Ile Gly Val Gln Gly Thr Pro Val Val Arg Lys Gly Arg Cys Ser
20 25 30

Cys Ile Ser Thr Asn Gln Gly Thr Ile His Leu Gln Ser Leu Lys Asp
35 40 45

Leu Lys Gln Phe Ala Pro Ser Pro Ser Cys Glu Lys Ile Glu Ile Ile
50 55 60

Ala Thr Leu Lys Asn Gly Val Gln Thr Cys Leu Asn Pro Asp Ser Ala
65 70 75 80

Asp Val Lys Glu Leu Ile Lys Lys Trp Glu Lys Gln Val Ser Gln Lys
85 90 95

Lys Lys Gln Lys Asn Gly Lys Lys His Gln Lys Lys Lys Val Leu Lys
100 105 110

Val Arg Lys Ser Gln Arg Ser Arg Gln Lys Lys Thr Thr
        115   120   125

<210> 100
<211> 98
<212> PRT
<213> Artificial Sequence

<220>
<223> CXCL10 amino acid sequence

<400> 100

Met Asn Gln Thr Ala Ile Leu Ile Cys Cys Leu Ile Phe Leu Thr Leu
1   5   10   15

Ser Gly Ile Gln Gly Val Pro Leu Ser Arg Thr Val Arg Cys Thr Cys
            20   25   30

Ile Ser Ile Ser Asn Gln Pro Val Asn Pro Arg Ser Leu Glu Lys Leu
        35   40   45

Glu Ile Ile Pro Ala Ser Gln Phe Cys Pro Arg Val Glu Ile Ile Ala
    50   55   60

Thr Met Lys Lys Lys Gly Glu Lys Arg Cys Leu Asn Pro Glu Ser Lys
65   70   75   80

Ala Ile Lys Asn Leu Leu Lys Ala Val Ser Lys Glu Arg Ser Lys Arg
                85   90   95

Ser Pro

<210> 101
<211> 35788
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-618 Genome

<400> 101
tctatctata taatatacct tatagatgga atggtgccaa tatgtaaatg aggtgatttt   60

aaaaagtgtg gatcgtgtgg tgattggctg tggggttaac ggctaaaagg ggcggtgcga   120

ccgtgggaaa atgacgtttt gtgggggtgg agtttttttg caagttgtcg cgggaaatgt 180

gacgcataaa aaggcttttt tctcacggaa ctacttagtt ttcccacggt atttaacagg 240

aaatgaggta gttttgaccg gatgcaagtg aaaattgttg attttcgcgc gaaaactgaa 300

tgaggaagtg tttttctgaa taatgtggta tttatggcag ggtggagtat ttgttcaggg 360

ccaggtagac tttgacccat tacgtggagg tttcgattac cgtgtttttt acctgaattt 420

ccgcgtaccg tgtcaaagtc ttctgttttt acgtaggtgt cagctgatcg ctagggtatt 480

tatacctcag ggtttgtgtc aagaggccac tcttgagtgc cagcgagaag agttttctcc 540

tctgcgccgg cagtttaata ataaaaaaat gagagatttg cgatttctgc ctcaggaaat 600

aatctctgct gagactggaa atgaaatatt ggagcttgtg gtgcacgccc tgatgggaga 660

cgatccggag ccacctgtgc agctttttga gcctcctacg cttcaggaac tgtatgattt 720

agaggtagag ggatcggagg attctaatga ggaagctgta aatggctttt ttaccgattc 780

tatgctttta gctgctaatg aagggttaga attagatccg cctttggaca cttttgatac 840

tccaggggta attgtggaaa gcggtacagg tgtaagaaaa ttacctgatt tgagttccgt 900

ggactgtgat ttgcactgct atgaagacgg gtttcctccg agtgatgagg aggaccatga 960

aaaggagcag tccatgcaga ctgcagcggg tgagggagtg aaggctgcca atgttggttt 1020

tcagttggat tgcccggagc ttcctggaca tggctgtaag tcttgtgaat ttcacaggaa 1080

aaatactgga gtaaaggaac tgttatgttc gctttgttat atgagaacgc actgccactt 1140

tatttacagt aagtgtgttt aagttaaaat ttaaaggaat atgctgtttt tcacatgtat 1200

attgagtgtg agttttgtgc ttcttattat aggtcctgtg tctgatgctg atgaatcacc 1260

atctcctgat tctactacct cacctcctga gattcaagca cctgttcctg tggacgtgcg 1320

caagcccatt cctgtgaagc ttaagcctgg gaaacgtcca gcagtggaaa aacttgagga 1380

cttgttacag ggtggggacg gacctttgga cttgagtaca cggaaacgtc caagacaata 1440

agtgttccat atccgtgttt acttaaggtg acgtcaatat ttgtgtgaca gtgcaatgta 1500

ataaaaatat gttaactgtt cactggtttt tattgctttt tgggcgggga ctcaggtata 1560

taagtagaag cagacctgtg tggttagctc ataggagctg gctttcatcc atggaggttt 1620

gggccatttt ggaagacctt aggaagacta ggcaactgtt agagaacgct tcggacggag 1680

tctccggttt ttggagattc tggttcgcta gtgaattagc tagggtagtt tttaggataa 1740

aacaggacta taaacaagaa tttgaaaagt tgttggtaga ttgcccagga ctttttgaag 1800

ctcttaattt gggccatcag gttcacttta aagaaaaagt tttatcagtt ttagactttt 1860

caaccccagg tagaactgct gctgctgtgg cttttcttac ttttatatta gataaatgga 1920

tcccgcagac tcatttcagc aggggatacg ttttggattt catagccaca gcattgtgga 1980

gaacatggaa ggttcgcaag atgaggacaa tcttaggtta ctggccagtg cagcctttgg 2040

gtgtagcggg aatcctgagg catccaccgg tcatgccagc ggttctggag gaggaacagc 2100

aagaggacaa cccgagagcc ggcctggacc ctccagtgga ggaggcggag tagctgactt 2160

gtctcctgaa ctgcaacggg tgcttactgg atctacgtcc actggacggg ataggggcgt 2220

taagagggag agggcatcta gtggtactga tgctagatct gagttggctt taagtttaat 2280

gagtcgcaga cgtcctgaaa ccatttggtg gcatgaggtt cagaaagagg gaagggatga 2340

agtttctgta ttgcaggaga aatattcact ggaacaggtg aaaacatgtt ggttggagcc 2400

tgaggatgat tgggaggtgg ccattaaaaa ttatgccaag atagctttga ggcctgataa 2460

acagtataag attactagac ggattaatat ccggaatgct tgttacatat ctggaaatgg 2520

ggctgaggtg gtaatagata ctcaagacaa ggcagttatt agatgctgca tgatggatat 2580

gtggcctggg gtagtcggta tggaagcagt aacttttgta aatgttaagt ttaggggaga 2640

tggttataat ggaatagtgt ttatggccaa taccaaactt atattgcatg gttgtagctt 2700

ttttggtttc aacaatacct gtgtagatgc ctggggacag gttagtgtac ggggatgtag 2760

tttctatgcg tgttggattg ccacagctgg cagaaccaag agtcaattgt ctctgaagaa 2820

atgcatattt caaagatgta acctgggcat tctgaatgaa ggcgaagcaa gggtccgcca 2880

ctgcgcttct acagatactg gatgttttat tttgattaag ggaaatgcca gcgtaaagca 2940

taacatgatt tgcggtgctt ccgatgagag gccttatcaa atgctcactt gtgctggtgg 3000

gcattgtaat atgctggcta ctgtgcatat tgtttcccat caacgcaaaa aatggcctgt 3060

ttttgatcac aatgtgatga cgaagtgtac catgcatgca ggtgggcgta gaggaatgtt 3120

tatgccttac cagtgtaaca tgaatcatgt gaaagtgttg ttggaaccag atgccttttc 3180

cagaatgagc ctaacaggaa tttttgacat gaacatgcaa atctggaaga tcctgaggta 3240

tgatgatacg agatcgaggg tacgcgcatg cgaatgcgga ggcaagcatg ccaggttcca 3300

gccggtgtgt gtagatgtga ctgaagatct cagaccggat catttggtta ttgcccgcac 3360

tggagcagag ttcggatcca gtggagaaga aactgactaa ggtgagtatt gggaaaactt 3420

tggggtggga ttttcagatg gacagattga gtaaaaattt gtttttttctg tcttgcagct 3480

gtcatgagtg gaaacgcttc ttttaagggg ggagtcttca gcccttatct gacagggcgt 3540

ctcccatcct gggcaggagt tcgtcagaat gttatgggat ctactgtgga tggaagaccc 3600

gtccaacccg ccaattcttc aacgctgacc tatgctactt taagttcttc acctttggac 3660

gcagctgcag ctgccgccgc cgcttctgtt gccgctaaca ctgtgcttgg aatgggttac 3720

tatggaagca tcatggctaa ttccacttcc tctaataacc cttctaccct gactcaggac 3780

aagttacttg tccttttggc ccagctggag gctttgaccc aacgtctggg tgaactttct 3840

cagcaggtgg tcgagttgcg agtacaaact gagtctgctg tcggcacggc aaagtctaaa 3900

taaaaaaatc ccagaatcaa tgaataaata aacaagcttg ttgttgattt aaaatcaagt 3960

gtttttattt catttttcgc gcacggtatg ccctagacca ccgatctcta tcattgagaa 4020

ctcggtggat tttttccagg atcctataga ggtgggattg aatgtttaga tacatgggca 4080

ttaggccgtc tttggggtgg agatagctcc attgaaggga ttcatgctcc ggggtagtgt 4140

tgtaaatcac ccagtcataa caaggtcgca gtgcatggtg ttgcacaata tcttttagaa 4200

gtaggctgat tgccacagat aagcccttgg tgtaggtgtt tacaaaccgg ttgagctggg 4260

atgggtgcat tcggggtgaa attatgtgca ttttggattg gatttttaag ttggcaatat 4320

tgccgccaag atcccgtctt gggttcatgt tatgaaggac caccaagacg gtgtatccgg 4380

tacatttagg aaatttatcg tgcagcttgg atggaaaagc gtggaaaaat ttggagacac 4440

ccttgtgtcc tccaagattt tccatgcact catccatgat aatagcaatg gggccgtggg 4500

cagcggcgcg ggcaaacacg ttccgtgggt ctgacacatc atagttatgt tcctgagtta 4560

aatcatcata agccatttta atgaatttgg ggcggagagt accagattgg ggtatgaatg 4620

ttccttcggg ccccggagca tagttcccct cacagatttg catttcccaa gctttcagtt 4680

ccgagggtgg aatcatgtcc acctgggggg ctatgaaaaa caccgtttct ggggcggggg 4740

tgattaattg tgatgatagc aaatttctga gcaattgaga tttgccacat ccggtggggc 4800

cataaatgat tccgattacg ggttgcaggt ggtagtttag ggaacggcaa ctgccgtctt 4860

ctcgaagcaa gggggccacc tcgttcatca tttcccttac atgcatattt tcccgcacca 4920

aatccattag gaggcgctct cctcctagtg atagaagttc ttgtagtgag gaaaagtttt 4980

tcagcggttt cagaccgtca gccatgggca ttttggagag agtttgctgc aaaagttcta 5040

gtctgttcca cagttcagtg atgtgttcta tggcatctcg atccagcaga cctcctcgtt 5100

tcgcgggttt ggacggctcc tggaataggg tatgagacga tgggcgtcca gcgctgccag 5160

ggttcggtcc ttccagggtc tcagtgttcg agtcagggtt gtttccgtca cagtgaaggg 5220

gtgtgcgcct gcttgggcgc ttgccagggt gcgcttcaga ctcatcctgc tggtcgaaaa 5280

cttctgtcgc ttggcgccct gtatgtcggc caagtagcag tttaccatga gttcgtagtt 5340

gagcgcctcg gctgcgtggc ctttggcgcg gagcttacct ttggaagttt tcttgcatac 5400

cgggcagtat aggcatttca gcgcatacaa cttgggcgca aggaaaacgg attctgggga 5460

gtatgcatct gcgccgcagg aggcgcaaac agtttcacat tccaccagcc aggttaaatc 5520

cggttcattg gggtcaaaaa caagttttcc gccatatttt ttgatgcgtt tcttaccttt 5580

ggtctccatg agttcgtgtc ctcgttgagt gacaaacagg ctgtccgtgt ccccgtagac 5640

tgattttaca ggcctcttct ccagtggagt gcctcggtct tcttcgtaca ggaactctga 5700

ccactctgat acaaaggcgc gcgtccaggc cagcacaaag gaggctatgt gggaggggta 5760

gcgatcgttg tcaaccaggg ggtccacctt ttccaaagta tgcaaacaca tgtcaccctc 5820

ttcaacatcc aggaatgtga ttggcttgta ggtgtatttc acgtgacctg gggtccccgc 5880

tgggggggta taaaaggggg cggttctttg ctcttcctca ctgtcttccg gatcgctgtc 5940

caggaacgtc agctgttggg gtaggtattc cctctcgaag gcgggcatga cctctgcact 6000

caggttgtca gtttctaaga acgaggagga tttgatattg acagtgccgg ttgagatgcc 6060

tttcatgagg ttttcgtcca tctggtcaga aaacacaatt tttttattgt caagtttggt 6120

ggcaaatgat ccatacaggg cgttggataa aagtttggca atggatcgca tggtttggtt 6180

cttttccttg tccgcgcgct ctttggcggc gatgttgagt tggacatact cgcgtgccag 6240

gcacttccat tcggggaaga tagttgttaa ttcatctggc acgattctca cttgccaccc 6300

tcgattatgc aaggtaatta aatccacact ggtggccacc tcgcctcgaa ggggttcatt 6360

ggtccaacag agcctacctc ctttcctaga acagaaaggg ggaagtgggt ctagcataag 6420

ttcatcggga gggtctgcat ccatggtaaa gattcccgga agtaaatcct tatcaaaata 6480

gctgatggga gtggggtcat ctaaggccat ttgccattct cgagctgcca gtgcgcgctc 6540

atatgggtta aggggactgc cccatggcat gggatgggtg agtgcagagg catacatgcc 6600

acagatgtca tagacgtaga tgggatcctc aaagatgcct atgtaggttg gatagcatcg 6660

ccccccctctg atacttgctc gcacatagtc atatagttca tgtgatggcg ctagcagccc 6720

cggacccaag ttggtgcgat tgggtttttc tgttctgtag acgatctggc gaaagatggc 6780

gtgagaattg gaagagatgg tgggtctttg aaaaatgttg aaatgggcat gaggtagacc 6840

tacagagtct ctgacaaagt gggcataaga ttcttgaagc ttggttacca gttcggcggt 6900

gacaagtacg tctagggcgc agtagtcaag tgtttcttga atgatgtcat aacctggttg 6960

gtttttcttt tcccacagtt cgcggttgag aaggtattct tcgcgatcct tccagtactc 7020

ttctagcgga aacccgtctt tgtctgcacg gtaagatcct agcatgtaga actgattaac 7080

tgccttgtaa gggcagcagc ccttctctac gggtagagag tatgcttgag cagcttttcg 7140

tagcgaagcg tgagtaaggg caaaggtgtc tctgaccatg actttgagga attggtattt 7200

gaagtcgatg tcgtcacagg ctccctgttc ccagagttgg aagtctaccc gtttcttgta 7260

ggcggggttg ggcaaagcga aagtaacatc attgaagaga atcttgccgg ccctgggcat 7320

gaaattgcga gtgatgcgaa aaggctgtgg tacttccgct cggttattga taacctgggc 7380

agctaggacg atctcgtcga aaccgttgat gttgtgtcct acgatgtata attctatgaa 7440

acgcggcgtg cctctgacgt gaggtagctt actgagctca tcaaaggtta ggtctgtggg 7500

gtcagataag gcgtagtgtt cgagagccca ttcgtgcagg tgaggattcg ctttaaggaa 7560

ggaggaccag aggtccactg ccagtgctgt ttgtaactgg tcccggtact gacgaaaatg 7620

ccgtccgact gccatttttt ctggggtgac gcaatagaag gtttgggggt cctgccgcca 7680

gcgatcccac ttgagtttta tggcgaggtc ataggcgatg ttgacgagcc gctggtctcc 7740

agagagtttc atgaccagca tgaaggggat tagctgcttg ccaaaggacc ccatccaggt 7800

gtaggtttcc acatcgtagg tgagaaagag cctttctgtg cgaggatgag agccaatcgg 7860

gaagaactgg atctcctgcc accagttgga ggaatggctg ttgatgtgat ggaagtagaa 7920

ctccctgcga cgcgccgagc attcatgctt gtgcttgtac agacggccgc agtagtcgca 7980

gcgttgcacg ggttgtatct cgtgaatgag ttgtacctgg cttcccttga cgagaaattt 8040

cagtgggaag ccgaggcctg gcgattgtat ctcgtgcttt actatgttgt ctgcatcggc 8100

ctgttcatct tctgtctcga tggtggtcat gctgacgagc cctcgcggga ggcaagtcca 8160

gacctcggcg cggcaggggc ggagctcgag gacgagagcg cgcaggctgg agctgtccag 8220

ggtcctgaga cgctgcggac tcaggttagt aggcagtgtc aggagattaa cttgcatgat 8280

cttttggagg gcgtgcggga ggttcagata gtacttgatc tcaacgggtc cgttggtgga 8340

gatgtcgatg gcttgcaggg ttccgtgtcc cttgggcgct accaccgtgc ccttgttttt 8400

cattttggac ggcggtggct ctgttgcttc ttgcatgttt agaagcggtg tcgagggcgc 8460

gcaccgggcg gcaggggcgg ctcgggaccc ggcggcatgg ctggcagtgg tacgtcggcg 8520

ccgcgcgcgg gtaggttctg gtactgcgcc ctgagaagac tcgcatgcgc gacgacgcgg 8580

cggttgacat cctggatctg acgcctctgg gtgaaagcta ccggccccgt gagcttgaac 8640

ctgaaagaga gttcaacaga atcaatctcg gtatcgttga cggcggcttg cctaaggatt 8700

tcttgcacgt caccagagtt gtcctggtag gcgatctccg ccatgaactg ctcgatctct 8760

tcctcttgaa gatctccgcg gcccgctctc tcgacggtgg ccgcgaggtc gttggagatg 8820

cgcccaatga gttgagagaa tgcattcatg cccgcctcgt tccagacgcg gctgtagacc 8880

acggccccca cgggatctct cgcgcgcatg accacctggg cgaggttgag ctccacgtgg 8940

cgggtgaaga ccgcatagtt gcataggcgc tggaaaaggt agttgagtgt ggtggcgatg 9000

tgctcggtga cgaagaaata catgatccat cgtctcagcg gcatctcgct gacatcgccc 9060

agagcttcca agcgctccat ggcctcgtag aagtccacgg caaaattaaa aaactgggag 9120

tttcgcgcgg acacggtcaa ctcctcttcc agaagacgga taagttcggc gatggtggtg 9180

cgcacctcgc gctcgaaagc ccctgggatt tcttcctcaa tctcttcttc ttccactaac 9240

atctcttcct cttcaggtgg ggctgcagga ggagggggaa cgcggcgacg ccggcggcgc 9300

acgggcagac ggtcgatgaa tctttcaatg acctctccgc ggcggcggcg catggtttca 9360

gtgacggcgc ggccgttctc gcgcggtcgc agagtaaaaa caccgccgcg catctcctta 9420

aagtggtgac tgggaggttc tccgtttggg agggagaggg cgctgattat acattttatt 9480

aattggcccg tagggactgc acgcagagat ctgatcgtgt caagatccac gggatctgaa 9540

aacctttcga cgaaagcgtc taaccagtca cagtcacaag gtaggctgag tacggcttct 9600

tgtgggcggg ggtggttatg tgttcggtct gggtcttctg tttcttcttc atctcgggaa 9660

ggtgagacga tgctgctggt gatgaaatta aagtaggcag ttctaagacg gcggatggtg 9720

gcgaggagca ccaggtcttt gggtccggct tgctggatac gcaggcgatt ggccattccc 9780

caagcattat cctgacatct agcaagatct ttgtagtagt cttgcatgag ccgttctacg 9840

ggcacttctt cctcacccgt tctgccatgc atacgtgtga gtccaaatcc gcgcattggt 9900

tgtaccagtg ccaagtcagc tacgactctt tcggcgagga tggcttgctg tacttgggta 9960

agggtggctt gaaagtcatc aaaatccaca aagcggtggt aagctcctgt attaatggtg 10020

taagcacagt tggccatgac tgaccagtta actgtctggt gaccagggcg cacgagctcg 10080

gtgtatttaa ggcgcgaata ggcgcgggtg tcaaagatgt aatcgttgca ggtgcgcacc 10140

agatactggt accctataag aaaatgcggc ggtggttggc ggtagagagg ccatcgttct 10200

gtagctggag cgccaggggc gaggtcttcc aacataaggc ggtgatagcc gtagatgtac 10260

ctggacatcc aggtgattcc tgcggcggta gtagaagccc gaggaaactc gcgtacgcgg 10320

ttccaaatgt tgcgtagcgg catgaagtag ttcattgtag gcacggtttg accagtgagg 10380

cgcgcgcagt cattgatgct ctatagacac ggagaaaatg aaagcgttca gcgactcgac 10440

tccgtagcct ggaggaacgt gaacgggttg ggtcgcggtg taccccggtt cgagacttgt 10500

actcgagccg gccggagccg cggctaacgt ggtattggca ctcccgtctc gacccagcct 10560

acaaaaatcc aggatacgga atcgagtcgt tttgctggtt tccgaatggc agggaagtga 10620

gtcctatttt tttttttgc cgctcagatg catcccgtgc tgcgacagat gcgcccccaa 10680

caacagcccc cctcgcagca gcagcagcag caatcacaaa aggctgtccc tgcaactact 10740

gcaactgccg ccgtgagcgg tgcgggacag cccgcctatg atctggactt ggaagagggc 10800

gaaggactgg cacgtctagg tgcgccttca cccgagcggc atccgcgagt tcaactgaaa 10860

aaagattctc gcgaggcgta tgtgccccaa cagaacctat ttagagacag aagcggcgag 10920

gagccggagg agatgcgagc ttcccgcttt aacgcgggtc gtgagctgcg tcacggtttg 10980

gaccgaagac gagtgttgcg ggacgaggat ttcgaagttg atgaaatgac agggatcagt 11040

cctgccaggg cacacgtggc tgcagccaac cttgtatcgg cttacgagca gacagtaaag 11100

gaagagcgta acttccaaaa gtcttttaat aatcatgtgc gaaccctgat tgcccgcgaa 11160

gaagttaccc ttggtttgat gcatttgtgg gatttgatgg aagctatcat tcagaaccct 11220

actagcaaac ctctgaccgc ccagctgttt ctggtggtgc aacacagcag agacaatgag 11280

gctttcagag aggcgctgct gaacatcacc gaacccgagg ggagatggtt gtatgatctt 11340

atcaacattc tacagagtat catagtgcag gagcggagcc tgggcctggc cgagaaggtg 11400

gctgccatca attactcggt tttgagcttg ggaaaatatt acgctcgcaa aatctacaag 11460

actccatacg ttcccataga caaggaggtg aagatagatg ggttctacat gcgcatgacg 11520

ctcaaggtct tgaccctgag cgatgatctt ggggtgtatc gcaatgacag aatgcatcgc 11580

gcggttagcg ccagcaggag gcgcgagtta agcgacaggg aactgatgca cagtttgcaa 11640

agagctctga ctggagctgg aaccgagggt gagaattact tcgacatggg agctgacttg 11700

cagtggcagc ctagtcgcag ggctctgagc gccgcgacgg caggatgtga gcttccttac 11760

atagaagagg cggatgaagg cgaggaggaa gagggcgagt acttggaaga ctgatggcac 11820

aacccgtgtt ttttgctaga tggaacagca agcaccggat cccgcaatgc gggcggcgct 11880

gcagagccag ccgtccggca ttaactcctc ggacgattgg acccaggcca tgcaacgtat 11940

catggcgttg acgactcgca accccgaagc ctttagacag caaccccagg ccaaccgtct 12000

atcggccatc atggaagctg tagtgccttc ccgctctaat cccactcatg agaaggtcct 12060

ggccatcgtg aacgcgttgg tggagaacaa agctattcgt ccagatgagg ccggactggt 12120

atacaacgct ctcttagaac gcgtggctcg ctacaacagt agcaatgtgc aaaccaattt 12180

ggaccgtatg ataacagatg tacgcgaagc cgtgtctcag cgcgaaaggt tccagcgtga 12240

tgccaacctg ggttcgctgg tggcgttaaa tgctttcttg agtactcagc ctgctaatgt 12300

gccgcgtggt caacaggatt atactaactt tttaagtgct ttgagactga tggtatcaga 12360

agtacctcag agcgaagtgt atcagtccgg tcctgattac ttctttcaga ctagcagaca 12420

gggcttgcag acggtaaatc tgagccaagc ttttaaaaac cttaaaggtt tgtggggagt 12480

gcatgccccg gtaggagaaa gagcaaccgt gtctagcttg ttaactccga actcccgcct 12540

attattactg ttggtagctc ctttcaccga cagcggtagc atcgaccgta attcctattt 12600

gggttaccta ctaaacctgt atcgcgaagc catagggcaa agtcaggtgg acgagcagac 12660

ctatcaagaa attacccaag tcagtcgcgc tttgggacag gaagacactg gcagtttgga 12720

agccactctg aacttcttgc ttaccaatcg gtctcaaaag atccctcctc aatatgctct 12780

tactgcggag gaggagagga tccttagata tgtgcagcag agcgtgggat tgtttctgat 12840

gcaagagggg gcaactccga ctgcagcact ggacatgaca gcgcgaaata tggagcccag 12900

catgtatgcc agtaaccgac ctttcattaa caaactgctg gactacttgc acagagctgc 12960

cgctatgaac tctgattatt tcaccaatgc catcttaaac ccgcactggc tgcccccacc 13020

tggtttctac acgggcgaat atgacatgcc cgaccctaat gacggatttc tgtgggacga 13080

cgtggacagc gatgtttttt cacctctttc tgatcatcgc acgtggaaaa aggaaggcgg 13140

cgatagaatg cattcttctg catcgctgtc cggggtcatg ggtgctaccg cggctgagcc 13200

cgagtctgca agtccttttc ctagtctacc cttttctcta cacagtgtac gtagcagcga 13260

agtgggtaga ataagtcgcc cgagtttaat gggcgaagag gagtatctaa acgattcctt 13320

gctcagaccg gcaagagaaa aaaatttccc aaacaatgga atagaaagtt tggtggataa 13380

aatgagtaga tggaagactt atgctcagga tcacagagac gagcctggga tcatggggat 13440

tacaagtaga gcgagccgta gacgccagcg ccatgacaga cagaggggtc ttgtgtggga 13500

cgatgaggat tcggccgatg atagcagcgt gctggacttg ggtgggagag gaaggggcaa 13560

cccgtttgct catttgcgcc ctcgcttggg tggtatgttg taaaaaaaaa taaaaaaaaa 13620

actcaccaag gccatggcga cgagcgtacg ttcgttcttc tttattatct gtgtctagta 13680

taatgaggcg agtcgtgcta ggcggagcgg tggtgtatcc ggagggtcct cctccttcgt 13740

acgagagcgt gatgcagcag cagcaggcga cggcggtgat gcaatcccca ctggaggctc 13800

cctttgtgcc tccgcgatac ctggcaccta cggagggcag aaacagcatt cgttattcgg 13860

aactggcacc tcagtacgat accaccaggt tgtatctggt ggacaacaag tcggcggaca 13920

ttgcttctct gaactatcag aatgaccaca gcaacttctt gaccacggtg gtgcaaaaca 13980

atgactttac ccctacggaa gccagcaccc agaccattaa ctttgatgaa cgatcgcggt 14040

ggggcggtca gctaaagacc atcatgcata ctaacatgcc aaacgtgaac gagtatatgt 14100

ttagtaacaa gttcaaagcg cgtgtgatgg tgtccagaaa acctcccgac ggtgctgcag 14160

ttggggatac ttatgatcac aagcaggata ttttgaaata tgagtggttc gagtttactt 14220

tgccagaagg caacttttca gttactatga ctattgattt gatgaacaat gccatcatag 14280

ataattactt gaaagtgggt agacagaatg gagtgcttga aagtgacatt ggtgttaagt 14340

tcgacaccag gaacttcaag ctgggatggg atcccgaaac caagttgatc atgcctggag 14400

tgtatacgta tgaagccttc catcctgaca ttgtcttact gcctggctgc ggagtggatt 14460

ttaccgagag tcgtttgagc aaccttcttg gtatcagaaa aaaacagcca tttcaagagg 14520

gttttaagat tttgtatgaa gatttagaag gtggtaatat tccggccctc ttggatgtag 14580

atgcctatga gaacagtaag aaagaacaaa aagccaaaat agaagctgct acagctgctg 14640

cagaagctaa ggcaaacata gttgccagcg actctacaag ggttgctaac gctggagagg 14700

tcagaggaga caattttgcg ccaacacctg ttccgactgc agaatcatta ttggccgatg 14760

tgtctgaagg aacggacgtg aaactcacta ttcaacctgt agaaaaagat agtaagaata 14820

gaagctataa tgtgttggaa gacaaaatca acacagccta tcgcagttgg tatctttcgt 14880

acaattatgg cgatcccgaa aaaggagtgc gttcctggac attgctcacc acctcagatg 14940

tcacctgcgg agcagagcag gtctactggt cgcttccaga catgatgaag gatcctgtca 15000

ctttccgctc cactagacaa gtcagtaact accctgtggt gggtgcagag cttatgcccg 15060

tcttctcaaa gagcttctac aacgaacaag ctgtgtactc ccagcagctc cgccagtcca 15120

cctcgcttac gcacgtcttc aaccgctttc ctgagaacca gattttaatc cgtccgccgg 15180

cgcccaccat taccaccgtc agtgaaaacg ttcctgctct cacagatcac gggaccctgc 15240

cgttgcgcag cagtatccgg ggagtccaac gtgtgaccgt tactgacgcc agacgccgca 15300

cctgtcccta cgtgtacaag gcactgggca tagtcgcacc gcgcgtcctt tcaagccgca 15360

ctttctaaaa aaaaaaaaaa tgtccattct tatctcgccc agtaataaca ccggttgggg 15420

tctgcgcgct ccaagcaaga tgtacggagg cgcacgcaaa cgttctaccc aacatcctgt 15480

ccgtgttcgc ggacattttc gcgctccatg gggcgccctc aagggccgca ctcgcgttcg 15540

aaccaccgtc gatgatgtaa tcgatcaggt ggttgccgac gcccgtaatt atactcctac 15600

tgcgcctaca tctactgtgg atgcagttat tgacagtgta gtggctgacg ctcgcaacta 15660

tgctcgacgt aagagccggc gaaggcgcat tgccagacgc caccgagcta ccactgccat 15720

gcgagccgca agagctctgc tacgaagagc tagacgcgtg gggcgaagag ccatgcttag 15780

ggcggccaga cgtgcagctt cgggcgccag cgccggcagg tcccgcaggc aagcagccgc 15840

tgtcgcagcg gcgactattg ccgacatggc ccaatcgcga agaggcaatg tatactgggt 15900

gcgtgacgct gccaccggtc aacgtgtacc cgtgcgcacc cgtccccctc gcacttagaa 15960

gatactgagc agtctccgat gttgtgtccc agcggcgagg atgtccaagc gcaaatacaa 16020

ggaagaaatg ctgcaggtta tcgcacctga agtctacggc caaccgttga aggatgaaaa 16080

aaaaccccgc aaaatcaagc gggttaaaaa ggacaaaaaa gaagaggaag atggcgatga 16140

tgggctggcg gagtttgtgc gcgagtttgc cccacggcga cgcgtgcaat ggcgtgggcg 16200

caaagttcga catgtgttga gacctggaac ttcggtggtc tttacacccg gcgagcgttc 16260

aagcgctact tttaagcgtt cctatgatga ggtgtacggg gatgatgata ttcttgagca 16320

ggcggctgac cgattaggcg agtttgctta tggcaagcgt agtagaataa cttccaagga 16380

tgagacagtg tcgataccct tggatcatgg aaatcccacc cctagtctta aaccggtcac 16440

tttgcagcaa gtgttacccg taactccgcg aacaggtgtt aaacgcgaag gtgaagattt 16500

gtatcccact atgcaactga tggtacccaa acgccagaag ttggaggacg ttttggagaa 16560

agtaaaagtg gatccagata ttcaacctga ggttaaagtg agacccatta agcaggtagc 16620

gcctggtctg ggggtacaaa ctgtagacat taagattccc actgaaagta tggaagtgca 16680

aactgaaccc gcaaagccta ctgccacctc cactgaagtg caaacggatc catggatgcc 16740

catgcctatt acaactgacg ccgccggtcc cactcgaaga tcccgacgaa agtacggtcc 16800

agcaagtctg ttgatgccca attatgttgt acacccatct attattccta ctcctggtta 16860

ccgaggcact cgctactatc gcagccgaaa cagtacctcc cgccgtcgcc gcaagacacc 16920

tgcaaatcgc agtcgtcgcc gtagacgcac aagcaaaccg actcccggcg ccctggtgcg 16980

gcaagtgtac cgcaatggta gtgcggaacc tttgacactg ccgcgtgcgc gttaccatcc 17040

gagtatcatc acttaatcaa tgttgccgct gcctccttgc agatatggcc ctcacttgtc 17100

gccttcgcgt tcccatcact ggttaccgag gaagaaactc gcgccgtaga agagggatgt 17160

tgggacgcgg aatgcgacgc tacaggcgac ggcgtgctat ccgcaagcaa ttgcggggtg 17220

gtttttacc agccttaatt ccaattatcg ctgctgcaat tggcgcgata ccaggcatag 17280

cttccgtggc ggttcaggcc tcgcaacgac attgacattg gaaaaaaacg tataaataaa 17340

aaaaaaaaaa tacaatggac tctgacactc ctggtcctgt gactatgttt tcttagagat 17400

ggaagacatc aatttttcat ccttggctcc gcgacacggc acgaagccgt acatgggcac 17460

ctggagcgac atcggcacga gccaactgaa cgggggcgcc ttcaattgga gcagtatctg 17520

gagcgggctt aaaaattttg gctcaaccat aaaaacatac gggaacaaag cttggaacag 17580

cagtacagga caggcgctta gaaataaact taaagaccag aacttccaac aaaaagtagt 17640

cgatgggata gcttccggca tcaatggagt ggtagatttg gctaaccagg ctgtgcagaa 17700

aaagataaac agtcgtttgg acccgccgcc agcaacccca ggtgaaatgc aagtggagga 17760

agaaattcct ccgccagaaa aacgaggcga caagcgtccg cgtcccgatt tggaagagac 17820

gctggtgacg cgcgtagatg aaccgccttc ttatgaggaa gcaacgaagc ttggaatgcc 17880

caccactaga ccgatagccc caatggccac cggggtgatg aaaccttctc agttgcatcg 17940

acccgtcacc ttggatttgc cccctccccc tgctgctact gctgtacccg cttctaagcc 18000

tgtcgctgcc ccgaaaccag tcgccgtagc caggtcacgt cccgggggcg ctcctcgtcc 18060

aaatgcgcac tggcaaaata ctctgaacag catcgtgggt ctaggcgtgc aaagtgtaaa 18120

acgccgtcgc tgcttttaat taaatatgga gtagcgctta acttgcctat ctgtgtatat 18180

gtgtcattac acgccgtcac agcagcagag gaaaaaagga agaggtcgtg cgtcgacgct 18240

gagttacttt caagatggcc accccatcga tgctgcccca atgggcatac atgcacatcg 18300

ccggacagga tgcttcggag tacctgagtc cgggtctggt gcagttcgcc cgcgccacag 18360

acacctactt caatctggga aataagttta gaaatcccac cgtagcgccg acccacgatg 18420

tgaccaccga ccgtagccag cggctcatgt tgcgcttcgt gcccgttgac cgggaggaca 18480

atacatactc ttacaaagtg cggtacaccc tggccgtggg cgacaacaga gtgctggata 18540

tggccagcac gttctttgac attaggggtg tgttggacag aggtcccagt ttcaaaccct 18600

attctggtac ggcttacaac tccctggctc ctaaaggcgc tccaaataca tctcagtgga 18660

ttgcagaagg tgtaaaaaat acaactggtg aggaacacgt aacagaagag gaaaccaata 18720

ctactactta cacttttggc aatgctcctg taaaagctga agctgaaatt acaaaagaag 18780

gactcccagt aggtttggaa gtttcagatg aagaaagtaa accgatttat gctgataaaa 18840

catatcagcc agaacctcag ctgggagatg aaacttggac tgaccttgat ggaaaaaccg 18900

aaaagtatgg aggcagggct ctcaaacccg atactaagat gaaaccatgc tacgggtcct 18960

ttgccaaacc tactaatgtg aaaggcggtc aggcaaaaca aaaaacaacg gagcagccaa 19020

atcagaaagt cgaatatgat atcgacatgg agtttttga tgcggcatcg cagaaaacaa 19080

acttaagtcc taaaattgtc atgtatgcag aaaatgtaaa tttggaaact ccagacactc 19140

atgtagtgta caaacctgga acagaagaca caagttccga agctaatttg ggacaacaat 19200

ctatgcccaa cagacccaac tacattggct tcagagataa ctttattgga cttatgtact 19260

ataacagtac tggtaacatg ggggtgctgg ctggtcaagc gtctcagtta aatgcagtgg 19320

ttgacttgca ggacagaaac acagaacttt cttaccaact cttgcttgac tctctgggcg 19380

acagaaccag atactttagc atgtggaatc aggctgtgga cagttatgat cctgatgtac 19440

gtgttattga aaatcatggt gtggaagatg aacttcccaa ctactgtttt ccactggacg 19500

gcataggtgt tccaacaacc agttacaaat caatagttcc aaatggagac aatgcgccta 19560

attggaagga acctgaagta aatggaacaa gtgagatcgg acagggtaat ttgtttgcca 19620

tggaaattaa ccttcaagcc aatctatggc gaagtttcct ttattccaat gtggctctat 19680

atctcccaga ctcgtacaaa tacaccccgt ccaatgtcac tcttccagaa aacaaaaaca 19740

cctacgacta catgaacggg cgggtggtgc cgccatctct agtagacacc tatgtgaaca 19800

ttggtgccag gtggtctctg gatgccatgg acaatgtcaa cccattcaac caccaccgta 19860

acgctggctt gcgttaccga tccatgcttc tgggtaacgg acgttatgtg cctttccaca 19920

tacaagtgcc tcaaaaattc ttcgctgtta aaaacctgct gcttctccca ggctcctaca 19980

cttatgagtg gaactttagg aaggatgtga acatggttct acagagttcc ctcggtaacg 20040

acctgcgggt agatggcgcc agcatcagtt tcacgagcat caacctctat gctacttttt 20100

tccccatggc tcacaacacc gcttccaccc ttgaagccat gctgcggaat gacaccaatg 20160

atcagtcatt caacgactac ctatctgcag ctaacatgct ctaccccatt cctgccaatg 20220

caaccaatat tcccatttcc attccttctc gcaactgggc ggctttcaga ggctggtcat 20280

ttaccagact gaaaaccaaa gaaactccct ctttggggtc tggatttgac ccctactttg 20340

tctattctgg ttctattccc tacctggatg gtaccttcta cctgaaccac acttttaaga 20400

aggtttccat catgtttgac tcttcagtga gctggcctgg aaatgacagg ttactatctc 20460

ctaacgaatt tgaaataaag cgcactgtgg atggcgaagg ctacaacgta gcccaatgca 20520

acatgaccaa agactggttc ttggtacaga tgctcgccaa ctacaacatc ggctatcagg 20580

gcttctacat tccagaagga tacaaagatc gcatgtattc atttttcaga aacttccagc 20640

ccatgagcag gcaggtggtt gatgaggtca attacaaaga cttcaaggcc gtcgccatac 20700

cctaccaaca caacaactct ggctttgtgg gttacatggc tccgaccatg cgccaaggtc 20760

aaccctatcc cgctaactat ccctatccac tcattggaac aactgccgta aatagtgtta 20820

cgcagaaaaa gttcttgtgt gacagaacca tgtggcgcat accgttctcg agcaacttca 20880

tgtctatggg ggcccttaca gacttgggac agaatatgct ctatgccaac tcagctcatg 20940

ctctggacat gacctttgag gtggatccca tggatgagcc caccctgctt tatcttctct 21000

tcgaagtttt cgacgtggtc agagtgcatc agccacaccg cggcatcatc gaggcagtct 21060

acctgcgtac accgttctcg gccggtaacg ctaccacgta agaagcttct tgcttcttgc 21120

aaatagcagc tgcaaccatg gcctgcggat cccaaaacgg ctccagcgag caagagctca 21180

gagccattgt ccaagacctg ggttgcggac cctatttttt gggaacctac gataagcgct 21240

tcccggggtt catggccccc gataagctcg cctgtgccat tgtaaatacg gccggacgtg 21300

agacgggggg agagcactgg ttggctttcg gttggaaccc acgttctaac acctgctacc 21360

tttttgatcc ttttggattc tcggatgatc gtctcaaaca gatttaccag tttgaatatg 21420

agggtctcct gcgccgcagc gctcttgcta ccaaggaccg ctgtattacg ctggaaaaat 21480

ctacccagac cgtgcagggt ccccgttctg ccgcctgcgg acttttctgc tgcatgttcc 21540

ttcacgcctt tgtgcactgg cctgaccgtc ccatggacgg aaaccccacc atgaaattgc 21600

taactggagt gccaaacaac atgcttcatt ctcctaaagt ccagcccacc ctgtgtgaca 21660

atcaaaaagc actctaccat tttcttaata cccattcgcc ttattttcgc tcccatcgta 21720

cacacatcga aagggccact gcgttcgacc gtatggatgt tcaataatga ctcatgtaaa 21780

caacgtgttc aataaacatc actttatttt tttacatgta tcaaggctct gcattactta 21840

tttatttaca agtcgaatgg gttctgacga gaatcagaat gacccgcagg cagtgatacg 21900

ttgcggaact gatacttggg ttgccacttg aattcgggaa tcaccaactt gggaaccggt 21960

atatcgggca ggatgtcact ccacagcttt ctggtcagct gcaaagctcc aagcaggtca 22020

ggagccgaaa tcttgaaatc acaattagga ccagtgcttt gagcgcgaga gttgcggtac 22080

accggattgc agcactgaaa caccatcagc gacggatgtc tcacgcttgc cagcacggtg 22140

ggatctgcaa tcatgcccac atccagatct tcagcattgg caatgctgaa cggggtcatc 22200

ttgcaggtct gcctacccat ggcgggcacc caattaggct tgtggttgca atcgcagtgc 22260

agggggatca gtatcatctt ggcctgatcc tgtctgattc ctggatacac ggctctcatg 22320

aaagcatcat attgcttgaa agcctgctgg gctttactac cctcggtata aaacatcccg 22380

caggacctgc tcgaaaactg gttagctgca cagccggcat cattcacaca gcagcgggcg 22440

tcattgttag ctatttgcac cacacttctg ccccagcggt tttgggtgat tttggttcgc 22500

tcgggattct cctttaaggc tcgttgtccg ttctcgctgg ccacatccat ctcgataatc 22560

tgctccttct gaatcataat attgccatgc aggcacttca gcttgccctc ataatcattg 22620

cagccatgag gccacaacgc acagcctgta cattcccaat tatggtgggc gatctgagaa 22680

aaagaatgta tcattccctg cagaaatctt cccatcatcg tgctcagtgt cttgtgacta 22740

gtgaaagtta actggatgcc tcggtgctcc tcgtttacgt actggtgaca gatgcgcttg 22800

tattgttcgt gttgctcagg cattagttta aaagaggttc taagttcgtt atccagcctg 22860

tacttctcca tcagcagaca catcacttcc atgcctttct cccaagcaga caccaggggc 22920

aagctaatcg gattcttaac agtgcaggca gcagctcctt tagccagagg gtcatcttta 22980

gcgatcttct caatgcttct tttgccatcc ttctcaacga tgcgcacggg cgggtagctg 23040

aaacccactg ctacaagttg cgcctcttct ctttcttctt cgctgtcttg actgatgtct 23100

tgcatgggga tatgtttggt cttccttggc ttctttttgg ggggtatcgg aggaggagga 23160

ctgtcgctcc gttccggaga cagggaggat tgtgacgttt cgctcaccat taccaactga 23220

ctgtcggtag aagaacctga ccccacacgg cgacaggtgt ttctcttcgg gggcagaggt 23280

ggaggcgatt gcgaagggct gcggtccgac ctggaaggcg gatgactggc agaacccctt 23340

ccgcgttcgg gggtgtgctc cctgtggcgg tcgcttaact gatttccttc gcggctggcc 23400

attgtgttct cctaggcaga gaaacaacag acatggaaac tcagccattg ctgtcaacat 23460

cgccacgagt gccatcacat ctcgtcctca gcgacgagga aaaggagcag agcttaagca 23520

ttccaccgcc cagtcctgcc accacctcta ccctagaaga taaggaggtc gacgcatctc 23580

atgacatgca gaataaaaaa gcgaaagagt ctgagacaga catcgagcaa gacccgggct 23640

atgtgacacc ggtggaacac gaggaagagt tgaaacgctt tctagagaga gaggatgaaa 23700

actgcccaaa acaacgagca gataactatc accaagatgc tggaaatagg gatcagaaca 23760

ccgactacct catagggctt gacggggaag acgcgctcct taaacatcta gcaagacagt 23820

cgctcatagt caaggatgca ttattggaca gaactgaagt gcccatcagt gtggaagagc 23880

tcagccgcgc ctacgagctt aacctctttt cacctcgtac tccccccaaa cgtcagccaa 23940

acggcacctg cgagccaaat cctcgcttaa acttttatcc agcttttgct gtgccagaag 24000

tactggctac ctatcacatc ttttttaaaa atcaaaaaat tccagtctcc tgccgcgcta 24060

atcgcacccg cgccgatgcc ctactcaatc tgggacctgg ttcacgctta cctgatatag 24120

cttccttgga agaggttcca aagatcttcg agggtctggg caataatgag actcgggccg 24180

caaatgctct gcaaaaggga gaaaatggca tggatgagca tcacagcgtt ctggtggaat 24240

tggaaggcga taatgccaga ctcgcagtac tcaagcgaag catcgaggtc acacacttcg 24300

catatcccgc tgtcaacctg ccccctaaag tcatgacggc ggtcatggac cagttactca 24360

ttaagcgcgc aagtcccctt tcagaagaca tgcatgaccc agatgcctgt gatgagggta 24420

aaccagtggt cagtgatgag cagctaaccc gatggctggg caccgactct cccagggatt 24480

tggaagagcg tcgcaagctt atgatggccg tggtgctggt taccgtagaa ctagagtgtc 24540

tccgacgttt ctttaccgat tcagaaacct tgcgcaaact cgaagagaat ctgcactaca 24600

cttttagaca cggctttgtg cggcaggcat gcaagatatc taacgtggaa ctcaccaacc 24660

tggtttccta catgggtatt ctgcatgaga atcgcctagg acaaagcgtg ctgcacagca 24720

ccctgaaggg ggaagcccgc cgtgattaca tccgcgattg tgtctatctg tacctgtgcc 24780

acacgtggca aaccggcatg ggtgtatggc agcaatgttt agaagaacag aacttgaaag 24840

agcttgacaa gctcttacag aaatctctta aggttctgtg gacagggttc gacgagcgca 24900

ccgtcgcttc cgacctggca gacctcatct tcccagagcg tctcagggtt actttgcgaa 24960

acggattgcc tgactttatg agccagagca tgcttaacaa ttttcgctct ttcatcctgg 25020

aacgctccgg tatcctgccc gccacctgct gcgcactgcc ctccgacttt gtgcctctca 25080

cctaccgcga gtgccccccg ccgctatgga gtcactgcta cctgttccgt ctggccaact 25140

atctctccta ccactcggat gtgatcgagg atgtgagcgg agacggcttg ctggagtgtc 25200

actgccgctg caatctgtgc acgccccacc ggtccctagc ttgcaacccc cagttgatga 25260

gcgaaaccca gataataggc acctttgaat tgcaaggccc cagcagccaa ggcgatgggt 25320

cttctcctgg gcaaagttta aaactgaccc cgggactgtg gacctccgcc tacttgcgca 25380

agtttgctcc ggaagattac cacccctatg aaatcaagtt ctatgaggac caatcacagc 25440

ctccaaaggc cgaactttcg gcctgcgtca tcacccaggg ggcaattctg gcccaattgc 25500

aagccatcca aaaatcccgc caagaatttc tactgaaaaa gggtaagggg gtctaccttg 25560

acccccagac cggcgaggaa ctcaacacaa ggttccctca ggatgtccca acgacgagaa 25620

aacaagaagt tgaaggtgca gccgccgccc ccagaagata tggaggaaga ttgggacagt 25680

caggcagagg aggcggagga ggacagtctg gaggacagtc tggaggaaga cagtttggag 25740

gaggaaaacg aggaggcaga ggaggtggaa gaagtaaccg ccgacaaaca gttatcctcg 25800

gctgcggaga caagcaacag cgctaccatc tccgctccga gtcgaggaac ccggcggcgt 25860

cccagcagta gatgggacga gaccggacgc ttcccgaacc caaccagcgc ttccaagacc 25920

ggtaagaagg atcggcaggg atacaagtcc tggcgggggc ataagaatgc catcatctcc 25980

tgcttgcatg agtgcggggg caacatatcc ttcacgcggc gctacttgct attccaccat 26040

ggggtgaact ttccgcgcaa tgttttgcat tactaccgtc acctccacag cccctactat 26100

agccagcaaa tcccggcagt ctcgacagat aaagacagcg gcggcgacct ccaacagaaa 26160

accagcagcg gcagttagaa aatacacaac aagtgcagca acaggaggat taaagattac 26220

agccaacgag ccagcgcaaa cccgagagtt aagaaatcgg atctttccaa ccctgtatgc 26280

catcttccag cagagtcggg gtcaagagca ggaactgaaa ataaaaaacc gatctctgcg 26340

ttcgctcacc agaagttgtt tgtatcacaa gagcgaagat caacttcagc gcactctcga 26400

ggacgccgag gctctcttca acaagtactg cgcgctgact cttaaagagt aggcagcgac 26460

cgcgcttatt caaaaaaggc gggaattaca tcatcctcga catgagtaaa gaaattccca 26520

cgccttacat gtggagttat caaccccaaa tgggattggc ggcaggcgcc tcccaggact 26580

actccacccg catgaattgg ctcagcgccg ggccttctat gatttctcga gttaatgata 26640

tacgcgccta ccgaaaccaa atacttttgg aacagtcagc tcttaccacc acgccccgcc 26700

aacaccttaa tcccagaaat tggcccgccg ccctagtgta ccaggaaagt cccgctccca 26760

ccactgtatt acttcctcga gacgcccagg ccgaagtcca aatgactaat gcaggtgcgc 26820

agttagctgg cggctccacc ctatgtcgtc acaggcctcg gcataatata aaacgcctga 26880

tgatcagagg ccgaggtatc cagctcaacg acgagtcggt gagctctccg cttggtctac 26940

gaccagacgg aatctttcag attgccggct gcgggagatc ttccttcacc cctcgtcagg 27000

ctgttctgac tttggaaagt tcgtcttcgc aaccccgctc gggcggaatc gggaccgttc 27060

aatttgtgga ggagtttact ccctctgtct acttcaaccc cttctccgga tctcctgggc 27120

attacccgga cgagttcata ccgaacttcg acgcgattag cgagtcagtg gacggctacg 27180

attgatgtct ggtgacgcgg ctgagctatc tcggctgcga catctagacc actgccgccg 27240

ctttcgctgc tttgcccggg aactcattga gttcatctac ttcgaactcc ccaaggatca 27300

ccctcaaggt ccggcccacg gagtgcggat ttctatcgaa ggcaaaatag actctcgcct 27360

gcaacgaatt ttctcccagc ggcccgtgct gatcgagcga gaccagggaa acaccacggt 27420

ttccatctac tgcatttgta atcaccccgg attgcatgaa agcctttgct gtcttatgtg 27480

tactgagttt aataaaaact gaattaagac tctcctacgg actgccgctt cttcaacccg 27540

gattttacaa ccagaagaac gaaacttttc ctgtcgtcca ggactctgtt aacttcacct 27600

ttcctactca caaactagaa gctcaacgac tacaccgctt ttccagaagc attttcccta 27660

ctaatactac tttcaaaacc ggaggtgagc tccaaggtct tcctacagaa aacccttggg 27720

tggaagcggg ccttgtagtg ctaggaattc ttgcgggtgg gcttgtgatt attctttgct 27780

acctatacac accttgcttc actttcttag tggtgttgtg gtattggttt aaaaaatggg 27840

gcccatacta gtcttgcttg ttttactttc gcttttggaa ccgggttctg ccaattacga 27900

tccatgtcta gacttcgacc cagaaaactg cacacttact tttgcacccg acacaagccg 27960

catctgtgga gttcatcgcc tctcttacga acttggcccc caacgacaaa aatttacctg 28020

catggtggga atcaacccca tagttatcac ccagcaaagt ggagatacta agggttgcat 28080

tcactgctcc tgcgattcca tcgagtgcac ctacaccctg ctgaagaccc tatgcggcct 28140

aagagacctg ctaccaatga attaaaaaat gattaataaa aaatcactta cttgaaatca 28200

gcaataaggt ctctgttgaa attttctccc agcagcacct cacttccctc ttcccaactc 28260

tggtattcta aaccccgttc agcggcatac tttctccata ctttaaaggg gatgtcaaat 28320

tttagctcct ctcctgtacc cacaatcttc atgtctttct tcccagatga ccaagagagt 28380

ccggctcagt gactccttca accctgtcta cccctatgaa gatgaaagca cctcccaaca 28440

ccccttttata aacccagggt ttatttcccc aaatggcttc acacaaagcc caaacggagt 28500

tcttacttta aaatgtttaa ccccactaac aaccacaggc ggatctctac agctaaaagt 28560

gggaggggga cttacagtgg atgacaccaa cggttttttg aaagaaaaca taagtgccac 28620

cacaccactc gttaagactg gtcactctat aggtttacca ctaggagccg gattgggaac 28680

gaatgaaaat aaactttgta tcaaattagg acaaggactt acattcaatt caaacaacat 28740

ttgcattgat gacaatatta acaccttatg gacaggagtc aaccccaccg aagccaactg 28800

tcaaatcatg aactccagtg aatctaatga ttgcaaatta attctaacac tagttaaaac 28860

tggagcacta gtcactgcat ttgtttatgt tataggagta tctaacaatt ttaatatgct 28920

aactacacac agaaatataa attttactgc agagctgttt ttcgattcta ctggtaattt 28980

actaactaga ctctcatccc tcaaaactcc acttaatcat aaatcaggac aaaacatggc 29040

tactggtgcc attactaatg ctaaaggttt catgcccagc acgactgcct atcctttcaa 29100

tgataattct agagaaaaag aaaactacat ttacggaact tgttactaca cagctagtga 29160

tcgcactgct tttcccattg acatatctgt catgcttaac cgaagagcaa taaatgacga 29220

gacatcatat tgtattcgta taacttggtc ctggaacaca ggagatgccc cagaggtgca 29280

aacctctgct acaaccctag tcacctcccc atttaccttt tactacatca gagaagacga 29340

ctgacaaata aagtttgcga tcgccaggcc caccatgggt tggagctgta ttattctctt 29400

cctcgtcgcc accgcgaccg gagtgcattc cgagctcgtg atgacccagt caccatcatc 29460

cttgaccgtg actgcgggcg agaaggtcac gatgtcatgc aagtcgtcac aaagcctgct 29520

gaactccggc aatcagaaga attacctgac ctggtaccag cagaaaccgg gtcagccgcc 29580

aaaactgctg atctactggg catccacccg ggaaagcggg gtccctgacc ggttcactgg 29640

atcaggatca ggaaccgact ttaccctcac gatctcaagc gtccaagccg aggacttggc 29700

tgtgtactac tgccaaaatg actactcgta ccccctgact ttcggagctg ggaccaagct 29760

ggagatcaaa ggcggcggag ggtccggagg agggggggtcg ggaggggggg gaagcgaggt 29820

gcagctgctg gaacagagcg gagccgagct ggtgagacca ggcaccagcg tgaaaatctc 29880

gtgcaaggcc tcggggtacg ctttcacgaa ctactggttg ggttgggtga agcagcggcc 29940

gggtcatgga ctggagtgga tcggagacat ctttcccgga agcggaaata tccattacaa 30000

cgaaaagttt aaaggcaagg ccacccttac tgcggataag tcaagctcca ccgcttacat 30060

gcaactgtcc tcactgactt ttgaagacag cgctgtgtat ttctgcgctc gcctgcgcaa 30120

ttgggatgaa cctatggact actggggcca aggaaccacc gtgactgtgt cgtcgggagg 30180

gggaggctca caagtgcagc tgcagcagtc aggtgcagaa ttggccaggc cgggagccag 30240

cgtgaagatg tcgtgcaaag cctccggcta caccttcact cgctacacta tgcattgggt 30300

gaaacagcgg ccgggacaag ggctggagtg gatcggatac atcaatccat caagaggtta 30360

caccaactac aatcagaagt tcaaggacaa ggctaccctg acgactgata agagctcgtc 30420

aactgcatac atgcagctgt cgagcctgac cagcgaggat tccgccgtgt actactgcgc 30480

gagatactat gatgaccact actgcttgga ttactggggc caagggacca ctctgaccgt 30540

gtcctccggc ggaggggggct cgggcggcgg gggctcgggg ggcggcggca gcgacatcgt 30600

gctgacgcag agccccgcaa tcatgtcagc ctcccctggc gaaaaagtga cgatgacctg 30660

ctccgcttcc tcatcagtct cctacatgaa ctggtatcaa cagaagagcg gaacctcgcc 30720

gaagcgctgg atctacgata cctccaaact ggccagcgga gtgccggcgc attttcgggg 30780

atcgggcagc ggtacctcct actcgctcac catctcagga atggaagccg aagacgccgc 30840

cacctactac tgccagcagt ggtcctcaaa cccattcacc ttcggatccg gcactaagct 30900

ggaaatcaac cgcgggagcg gagcgactaa cttcagcttg ctcaagcaag ccggagatgt 30960

cgaggagaac ccgggacctg gttggtcgtg catcatccta ttccttgtcg cgaccgcaac 31020

tggcgtccat tccgacatcg tcatgaccca atccccagat tcgctggcgg tgtcgcttgg 31080

ggaacgggca accatcaact gcaagagctc gcagtcactg ctatacagcc ggaatcagaa 31140

aaactacctg gcgtggtacc agcaaaagcc gggtcagcct ccgaagctgc tgattttctg 31200

ggcctcaacc cgggaatccg gagtccctga cagattcagc gggtccggat tcgggaccga 31260

cttcactctg actatttcga gcctgcaagc agaagatgtg gcagtgtact attgccaaca 31320

gtatttttca tacccgctga ccttcggcca gggtacgaag gtggagatca agggtggagg 31380

gggtagcggc gggggaggca gcggcggggg gggaagccag gtgcagctgg tccaatcagg 31440

cgccgaggtc aagaaacctg gagcgtcggt caaggtctcc tgcaagacta gccgctacac 31500

ttttaccgaa tacaccatcc actgggtcag acaggcgccc ggtcagcgcc tggagtggat 31560

cggcgggatc aacccgaata atggaatccc gaactacaat caaaaattca aaggccgcgt 31620

gactatcacc gtggatactt cagcctcaac tgcttacatg gaactgtcat cgctgagatc 31680

agaggacact gcggtctact actgtgcgcg cagaagaatc gcttacggat acgacgaggg 31740

gcacgcaatg gactactggg gacagggaac cctggtgacc gtgtcgtcag gcggaggagg 31800

atcggatgtg cagttggtgc agtcgggcgc cgaagtgaaa aaaccggggg cctcagtgaa 31860

agtgtcctgc aaggcctccg gatacacctt cacccgctac actatgcact gggtcaggca 31920

ggcgcccggg cagggcctgg agtggatcgg gtatatcaac ccgtcaaggg gatacactaa 31980

ctacgccgac tccgtgaagg gaagattcac tatcaccact gacaaatcaa cttcgacggc 32040

gtatatggaa ctgtcatcct tgagatcgga agataccgcg acctactact gtgcgcgcta 32100

ctacgatgac cattactgcc tcgattactg gggacagggc accacggtga ccgtctcatc 32160

aggagaagga acttcaactg gttccggagg ctccggcggc tcaggcggcg ctgacgacat 32220

tgtgctgacc cagagcccgg cgaccctgtc actctcgccg ggggaaaggg ctactctgtc 32280

atgcagagcg tcacaatcgg tctcatacat gaactggtac cagcagaaac cgggcaaggc 32340

tccaaagcgg tggatctacg atacttcgaa ggtggcttca ggagtgccgg ctcgcttcag 32400

cggatccggc tcgggaaccg attacagctt gaccattaac tcgctggagg cggaggatgc 32460

agcgacctac tactgtcaac aatggtcctc gaacccactc acttttgggg gcgggaccaa 32520

ggtggagatt aagtaggcta gcttgactga ctgagataca gcgtaccttc agctcacaga 32580

catgataaga tacattgatg agtttggaca aaccacaact agaatgcagt gaaaaaaatg 32640

ctttatttgt gaaatttgtg atgctattgc tttatttgta accattataa gctgcaataa 32700

acaagttaac aacaacaatt gcattcattt tatgtttcag gttcaggggg aggtgtggga 32760

ggttttttaa agcaagtaaa acctctacaa atgtggtagt cgtcagctat cctgcaggaa 32820

cttgtttatt tgaaaatcaa ttcacaaaat ccgagtagtt attttgcctc ccccttccca 32880

tttaacagaa tacaccaatc tctccccacg cacagcttta aacatttgga taccattaga 32940

tatagacatg gttttagatt ccacattcca aacagtttca gagcgagcca atctggggtc 33000

agtgatagat aaaaatccat cgggatagtc ttttaaagcg ctttcacagt ccaactgctg 33060

cggatgcgac tccggagtct ggatcacggt catctggaag aagaacgatg ggaatcataa 33120

tccgaaaacg gtatcggacg attgtgtctc atcaaaccca caagcagccg ctgtctgcgt 33180

cgctccgtgc gactgctgtt tatgggatca gggtccacag tgtcctgaag catgatttta 33240

atagccctta acatcaactt tctggtgcga tgcgcgcagc aacgcattct gatttcactc 33300

aaatctttgc agtaggtaca acacattatt acaatattgt ttaataaacc ataattaaaa 33360

gcgctccagc caaaactcat atctgatata atcgcccctg catgaccatc ataccaaagt 33420

ttaatataaa ttaaatgacg ttccctcaaa aacacactac ccacatacat gatctctttt 33480

ggcatgtgca tattaacaat ctgtctgtac catggacaac gttggttaat catgcaaccc 33540

aatataacct tccggaacca cactgccaac accgctcccc cagccatgca ttgaagtgaa 33600

ccctgctgat tacaatgaca atgaagaacc caattctctc gaccgtgaat cacttgagaa 33660

tgaaaaatat ctatagtggc acaacataga cataaatgca tgcatcttct cataattttt 33720

aactcctcag gatttagaaa catatcccag ggaataggaa gctcttgcag aacagtaaag 33780

ctggcagaac aaggaagacc acgaacacaa cttacactat gcatagtcat agtatcacaa 33840

tctggcaaca gcgggtggtc ttcagtcata gaagctcggg tttcattttc ctcacaacgt 33900

ggtaactggg ctctggtgta agggtgatgt ctggcgcatg atgtcgagcg tgcgcgcaac 33960

cttgtcataa tggagttgct tcctgacatt ctcgtatttt gtatagcaaa acgcggccct 34020

ggcagaacac actcttcttc gccttctatc ctgccgctta gcgtgttccg tgtgatagtt 34080

caagtacaac cacactctta agttggtcaa aagaatgctg gcttcagttg taatcaaaac 34140

tccatcgcat ctaatcgttc tgaggaaatc atccaagcaa tgcaactgga ttgtgtttca 34200

agcaggagag gagagggaag agacggaaga accatgttaa tttttattcc aaacgatctc 34260

gcagtacttc aaattgtaga tcgcgcagat ggcatctctc gcccccactg tgttggtgaa 34320

aaagcacagc tagatcaaaa gaaatgcgat tttcaaggtg ctcaacggtg gcttccagca 34380

aagcctccac gcgcacatcc aagaacaaaa gaataccaaa agaaggagca ttttctaact 34440

cctcaatcat catattacat tcctgcacca ttcccagata attttcagct ttccagcctt 34500

gaattattcg tgtcagttct tgtggtaaat ccaatccaca cattacaaac aggtcccgga 34560

gggcgccctc caccaccatt cttaaacaca ccctcataat gacaaaatat cttgctcctg 34620

tgtcacctgt agcgaattga gaatggcaac atcaattgac atgcccttgg ctctaagttc 34680

ttctttaagt tctagttgta aaaactctct catattatca ccaaactgct tagccagaag 34740

ccccccggga acaagagcag gggacgctac agtgcagtac aagcgcagac ctccccaatt 34800

ggctccagca aaaacaagat tggaataagc atattgggaa ccgccagtaa tatcatcgaa 34860

gttgctggaa atataatcag gcagagtttc ttgtaaaaat tgaataaaag aaaaatttgc 34920

caaaaaaaca ttcaaaacct ctgggatgca aatgcaatag gttaccgcgc tgcgctccaa 34980

cattgttagt tttgaattag tctgcaaaaa taaaaaaaaa aacaagcgtc atatcatagt 35040

agcctgacga acagatggat aaatcagtct ttccatcaca agacaagcca cagggtctcc 35100

agctcgaccc tcgtaaaacc tgtcatcatg attaaacaac agcaccgaaa gttcctcgcg 35160

gtgaccagca tgaataattc ttgatgaagc atacaatcca gacatgttag catcagttaa 35220

cgagaaaaaa cagccaacat agcctttggg tataattatg cttaatcgta agtatagcaa 35280

agccacccct cgcggataca aagtaaaagg cacaggagaa taaaaaatat aattatttct 35340

ctgctgctgt tcaggcaacg tcgcccccgg tccctctaaa tacacataca aagcctcatc 35400

agccatggct taccagacaa agtacagcgg gcacacaaag cacaagctct aaagtgactc 35460

tccaacctct ccacaatata tatatacaca agccctaaac tgacgtaatg ggagtaaagt 35520

gtaaaaaatc ccgccaaacc caacacacac cccgaaactg cgtcaccagg gaaaagtaca 35580

gtttcacttc cgcaatccca acaggcgtaa cttcctcttt ctcacggtac gtgatatccc 35640

actaacttgc aacgtcattt tcccacggtc gcaccgcccc ttttagccgt taaccccaca 35700

gccaatcacc acacgatcca cacttttaa aatcacctca tttacatatt ggcaccattc 35760

catctataag gtatattata tagataga 35788

<210> 102
<211> 1557
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-618 FAP BiTE nucleic acid sequence

<400> 102
atgggttggt cgtgcatcat cctattcctt gtcgcgaccg caactggcgt ccattccgac 60

atcgtcatga cccaatcccc agattcgctg gcggtgtcgc ttggggaacg ggcaaccatc 120

aactgcaaga gctcgcagtc actgctatac agccggaatc agaaaaacta cctggcgtgg 180

taccagcaaa agccgggtca gcctccgaag ctgctgattt tctgggcctc aacccgggaa 240

tccggagtcc ctgacagatt cagcgggtcc ggattcggga ccgacttcac tctgactatt 300

tcgagcctgc aagcagaaga tgtggcagtg tactattgcc aacagtattt ttcatacccg 360

ctgaccttcg gccagggtac gaaggtggag atcaagggtg gaggggtag cggcgggga 420

ggcagcggcg gggggggaag ccaggtgcag ctggtccaat caggcgccga ggtcaagaaa 480

cctggagcgt cggtcaaggt ctcctgcaag actagccgct acacttttac cgaatacacc 540

atccactggg tcagacaggc gcccggtcag cgcctggagt ggatcggcgg gatcaacccg 600

aataatggaa tcccgaacta caatcaaaaa ttcaaaggcc gcgtgactat caccgtggat 660

acttcagcct caactgctta catggaactg tcatcgctga gatcagagga cactgcggtc 720

tactactgtg cgcgcagaag aatcgcttac ggatacgacg aggggcacgc aatggactac 780

tggggacagg gaaccctggt gaccgtgtcg tcaggcggag gaggatcgga tgtgcagttg 840

gtgcagtcgg gcgccgaagt gaaaaaaccg ggggcctcag tgaaagtgtc ctgcaaggcc 900

tccggataca ccttcacccg ctacactatg cactgggtca ggcaggcgcc cgggcagggc 960

ctggagtgga tcgggtatat caacccgtca aggggataca ctaactacgc cgactccgtg 1020

aagggaagat tcactatcac cactgacaaa tcaacttcga cggcgtatat ggaactgtca 1080

tccttgagat cggaagatac cgcgacctac tactgtgcgc gctactacga tgaccattac 1140

tgcctcgatt actggggaca gggcaccacg gtgaccgtct catcaggaga aggaacttca 1200

actggttccg gaggctccgg cggctcaggc ggcgctgacg acattgtgct gacccagagc 1260

ccggcgaccc tgtcactctc gccgggggaa agggctactc tgtcatgcag agcgtcacaa 1320

tcggtctcat acatgaactg gtaccagcag aaaccgggca aggctccaaa gcggtggatc 1380

tacgatactt cgaaggtggc ttcaggagtg ccggctcgct tcagcggatc cggctcggga 1440

accgattaca gcttgaccat taactcgctg gaggcggagg atgcagcgac ctactactgt 1500

caacaatggt cctcgaaccc actcactttt gggggcggga ccaaggtgga gattaag 1557

<210> 103
<211> 3169
<212> DNA
<213> Artificial Sequence

<220>
<223> NG-618 Transgene cassette

<400> 103
caggcccacc atgggttgga gctgtattat tctcttcctc gtcgccaccg cgaccggagt 60

gcattccgag ctcgtgatga cccagtcacc atcatccttg accgtgactg cgggcgagaa 120

ggtcacgatg tcatgcaagt cgtcacaaag cctgctgaac tccggcaatc agaagaatta 180

cctgacctgg taccagcaga aaccgggtca gccgccaaaa ctgctgatct actgggcatc 240

cacccgggaa agcggggtcc ctgaccggtt cactggatca ggatcaggaa ccgactttac 300

cctcacgatc tcaagcgtcc aagccgagga cttggctgtg tactactgcc aaaatgacta 360

ctcgtacccc ctgactttcg gagctgggac caagctggag atcaaaggcg gcggagggtc 420

cggaggaggg gggtcgggag gggggggaag cgaggtgcag ctgctggaac agagcggagc 480

cgagctggtg agaccaggca ccagcgtgaa aatctcgtgc aaggcctcgg ggtacgcttt 540

cacgaactac tggttgggtt gggtgaagca gcggccgggt catggactgg agtggatcgg 600

agacatcttt cccggaagcg gaaatatcca ttacaacgaa aagtttaaag gcaaggccac 660

ccttactgcg gataagtcaa gctccaccgc ttacatgcaa ctgtcctcac tgacttttga 720

agacagcgct gtgtatttct gcgctcgcct gcgcaattgg gatgaaccta tggactactg 780

gggccaagga accaccgtga ctgtgtcgtc gggaggggga ggctcacaag tgcagctgca 840

gcagtcaggt gcagaattgg ccaggccggg agccagcgtg aagatgtcgt gcaaagcctc 900

cggctacacc ttcactcgct acactatgca ttgggtgaaa cagcggccgg gacaagggct 960

ggagtggatc ggatacatca atccatcaag aggttacacc aactacaatc agaagttcaa 1020

ggacaaggct accctgacga ctgataagag ctcgtcaact gcatacatgc agctgtcgag 1080

cctgaccagc gaggattccg ccgtgtacta ctgcgcgaga tactatgatg accactactg 1140

cttggattac tggggccaag ggaccactct gaccgtgtcc tccggcggag ggggctcggg 1200

cggcgggggc tcgggggggcg gcggcagcga catcgtgctg acgcagagcc ccgcaatcat 1260

gtcagcctcc cctggcgaaa aagtgacgat gacctgctcc gcttcctcat cagtctccta 1320

catgaactgg tatcaacaga agagcggaac ctcgccgaag cgctggatct acgatacctc 1380

caaactggcc agcggagtgc cggcgcattt tcggggatcg ggcagcggta cctcctactc 1440

gctcaccatc tcaggaatgg aagccgaaga cgccgccacc tactactgcc agcagtggtc 1500

ctcaaaccca ttcaccttcg gatccggcac taagctggaa atcaaccgcg ggagcggagc 1560

gactaacttc agcttgctca agcaagccgg agatgtcgag gagaacccgg gacctggttg 1620

gtcgtgcatc atcctattcc ttgtcgcgac cgcaactggc gtccattccg acatcgtcat 1680

gacccaatcc ccagattcgc tggcggtgtc gcttggggaa cgggcaacca tcaactgcaa 1740

gagctcgcag tcactgctat acagccggaa tcagaaaaac tacctggcgt ggtaccagca 1800

aaagccgggt cagcctccga agctgctgat tttctgggcc tcaacccggg aatccggagt 1860

ccctgacaga ttcagcgggt ccggattcgg gaccgacttc actctgacta tttcgagcct 1920

gcaagcagaa gatgtggcag tgtactattg ccaacagtat ttttcatacc cgctgacctt 1980

cggccagggt acgaaggtgg agatcaaggg tggagggggt agcggcgggg gaggcagcgg 2040

cgggggggga agccaggtgc agctggtcca atcaggcgcc gaggtcaaga aacctggagc 2100

gtcggtcaag gtctcctgca agactagccg ctacactttt accgaataca ccatccactg 2160

ggtcagacag gcgcccggtc agcgcctgga gtggatcggc gggatcaacc cgaataatgg 2220

aatcccgaac tacaatcaaa aattcaaagg ccgcgtgact atcaccgtgg atacttcagc 2280

ctcaactgct tacatggaac tgtcatcgct gagatcagag gacactgcgg tctactactg 2340

tgcgcgcaga agaatcgctt acggatacga cgaggggcac gcaatggact actggggaca 2400

gggaaccctg gtgaccgtgt cgtcaggcgg aggaggatcg gatgtgcagt tggtgcagtc 2460

gggcgccgaa gtgaaaaaac cgggggcctc agtgaaagtg tcctgcaagg cctccggata 2520

caccttcacc cgctacacta tgcactgggt caggcaggcg cccgggcagg gcctggagtg 2580

gatcgggtat atcaacccgt caaggggata cactaactac gccgactccg tgaagggaag 2640

attcactatc accactgaca aatcaacttc gacggcgtat atggaactgt catccttgag 2700

atcggaagat accgcgacct actactgtgc gcgctactac gatgaccatt actgcctcga 2760

ttactgggga cagggcacca cggtgaccgt ctcatcagga gaaggaactt caactggttc 2820

cggaggctcc ggcggctcag gcggcgctga cgacattgtg ctgacccaga gcccggcgac 2880

cctgtcactc tcgccggggg aaagggctac tctgtcatgc agagcgtcac aatcggtctc 2940

atacatgaac tggtaccagc agaaaccggg caaggctcca aagcggtgga tctacgatac 3000

ttcgaaggtg gcttcaggag tgccggctcg cttcagcgga tccggctcgg gaaccgatta 3060

cagcttgacc attaactcgc tggaggcgga ggatgcagcg acctactact gtcaacaatg 3120

gtcctcgaac ccactcactt ttgggggcgg gaccaaggtg gagattaag 3169

<210> 104
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 104

Ser Gly Gly Gly Gly Ser Glu
1 5

<210> 105
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 105

Asp Lys Thr His Thr Ser
1 5

<210> 106
<211> 6
<212> PRT
<213> Artificial Sequence

<220>

<223> Flexible linker sequence

<220>
<221> SITE
<222> (1)..(1)
<223> Ser is optional

<400> 106

Ser Gly Gly Gly Gly Ser
1   5

<210> 107
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<220>
<221> SITE
<222> (1)..(1)
<223> Ser is optional

<400> 107

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1   5   10

<210> 108
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<220>
<221> SITE
<222> (1)..(1)
<223> Ser is optional

<400> 108

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1   5   10   15

<210> 109
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<220>
<221> SITE
<222> (1)..(1)
<223> Ser is optional

<400> 109

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

Gly Gly Gly Gly Ser
20

<210> 110
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<220>
<221> SITE
<222> (1)..(1)
<223> Ser is optional

<400> 110

Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
1 5 10 15

Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser
20 25

<210> 111
<211> 11
<212> PRT
<213> Artificial Sequence

<220>

<223> Flexible linker sequence

<400> 111

Ala Ala Ala Gly Ser Gly Gly Ala Ser Ala Ser
1   5   10

<210> 112
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Xaa can be any naturally occurring amino acid

<400> 112

Ala Ala Ala Gly Ser Gly Xaa Gly Gly Gly Ser Gly Ala Ser Ala Ser
1   5   10   15

<210> 113
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> Xaa can be any naturally occurring amino acid

<400> 113

Ala Ala Ala Gly Ser Gly Xaa Gly Gly Gly Ser Xaa Gly Gly Gly Ser
1   5   10   15

Gly Ala Ser Ala Ser

20

<210> 114
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> MISC_FEATURE
<222> (12)..(12)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> MISC_FEATURE
<222> (17)..(17)
<223> Xaa can be any naturally occurring amino acid

<400> 114

Ala Ala Ala Gly Ser Gly Xaa Gly Gly Gly Ser Xaa Gly Gly Gly Ser
1 5 10 15

Xaa Gly Gly Gly Ser Gly Ala Ser Ala Ser
20 25

<210> 115
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> MISC_FEATURE
<222> (12)..(12)

<223> Xaa can be any naturally occurring amino acid

<220>
<221> MISC_FEATURE
<222> (17)..(17)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> MISC_FEATURE
<222> (22)..(22)
<223> Xaa can be any naturally occurring amino acid

<400> 115

Ala Ala Ala Gly Ser Gly Xaa Gly Gly Gly Ser Xaa Gly Gly Gly Ser
1   5   10   15

Xaa Gly Gly Gly Ser Xaa Gly Gly Gly Ser Gly Ala Ser Ala Ser
            20   25   30

<210> 116
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Xaa can be any naturally occurring amino acid

<400> 116

Ala Ala Ala Gly Ser Gly Xaa Ser Gly Ala Ser Ala Ser
1   5   10

<210> 117
<211> 28
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 117

Pro Gly Gly Asn Arg Gly Thr Thr Thr Thr Arg Arg Pro Ala Thr Thr
1   5   10   15

Thr Gly Ser Ser Pro Gly Pro Thr Gln Ser His Tyr
20 25

<210> 118
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 118

Ala Thr Thr Thr Gly Ser Ser Pro Gly Pro Thr
1 5 10

<210> 119
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 119

Ala Thr Thr Thr Gly Ser
1 5

<210> 120
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 120

Met Pro Ser Leu Ser Gly Val Leu Gln Val Arg Tyr Leu Ser Pro Pro
1 5 10 15

Asp Leu

<210> 121
<211> 21

<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 121

Glu Pro Ser Gly Pro Ile Ser Thr Ile Asn Ser Pro Pro Ser Lys Glu
1 5 10 15

Ser His Lys Ser Pro
20

<210> 122
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 122

Gly Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp
1 5 10 15

<210> 123
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 123

Gly Gly Gly Gly Ile Ala Pro Ser Met Val Gly Gly Gly Gly Ser
1 5 10 15

<210> 124
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 124

Gly Gly Gly Gly Lys Val Glu Gly Ala Gly Gly Gly Gly Gly Ser
1   5   10   15

<210> 125
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 125

Gly Gly Gly Gly Ser Met Lys Ser His Asp Gly Gly Gly Gly Ser
1   5   10   15

<210> 126
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 126

Gly Gly Gly Gly Asn Leu Ile Thr Ile Val Gly Gly Gly Gly Ser
1   5   10   15

<210> 127
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 127

Gly Gly Gly Gly Val Val Pro Ser Leu Pro Gly Gly Gly Gly Ser
1   5   10   15

<210> 128
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 128

Gly Gly Glu Lys Ser Ile Pro Gly Gly Gly Gly Ser
1 5 10

<210> 129
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 129

Arg Pro Leu Ser Tyr Arg Pro Pro Phe Pro Phe Gly Phe Pro Ser Val
1 5 10 15

Arg Pro

<210> 130
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 130

Tyr Pro Arg Ser Ile Tyr Ile Arg Arg Arg His Pro Ser Pro Ser Leu
1 5 10 15

Thr Thr

<210> 131
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 131

Thr Pro Ser His Leu Ser His Ile Leu Pro Ser Phe Gly Leu Pro Thr
1 5 10 15

Phe Asn

<210> 132
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 132

Arg Pro Val Ser Pro Phe Thr Phe Pro Arg Leu Ser Asn Ser Trp Leu
1   5   10   15

Pro Ala

<210> 133
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 133

Ser Pro Ala Ala His Phe Pro Arg Ser Ile Pro Arg Pro Gly Pro Ile
1   5   10   15

Arg Thr

<210> 134
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 134

Ala Pro Gly Pro Ser Ala Pro Ser His Arg Ser Leu Pro Ser Arg Ala
1   5   10   15

Phe Gly

<210> 135
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 135

Pro Arg Asn Ser Ile His Phe Leu His Pro Leu Leu Val Ala Pro Leu
1   5   10   15

Gly Ala

<210> 136
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 136

Asn Pro Ser Leu Asn Pro Pro Ser Tyr Leu His Arg Ala Pro Ser Arg
1   5   10   15

Ile Ser

<210> 137
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 137

Leu Pro Trp Arg Thr Ser Leu Leu Pro Ser Leu Pro Leu Arg Arg Arg
1   5   10   15

Pro

<210> 138
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 138

Pro Pro Leu Phe Ala Lys Gly Pro Val Gly Leu Leu Ser Arg Ser Phe
1   5   10   15

Pro Pro

<210> 139
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 139

Val Pro Pro Ala Pro Val Val Ser Leu Arg Ser Ala His Ala Arg Pro
1   5   10   15

Pro Tyr

<210> 140
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 140

Leu Arg Pro Thr Pro Pro Arg Val Arg Ser Tyr Thr Cys Cys Pro Thr
1   5   10   15

Pro

<210> 141
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 141

Pro Asn Val Ala His Val Leu Pro Leu Leu Thr Val Pro Trp Asp Asn
1 5 10 15

Leu Arg

<210> 142
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Flexible linker sequence

<400> 142

Cys Asn Pro Leu Leu Pro Leu Cys Ala Arg Ser Pro Ala Val Arg Thr
1 5 10 15

Phe Pro

<210> 143
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> rigid linkers

<400> 143

Gly Ala Pro Ala Pro Ala Ala Pro Ala Pro Ala
1 5 10

<210> 144
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> rigid linkers

<400> 144

Pro Pro Pro Pro
1

<210> 145

<400> 145
000

<210> 146
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> Xaa can be any naturally occurring amino acid

<400> 146

Asp Lys Thr His Thr Cys Xaa Xaa
1   5

<210> 147
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 147

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala
1 5 10

<210> 148
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 148

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala

<210> 149
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 149

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala Thr Cys Pro Pro Cys Pro Ala
20 25

<210> 150
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 150

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Gly Lys Pro Thr Leu
1 5 10 15

Tyr Asn Ser Leu Val Met Ser Asp Thr Ala Gly Thr Cys Tyr
            20   25   30

<210> 151
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 151

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Gly Lys Pro Thr His
1   5   10   15

Val Asn Val Ser Val Val Met Ala Glu Val Asp Gly Thr Cys Tyr
            20   25   30

<210> 152
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequences

<400> 152

Asp Lys Thr His Thr Cys Cys Val Glu Cys Pro Pro Cys Pro Ala
1   5   10   15

<210> 153
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 153

Asp Lys Thr His Thr Cys Pro Arg Cys Pro Glu Pro Lys Ser Cys Asp
1   5   10   15

Thr Pro Pro Pro Cys Pro Arg Cys Pro Ala
            20   25

<210> 154
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 154

Asp Lys Thr His Thr Cys Pro Ser Cys Pro Ala
1 5 10

<210> 155
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<220>
<221> MISC_FEATURE
<222> (7)..(7)
<223> Xaa can be any naturally occurring amino acid

<220>
<221> MISC_FEATURE
<222> (8)..(8)
<223> Xaa can be any naturally occurring amino acid

<400> 155

Asp Lys Thr His Thr Ser Xaa Xaa
1 5

<210> 156
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 156

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala
1 5 10

<210> 157
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 157

Asp Lys Thr His Thr Ser Pro Pro Cys Pro Ala
1   5   10

<210> 158
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 158

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala
1   5   10

<210> 159
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 159

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Cys Pro Pro Ser
1   5   10   15

Pro Ala

<210> 160
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 160

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Ser Pro Pro Cys
1 5 10 15

Pro Ala

<210> 161
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 161

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala

<210> 162
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 162

Asp Lys Thr His Thr Ser Pro Pro Cys Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala

<210> 163
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 163

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Ser Pro Pro Ser
1 5 10 15

Pro Ala

<210> 164
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 164

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Thr Cys Pro Pro Ser
1 5 10 15

Pro Ala

<210> 165
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 165

Asp Lys Thr His Thr Ser Pro Pro Cys Pro Ala Thr Cys Pro Pro Ser
1 5 10 15

Pro Ala

<210> 166
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 166

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala

<210> 167
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 167

Asp Lys Thr His Thr Ser Pro Pro Cys Pro Ala Thr Ser Pro Pro Cys
1 5 10 15

Pro Ala

<210> 168
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 168

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Thr Ser Pro Pro Cys
1 5 10 15

Pro Ala

<210> 169
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 169

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Thr Ser Pro Pro Ser
1 5 10 15

Pro Ala

<210> 170
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 170

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Thr Ser Pro Pro Ser
1 5 10 15

Pro Ala

<210> 171
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 171

Asp Lys Thr His Thr Ser Pro Pro Cys Pro Ala Thr Ser Pro Pro Ser
1 5 10 15

Pro Ala

<210> 172
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 172

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Thr Cys Pro Pro Ser
1 5 10 15

Pro Ala

<210> 173
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 173

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Thr Ser Pro Pro Cys
1 5 10 15

Pro Ala

<210> 174
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 174

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala Thr Cys Pro Pro Ser Pro Ala
20 25

<210> 175
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 175

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala Thr Ser Pro Pro Cys Pro Ala
20 25

<210> 176
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 176

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Cys Pro Pro Ser
1 5 10 15

Pro Ala Thr Cys Pro Pro Cys Pro Ala
20 25

<210> 177
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 177

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Ser Pro Pro Cys
1 5 10 15

Pro Ala Thr Cys Pro Pro Cys Pro Ala
20 25

<210> 178
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 178

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala Thr Cys Pro Pro Cys Pro Ala
20 25

<210> 179
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 179

Asp Lys Thr His Thr Ser Pro Pro Cys Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala Thr Cys Pro Pro Cys Pro Ala
20 25

<210> 180
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 180

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala Thr Ser Pro Pro Ser Pro Ala
20 25

<210> 181
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 181

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Cys Pro Pro Ser
1 5 10 15

Pro Ala Thr Cys Pro Pro Ser Pro Ala
20 25

<210> 182
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 182

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Ser Pro Pro Cys
1 5 10 15

Pro Ala Thr Cys Pro Pro Ser Pro Ala
20 25

<210> 183
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 183

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala Thr Cys Pro Pro Ser Pro Ala
20 25

<210> 184
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 184

Asp Lys Thr His Thr Ser Pro Pro Cys Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala Thr Cys Pro Pro Ser Pro Ala
20 25

<210> 185
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 185

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Cys Pro Pro Ser
1 5 10 15

Pro Ala Thr Ser Pro Pro Cys Pro Ala
20 25

<210> 186
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 186

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Ser Pro Pro Cys
1 5 10 15

Pro Ala Thr Ser Pro Pro Cys Pro Ala
20 25

<210> 187
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 187

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala Thr Ser Pro Pro Cys Pro Ala
20 25

<210> 188
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 188

Asp Lys Thr His Thr Ser Pro Pro Cys Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala Thr Ser Pro Pro Cys Pro Ala
20 25

<210> 189
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 189

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Ser Pro Pro Ser
1 5 10 15

Pro Ala Thr Cys Pro Pro Cys Pro Ala
20 25

<210> 190
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 190

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Thr Cys Pro Pro Ser
1 5 10 15

Pro Ala Thr Cys Pro Pro Cys Pro Ala
20 25

<210> 191
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 191

Asp Lys Thr His Thr Ser Pro Pro Cys Pro Ala Thr Cys Pro Pro Ser
1 5 10 15

Pro Ala Thr Cys Pro Pro Cys Pro Ala
20 25

<210> 192
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 192

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Thr Ser Pro Pro Cys
1 5 10 15

Pro Ala Thr Cys Pro Pro Cys Pro Ala
20 25

<210> 193
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 193

Asp Lys Thr His Thr Ser Pro Pro Cys Pro Ala Thr Ser Pro Pro Cys
1 5 10 15

Pro Ala Thr Cys Pro Pro Cys Pro Ala
20 25

<210> 194
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 194

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala Thr Cys Pro Pro Cys Pro Ala
20 25

<210> 195
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 195

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Cys Pro Pro Ser
1 5 10 15

Pro Ala Thr Ser Pro Pro Ser Pro Ala
20 25

<210> 196
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 196

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Ser Pro Pro Cys
1 5 10 15

Pro Ala Thr Ser Pro Pro Ser Pro Ala
20 25

<210> 197
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 197

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala Thr Ser Pro Pro Ser Pro Ala
20 25

<210> 198
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 198

Asp Lys Thr His Thr Ser Pro Pro Cys Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala Thr Ser Pro Pro Ser Pro Ala
20 25

<210> 199
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 199

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Thr Ser Pro Pro Ser
1 5 10 15

Pro Ala Thr Cys Pro Pro Ser Pro Ala
20 25

<210> 200
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 200

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Thr Cys Pro Pro Ser
1 5 10 15

Pro Ala Thr Cys Pro Pro Ser Pro Ala
20 25

<210> 201
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 201

Asp Lys Thr His Thr Ser Pro Pro Cys Pro Ala Thr Cys Pro Pro Ser
1 5 10 15

Pro Ala Thr Cys Pro Pro Ser Pro Ala
20 25

<210> 202
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 202

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Thr Ser Pro Pro Cys
1 5 10 15

Pro Ala Thr Cys Pro Pro Ser Pro Ala
20 25

<210> 203
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 203

Asp Lys Thr His Thr Ser Pro Pro Cys Pro Ala Thr Ser Pro Pro Cys
1 5 10 15

Pro Ala Thr Cys Pro Pro Ser Pro Ala
20 25

<210> 204
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 204

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Thr Ser Pro Pro Cys
1 5 10 15

Pro Ala Thr Cys Pro Pro Cys Pro Ala
20 25

<210> 205
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 205

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Thr Cys Pro Pro Ser
1 5 10 15

Pro Ala Thr Cys Pro Pro Cys Pro Ala
20 25

<210> 206
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 206

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala Thr Ser Pro Pro Cys Pro Ala
20 25

<210> 207
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 207

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Thr Cys Pro Pro Cys
1 5 10 15

Pro Ala Thr Cys Pro Pro Ser Pro Ala
20 25

<210> 208
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 208

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Thr Ser Pro Pro Ser
1 5 10 15

Pro Ala Thr Cys Pro Pro Cys Pro Ala
20 25

<210> 209
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 209

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Thr Ser Pro Pro Cys
1 5 10 15

Pro Ala Thr Ser Pro Pro Cys Pro Ala
20 25

<210> 210
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 210

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Thr Cys Pro Pro Ser
1 5 10 15

Pro Ala Thr Ser Pro Pro Ser Pro Ala
20 25

<210> 211
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 211

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Thr Ser Pro Pro Ser
1   5   10   15

Pro Ala Thr Cys Pro Pro Ser Pro Ala
            20   25

<210> 212
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 212

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Thr Ser Pro Pro Cys
1   5   10   15

Pro Ala Thr Cys Pro Pro Ser Pro Ala
            20   25

<210> 213
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 213

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Thr Ser Pro Pro Ser
1   5   10   15

Pro Ala Thr Cys Pro Pro Cys Pro Ala
            20   25

<210> 214
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 214

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Thr Ser Pro Pro Cys
1 5 10 15

Pro Ala Thr Ser Pro Pro Cys Pro Ala
20 25

<210> 215
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 215

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Thr Ser Pro Pro Cys
1 5 10 15

Pro Ala Thr Cys Pro Pro Ser Pro Ala
20 25

<210> 216
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 216

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Thr Ser Pro Pro Ser
1 5 10 15

Pro Ala Thr Ser Pro Pro Cys Pro Ala
20 25

<210> 217
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 217

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Thr Ser Pro Pro Ser
1 5 10 15

Pro Ala Thr Ser Pro Pro Ser Pro Ala
20 25

<210> 218
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 218

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Thr Ser Pro Pro Ser
1 5 10 15

Pro Ala Thr Ser Pro Pro Cys Pro Ala
20 25

<210> 219
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 219

Asp Lys Thr His Thr Ser Pro Pro Cys Pro Ala Thr Ser Pro Pro Ser
1 5 10 15

Pro Ala Thr Ser Pro Pro Ser Pro Ala
20 25

<210> 220
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 220

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Thr Cys Pro Pro Ser
1 5 10 15

Pro Ala Thr Ser Pro Pro Ser Pro Ala
20 25

<210> 221
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 221

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Thr Ser Pro Pro Cys
1 5 10 15

Pro Ala Thr Ser Pro Pro Ser Pro Ala
20 25

<210> 222
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 222

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Thr Ser Pro Pro Ser
1 5 10 15

Pro Ala Thr Cys Pro Pro Ser Pro Ala
20 25

<210> 223
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 223

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Thr Ser Pro Pro Ser
1 5 10 15

Pro Ala Thr Ser Pro Pro Ser Pro Ala
20 25

<210> 224
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 224

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Gly Lys Pro Thr Leu
1 5 10 15

Tyr Asn Ser Leu Val Met Ser Asp Thr Ala Gly Thr Ser Tyr
20 25 30

<210> 225
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 225

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Gly Lys Pro Thr Leu
1 5 10 15

Tyr Asn Ser Leu Val Met Ser Asp Thr Ala Gly Thr Cys Tyr
20 25 30

<210> 226
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 226

Asp Lys Thr His Thr Ser Pro Pro Cys Pro Ala Gly Lys Pro Thr Leu
1 5 10 15

Tyr Asn Ser Leu Val Met Ser Asp Thr Ala Gly Thr Cys Tyr
20 25 30

<210> 227
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 227

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Gly Lys Pro Thr Leu
1 5 10 15

Tyr Asn Ser Leu Val Met Ser Asp Thr Ala Gly Thr Ser Tyr
20 25 30

<210> 228
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 228

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Gly Lys Pro Thr Leu
1 5 10 15

Tyr Asn Ser Leu Val Met Ser Asp Thr Ala Gly Thr Cys Tyr
20 25 30

<210> 229
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 229

Asp Lys Thr His Thr Ser Pro Pro Cys Pro Ala Gly Lys Pro Thr Leu
1 5 10 15

Tyr Asn Ser Leu Val Met Ser Asp Thr Ala Gly Thr Ser Tyr
20 25 30

<210> 230
<211> 30
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 230

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Gly Lys Pro Thr Leu
1 5 10 15

Tyr Asn Ser Leu Val Met Ser Asp Thr Ala Gly Thr Ser Tyr
20 25 30

<210> 231
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 231

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Gly Lys Pro Thr His
1 5 10 15

Val Asn Val Ser Val Val Met Ala Glu Val Asp Gly Thr Ser Tyr
20 25 30

<210> 232
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 232

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Gly Lys Pro Thr His
1 5 10 15

Val Asn Val Ser Val Val Met Ala Glu Val Asp Gly Thr Cys Tyr
20 25 30

<210> 233
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 233

Asp Lys Thr His Thr Ser Pro Pro Cys Pro Ala Gly Lys Pro Thr His
1 5 10 15

Val Asn Val Ser Val Val Met Ala Glu Val Asp Gly Thr Cys Tyr
20 25 30

<210> 234
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 234

Asp Lys Thr His Thr Cys Pro Pro Ser Pro Ala Gly Lys Pro Thr His
1 5 10 15

Val Asn Val Ser Val Val Met Ala Glu Val Asp Gly Thr Ser Tyr
20 25 30

<210> 235
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 235

Asp Lys Thr His Thr Ser Pro Pro Cys Pro Ala Gly Lys Pro Thr His
1 5 10 15

Val Asn Val Ser Val Val Met Ala Glu Val Asp Gly Thr Ser Tyr
20 25 30

<210> 236
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 236

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Gly Lys Pro Thr His
1 5 10 15

Val Asn Val Ser Val Val Met Ala Glu Val Asp Gly Thr Cys Tyr
20 25 30

<210> 237
<211> 31
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 237

Asp Lys Thr His Thr Ser Pro Pro Ser Pro Ala Gly Lys Pro Thr His
1 5 10 15

Val Asn Val Ser Val Val Met Ala Glu Val Asp Gly Thr Ser Tyr
20 25 30

<210> 238
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 238

Asp Lys Thr His Thr Cys Cys Val Glu Cys Pro Pro Ser Pro Ala
1 5 10 15

<210> 239
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 239

Asp Lys Thr His Thr Cys Cys Val Glu Ser Pro Pro Cys Pro Ala
1 5 10 15

<210> 240
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 240

Asp Lys Thr His Thr Cys Ser Val Glu Cys Pro Pro Cys Pro Ala
1 5 10 15

<210> 241
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 241

Asp Lys Thr His Thr Ser Cys Val Glu Cys Pro Pro Cys Pro Ala
1 5 10 15

<210> 242
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 242

Asp Lys Thr His Thr Cys Cys Val Glu Ser Pro Pro Ser Pro Ala
1   5   10   15

<210> 243
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 243

Asp Lys Thr His Thr Cys Ser Val Glu Cys Pro Pro Ser Pro Ala
1   5   10   15

<210> 244
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 244

Asp Lys Thr His Thr Ser Cys Val Glu Cys Pro Pro Ser Pro Ala
1   5   10   15

<210> 245
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 245

Asp Lys Thr His Thr Cys Ser Val Glu Ser Pro Pro Cys Pro Ala
1   5   10   15

<210> 246
<211> 15
<212> PRT

<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 246

Asp Lys Thr His Thr Ser Ser Val Glu Cys Pro Pro Cys Pro Ala
1 5 10 15

<210> 247
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 247

Asp Lys Thr His Thr Cys Ser Val Glu Ser Pro Pro Ser Pro Ala
1 5 10 15

<210> 248
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 248

Asp Lys Thr His Thr Ser Ser Val Glu Cys Pro Pro Ser Pro Ala
1 5 10 15

<210> 249
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 249

Asp Lys Thr His Thr Ser Ser Val Glu Ser Pro Pro Cys Pro Ala
1 5 10 15

<210> 250

<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 250

Asp Lys Thr His Thr Ser Ser Val Glu Ser Pro Pro Ser Pro Ala
1 5 10 15

<210> 251
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 251

Asp Lys Thr His Thr Cys Pro Arg Cys Pro Glu Pro Lys Ser Cys Asp
1 5 10 15

Thr Pro Pro Pro Cys Pro Arg Ser Pro Ala
20 25

<210> 252
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 252

Asp Lys Thr His Thr Cys Pro Arg Cys Pro Glu Pro Lys Ser Cys Asp
1 5 10 15

Thr Pro Pro Pro Ser Pro Arg Cys Pro Ala
20 25

<210> 253
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 253

Asp Lys Thr His Thr Cys Pro Arg Cys Pro Glu Pro Lys Ser Ser Asp
1   5   10   15

Thr Pro Pro Pro Cys Pro Arg Cys Pro Ala
            20   25

<210> 254
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 254

Asp Lys Thr His Thr Cys Pro Arg Ser Pro Glu Pro Lys Ser Cys Asp
1   5   10   15

Thr Pro Pro Pro Cys Pro Arg Cys Pro Ala
            20   25

<210> 255
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 255

Asp Lys Thr His Thr Ser Pro Arg Cys Pro Glu Pro Lys Ser Cys Asp
1   5   10   15

Thr Pro Pro Pro Cys Pro Arg Cys Pro Ala
            20   25

<210> 256
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 256

Asp Lys Thr His Thr Cys Pro Arg Cys Pro Glu Pro Lys Ser Cys Asp
1   5   10   15

Thr Pro Pro Pro Ser Pro Arg Ser Pro Ala
            20   25

<210> 257
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 257

Asp Lys Thr His Thr Cys Pro Arg Cys Pro Glu Pro Lys Ser Ser Asp
1   5   10   15

Thr Pro Pro Pro Cys Pro Arg Ser Pro Ala
            20   25

<210> 258
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 258

Asp Lys Thr His Thr Cys Pro Arg Ser Pro Glu Pro Lys Ser Cys Asp
1   5   10   15

Thr Pro Pro Pro Cys Pro Arg Ser Pro Ala
            20   25

<210> 259
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 259

Asp Lys Thr His Thr Ser Pro Arg Cys Pro Glu Pro Lys Ser Cys Asp
1   5   10   15

Thr Pro Pro Pro Cys Pro Arg Ser Pro Ala
            20   25

<210> 260
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 260

Asp Lys Thr His Thr Cys Pro Arg Cys Pro Glu Pro Lys Ser Ser Asp
1   5   10   15

Thr Pro Pro Pro Ser Pro Arg Ser Pro Ala
            20   25

<210> 261
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 261

Asp Lys Thr His Thr Cys Pro Arg Ser Pro Glu Pro Lys Ser Cys Asp
1   5   10   15

Thr Pro Pro Pro Ser Pro Arg Ser Pro Ala
            20   25

<210> 262
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 262

Asp Lys Thr His Thr Ser Pro Arg Cys Pro Glu Pro Lys Ser Cys Asp
1   5   10   15

Thr Pro Pro Pro Ser Pro Arg Ser Pro Ala
            20   25

<210> 263
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 263

Asp Lys Thr His Thr Cys Pro Arg Ser Pro Glu Pro Lys Ser Ser Asp
1   5   10   15

Thr Pro Pro Pro Cys Pro Arg Ser Pro Ala
            20   25

<210> 264
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 264

Asp Lys Thr His Thr Ser Pro Arg Cys Pro Glu Pro Lys Ser Ser Asp
1   5   10   15

Thr Pro Pro Pro Cys Pro Arg Ser Pro Ala
            20   25

<210> 265
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 265

Asp Lys Thr His Thr Ser Pro Arg Ser Pro Glu Pro Lys Ser Cys Asp
1   5   10   15

Thr Pro Pro Pro Cys Pro Arg Ser Pro Ala
            20   25

<210> 266
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 266

Asp Lys Thr His Thr Cys Pro Arg Ser Pro Glu Pro Lys Ser Ser Asp
1   5   10   15

Thr Pro Pro Pro Ser Pro Arg Cys Pro Ala
            20   25

<210> 267
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 267

Asp Lys Thr His Thr Ser Pro Arg Cys Pro Glu Pro Lys Ser Ser Asp
1   5   10   15

Thr Pro Pro Pro Ser Pro Arg Cys Pro Ala
            20   25

<210> 268
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 268

Asp Lys Thr His Thr Ser Pro Arg Ser Pro Glu Pro Lys Ser Ser Asp
1   5   10   15

Thr Pro Pro Pro Cys Pro Arg Cys Pro Ala
            20   25

<210> 269
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 269

Asp Lys Thr His Thr Cys Pro Arg Ser Pro Glu Pro Lys Ser Ser Asp
1   5   10   15

Thr Pro Pro Pro Ser Pro Arg Ser Pro Ala
            20   25

<210> 270
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 270

Asp Lys Thr His Thr Ser Pro Arg Ser Pro Glu Pro Lys Ser Ser Asp
1   5   10   15

Thr Pro Pro Pro Cys Pro Arg Ser Pro Ala
            20   25

<210> 271
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 271

Asp Lys Thr His Thr Ser Pro Arg Ser Pro Glu Pro Lys Ser Cys Asp
1   5   10   15

Thr Pro Pro Pro Ser Pro Arg Ser Pro Ala
            20   25

<210> 272
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 272

Asp Lys Thr His Thr Ser Pro Arg Cys Pro Glu Pro Lys Ser Ser Asp
1   5   10   15

Thr Pro Pro Pro Ser Pro Arg Ser Pro Ala
            20   25

<210> 273
<211> 26
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 273

Asp Lys Thr His Thr Ser Pro Arg Ser Pro Glu Pro Lys Ser Ser Asp
1   5   10   15

Thr Pro Pro Pro Ser Pro Arg Ser Pro Ala
            20   25

<210> 274
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 274

Asp Lys Thr His Thr Cys Pro Ser Ser Pro Ala
1   5   10

<210> 275
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 275

Asp Lys Thr His Thr Ser Pro Ser Cys Pro Ala
1   5   10

<210> 276
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 276

Asp Lys Thr His Thr Ser Pro Ser Ser Pro Ala
1   5   10

<210> 277
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Linker sequence

<400> 277

Gly Gly Gly Ser
1

<210> 278
<211> 35759
<212> DNA

<213> Artificial Sequence

<220>
<223> NG-616 genome sequence

<400> 278
tctatctata taatatacct tatagatgga atggtgccaa tatgtaaatg aggtgatttt 60

aaaaagtgtg gatcgtgtgg tgattggctg tggggttaac ggctaaaagg ggcggtgcga 120

ccgtgggaaa atgacgtttt gtgggggtgg agtttttttg caagttgtcg cgggaaatgt 180

gacgcataaa aaggcttttt tctcacggaa ctacttagtt ttcccacggt atttaacagg 240

aaatgaggta gttttgaccg gatgcaagtg aaaattgttg attttcgcgc gaaaactgaa 300

tgaggaagtg tttttctgaa taatgtggta tttatggcag ggtggagtat ttgttcaggg 360

ccaggtagac tttgacccat tacgtggagg tttcgattac cgtgtttttt acctgaattt 420

ccgcgtaccg tgtcaaagtc ttctgttttt acgtaggtgt cagctgatcg ctagggtatt 480

tatacctcag ggtttgtgtc aagaggccac tcttgagtgc cagcgagaag agttttctcc 540

tctgcgccgg cagtttaata ataaaaaaat gagagatttg cgatttctgc ctcaggaaat 600

aatctctgct gagactggaa atgaaatatt ggagcttgtg gtgcacgccc tgatgggaga 660

cgatccggag ccacctgtgc agctttttga gcctcctacg cttcaggaac tgtatgattt 720

agaggtagag ggatcggagg attctaatga ggaagctgta aatggctttt ttaccgattc 780

tatgctttta gctgctaatg aagggttaga attagatccg cctttggaca cttttgatac 840

tccaggggta attgtggaaa gcggtacagg tgtaagaaaa ttacctgatt tgagttccgt 900

ggactgtgat ttgcactgct atgaagacgg gtttcctccg agtgatgagg aggaccatga 960

aaaggagcag tccatgcaga ctgcagcggg tgagggagtg aaggctgcca atgttggttt 1020

tcagttggat tgcccggagc ttcctggaca tggctgtaag tcttgtgaat ttcacaggaa 1080

aaatactgga gtaaaggaac tgttatgttc gctttgttat atgagaacgc actgccactt 1140

tatttacagt aagtgtgttt aagttaaaat ttaaaggaat atgctgtttt tcacatgtat 1200

attgagtgtg agttttgtgc ttcttattat aggtcctgtg tctgatgctg atgaatcacc 1260

atctcctgat tctactacct cacctcctga gattcaagca cctgttcctg tggacgtgcg 1320

caagcccatt cctgtgaagc ttaagcctgg gaaacgtcca gcagtggaaa aacttgagga 1380

cttgttacag ggtggggacg gacctttgga cttgagtaca cggaaacgtc caagacaata 1440

agtgttccat atccgtgttt acttaaggtg acgtcaatat ttgtgtgaca gtgcaatgta 1500

ataaaaatat gttaactgtt cactggtttt tattgctttt tgggcgggga ctcaggtata 1560

taagtagaag cagacctgtg tggttagctc ataggagctg gctttcatcc atggaggttt 1620

gggccatttt ggaagacctt aggaagacta ggcaactgtt agagaacgct tcggacggag 1680

tctccggttt ttggagattc tggttcgcta gtgaattagc tagggtagtt tttaggataa 1740

aacaggacta taaacaagaa tttgaaaagt tgttggtaga ttgcccagga ctttttgaag 1800

ctcttaattt gggccatcag gttcacttta aagaaaaagt tttatcagtt ttagactttt 1860

caaccccagg tagaactgct gctgctgtgg cttttcttac ttttatatta gataaatgga 1920

tcccgcagac tcatttcagc aggggatacg ttttggattt catagccaca gcattgtgga 1980

gaacatggaa ggttcgcaag atgaggacaa tcttaggtta ctggccagtg cagcctttgg 2040

gtgtagcggg aatcctgagg catccaccgg tcatgccagc ggttctggag gaggaacagc 2100

aagaggacaa cccgagagcc ggcctggacc ctccagtgga ggaggcggag tagctgactt 2160

gtctcctgaa ctgcaacggg tgcttactgg atctacgtcc actggacggg ataggggcgt 2220

taagagggag agggcatcta gtggtactga tgctagatct gagttggctt taagtttaat 2280

gagtcgcaga cgtcctgaaa ccatttggtg gcatgaggtt cagaaagagg gaagggatga 2340

agtttctgta ttgcaggaga aatattcact ggaacaggtg aaaacatgtt ggttggagcc 2400

tgaggatgat tgggaggtgg ccattaaaaa ttatgccaag atagctttga ggcctgataa 2460

acagtataag attactagac ggattaatat ccggaatgct tgttacatat ctggaaatgg 2520

ggctgaggtg gtaatagata ctcaagacaa ggcagttatt agatgctgca tgatggatat 2580

gtggcctggg gtagtcggta tggaagcagt aacttttgta aatgttaagt ttaggggaga 2640

tggttataat ggaatagtgt ttatggccaa taccaaactt atattgcatg gttgtagctt 2700

ttttggtttc aacaatacct gtgtagatgc ctggggacag gttagtgtac ggggatgtag 2760

tttctatgcg tgttggattg ccacagctgg cagaaccaag agtcaattgt ctctgaagaa 2820

atgcatattt caaagatgta acctgggcat tctgaatgaa ggcgaagcaa gggtccgcca 2880

ctgcgcttct acagatactg gatgttttat tttgattaag ggaaatgcca gcgtaaagca 2940

taacatgatt tgcggtgctt ccgatgagag gccttatcaa atgctcactt gtgctggtgg 3000

gcattgtaat atgctggcta ctgtgcatat tgtttcccat caacgcaaaa aatggcctgt 3060

ttttgatcac aatgtgatga cgaagtgtac catgcatgca ggtgggcgta gaggaatgtt 3120

tatgccttac cagtgtaaca tgaatcatgt gaaagtgttg ttggaaccag atgccttttc 3180

cagaatgagc ctaacaggaa tttttgacat gaacatgcaa atctggaaga tcctgaggta 3240

tgatgatacg agatcgaggg tacgcgcatg cgaatgcgga ggcaagcatg ccaggttcca 3300

gccggtgtgt gtagatgtga ctgaagatct cagaccggat catttggtta ttgcccgcac 3360

tggagcagag ttcggatcca gtggagaaga aactgactaa ggtgagtatt gggaaaactt 3420

tggggtggga ttttcagatg gacagattga gtaaaaattt gtttttttctg tcttgcagct 3480

gtcatgagtg gaaacgcttc ttttaagggg ggagtcttca gcccttatct gacagggcgt 3540

ctcccatcct gggcaggagt tcgtcagaat gttatgggat ctactgtgga tggaagaccc 3600

gtccaacccg ccaattcttc aacgctgacc tatgctactt taagttcttc acctttggac 3660

gcagctgcag ctgccgccgc cgcttctgtt gccgctaaca ctgtgcttgg aatgggttac 3720

tatggaagca tcatggctaa ttccacttcc tctaataacc cttctaccct gactcaggac 3780

aagttacttg tccttttggc ccagctggag gctttgaccc aacgtctggg tgaactttct 3840

cagcaggtgg tcgagttgcg agtacaaact gagtctgctg tcggcacggc aaagtctaaa 3900

taaaaaaatc ccagaatcaa tgaataaata aacaagcttg ttgttgattt aaaatcaagt 3960

gtttttattt catttttcgc gcacggtatg ccctagacca ccgatctcta tcattgagaa 4020

ctcggtggat tttttccagg atcctataga ggtgggattg aatgtttaga tacatgggca 4080

ttaggccgtc tttggggtgg agatagctcc attgaaggga ttcatgctcc ggggtagtgt 4140

tgtaaatcac ccagtcataa caaggtcgca gtgcatggtg ttgcacaata tcttttagaa 4200

gtaggctgat tgccacagat aagcccttgg tgtaggtgtt tacaaaccgg ttgagctggg 4260

atgggtgcat tcggggtgaa attatgtgca ttttggattg gatttttaag ttggcaatat 4320

tgccgccaag atcccgtctt gggttcatgt tatgaaggac caccaagacg gtgtatccgg 4380

tacatttagg aaatttatcg tgcagcttgg atggaaaagc gtggaaaaat ttggagacac 4440

ccttgtgtcc tccaagattt tccatgcact catccatgat aatagcaatg gggccgtggg 4500

cagcggcgcg ggcaaacacg ttccgtgggt ctgacacatc atagttatgt tcctgagtta 4560

aatcatcata agccatttta atgaatttgg ggcggagagt accagattgg ggtatgaatg 4620

ttccttcggg ccccggagca tagttcccct cacagatttg catttcccaa gctttcagtt 4680

ccgagggtgg aatcatgtcc acctgggggg ctatgaaaaa caccgtttct ggggcggggg 4740

tgattaattg tgatgatagc aaatttctga gcaattgaga tttgccacat ccggtggggc 4800

cataaatgat tccgattacg ggttgcaggt ggtagtttag ggaacggcaa ctgccgtctt 4860

ctcgaagcaa gggggccacc tcgttcatca tttcccttac atgcatattt tcccgcacca 4920

aatccattag gaggcgctct cctcctagtg atagaagttc ttgtagtgag gaaaagtttt 4980

tcagcggttt cagaccgtca gccatgggca ttttggagag agtttgctgc aaaagttcta 5040

gtctgttcca cagttcagtg atgtgttcta tggcatctcg atccagcaga cctcctcgtt 5100

tcgcgggttt ggacggctcc tggaataggg tatgagacga tgggcgtcca gcgctgccag 5160

ggttcggtcc ttccagggtc tcagtgttcg agtcagggtt gtttccgtca cagtgaaggg 5220

gtgtgcgcct gcttgggcgc ttgccagggt gcgcttcaga ctcatcctgc tggtcgaaaa 5280

cttctgtcgc ttggcgccct gtatgtcggc caagtagcag tttaccatga gttcgtagtt 5340

gagcgcctcg gctgcgtggc ctttggcgcg gagcttacct ttggaagttt tcttgcatac 5400

cgggcagtat aggcatttca gcgcatacaa cttgggcgca aggaaaacgg attctgggga 5460

gtatgcatct gcgccgcagg aggcgcaaac agtttcacat tccaccagcc aggttaaatc 5520

cggttcattg gggtcaaaaa caagttttcc gccatatttt ttgatgcgtt tcttaccttt 5580

ggtctccatg agttcgtgtc ctcgttgagt gacaaacagg ctgtccgtgt ccccgtagac 5640

tgattttaca ggcctcttct ccagtggagt gcctcggtct tcttcgtaca ggaactctga 5700

ccactctgat acaaaggcgc gcgtccaggc cagcacaaag gaggctatgt gggaggggta 5760

gcgatcgttg tcaaccaggg ggtccacctt ttccaaagta tgcaaacaca tgtcaccctc 5820

ttcaacatcc aggaatgtga ttggcttgta ggtgtatttc acgtgacctg gggtccccgc 5880

tgggggggta taaaaggggg cggttctttg ctcttcctca ctgtcttccg gatcgctgtc 5940

caggaacgtc agctgttggg gtaggtattc cctctcgaag gcgggcatga cctctgcact 6000

caggttgtca gtttctaaga acgaggagga tttgatattg acagtgccgg ttgagatgcc 6060

tttcatgagg ttttcgtcca tctggtcaga aaacacaatt tttttattgt caagtttggt 6120

ggcaaatgat ccatacaggg cgttggataa aagtttggca atggatcgca tggtttggtt 6180

cttttccttg tccgcgcgct ctttggcggc gatgttgagt tggacatact cgcgtgccag 6240

gcacttccat tcggggaaga tagttgttaa ttcatctggc acgattctca cttgccaccc 6300

tcgattatgc aaggtaatta aatccacact ggtggccacc tcgcctcgaa ggggttcatt 6360

ggtccaacag agcctacctc ctttcctaga acagaaaggg ggaagtgggt ctagcataag 6420

ttcatcggga gggtctgcat ccatggtaaa gattcccgga agtaaatcct tatcaaaata 6480

gctgatggga gtggggtcat ctaaggccat ttgccattct cgagctgcca gtgcgcgctc 6540

atatgggtta aggggactgc cccatggcat gggatgggtg agtgcagagg catacatgcc 6600

acagatgtca tagacgtaga tgggatcctc aaagatgcct atgtaggttg gatagcatcg 6660

ccccccctctg atacttgctc gcacatagtc atatagttca tgtgatggcg ctagcagccc 6720

cggacccaag ttggtgcgat tgggtttttc tgttctgtag acgatctggc gaaagatggc 6780

gtgagaattg gaagagatgg tgggtctttg aaaaatgttg aaatgggcat gaggtagacc 6840

tacagagtct ctgacaaagt gggcataaga ttcttgaagc ttggttacca gttcggcggt 6900

gacaagtacg tctagggcgc agtagtcaag tgtttcttga atgatgtcat aacctggttg 6960

gtttttcttt tcccacagtt cgcggttgag aaggtattct tcgcgatcct tccagtactc 7020

ttctagcgga aacccgtctt tgtctgcacg gtaagatcct agcatgtaga actgattaac 7080

tgccttgtaa gggcagcagc ccttctctac gggtagagag tatgcttgag cagcttttcg 7140

tagcgaagcg tgagtaaggg caaaggtgtc tctgaccatg actttgagga attggtattt 7200

gaagtcgatg tcgtcacagg ctccctgttc ccagagttgg aagtctaccc gtttcttgta 7260

ggcggggttg ggcaaagcga aagtaacatc attgaagaga atcttgccgg ccctgggcat 7320

gaaattgcga gtgatgcgaa aaggctgtgg tacttccgct cggttattga taacctgggc 7380

agctaggacg atctcgtcga aaccgttgat gttgtgtcct acgatgtata attctatgaa 7440

acgcggcgtg cctctgacgt gaggtagctt actgagctca tcaaaggtta ggtctgtggg 7500

gtcagataag gcgtagtgtt cgagagccca ttcgtgcagg tgaggattcg ctttaaggaa 7560

ggaggaccag aggtccactg ccagtgctgt ttgtaactgg tcccggtact gacgaaaatg 7620

ccgtccgact gccatttttt ctggggtgac gcaatagaag gtttgggggt cctgccgcca 7680

gcgatcccac ttgagtttta tggcgaggtc ataggcgatg ttgacgagcc gctggtctcc 7740

agagagtttc atgaccagca tgaaggggat tagctgcttg ccaaaggacc ccatccaggt 7800

gtaggtttcc acatcgtagg tgagaaagag cctttctgtg cgaggatgag agccaatcgg 7860

gaagaactgg atctcctgcc accagttgga ggaatggctg ttgatgtgat ggaagtagaa 7920

ctccctgcga cgcgccgagc attcatgctt gtgcttgtac agacggccgc agtagtcgca 7980

gcgttgcacg ggttgtatct cgtgaatgag ttgtacctgg cttcccttga cgagaaattt 8040

cagtgggaag ccgaggcctg gcgattgtat ctcgtgcttt actatgttgt ctgcatcggc 8100

ctgttcatct tctgtctcga tggtggtcat gctgacgagc cctcgcggga ggcaagtcca 8160

gacctcggcg cggcaggggc ggagctcgag gacgagagcg cgcaggctgg agctgtccag 8220

ggtcctgaga cgctgcggac tcaggttagt aggcagtgtc aggagattaa cttgcatgat 8280

cttttggagg gcgtgcggga ggttcagata gtacttgatc tcaacgggtc cgttggtgga 8340

gatgtcgatg gcttgcaggg ttccgtgtcc cttgggcgct accaccgtgc ccttgttttt 8400

cattttggac ggcggtggct ctgttgcttc ttgcatgttt agaagcggtg tcgagggcgc 8460

gcaccgggcg gcaggggcgg ctcgggaccc ggcggcatgg ctggcagtgg tacgtcggcg 8520

ccgcgcgcgg gtaggttctg gtactgcgcc ctgagaagac tcgcatgcgc gacgacgcgg 8580

cggttgacat cctggatctg acgcctctgg gtgaaagcta ccggccccgt gagcttgaac 8640

ctgaaagaga gttcaacaga atcaatctcg gtatcgttga cggcggcttg cctaaggatt 8700

tcttgcacgt caccagagtt gtcctggtag gcgatctccg ccatgaactg ctcgatctct 8760

tcctcttgaa gatctccgcg gcccgctctc tcgacggtgg ccgcgaggtc gttggagatg 8820

cgcccaatga gttgagagaa tgcattcatg cccgcctcgt tccagacgcg gctgtagacc 8880

acggccccca cgggatctct cgcgcgcatg accacctggg cgaggttgag ctccacgtgg 8940

cgggtgaaga ccgcatagtt gcataggcgc tggaaaaggt agttgagtgt ggtggcgatg 9000

tgctcggtga cgaagaaata catgatccat cgtctcagcg gcatctcgct gacatcgccc 9060

agagcttcca agcgctccat ggcctcgtag aagtccacgg caaaattaaa aaactgggag 9120

tttcgcgcgg acacggtcaa ctcctcttcc agaagacgga taagttcggc gatggtggtg 9180

cgcacctcgc gctcgaaagc ccctgggatt tcttcctcaa tctcttcttc ttccactaac 9240

atctcttcct cttcaggtgg ggctgcagga ggagggggaa cgcggcgacg ccggcggcgc 9300

acgggcagac ggtcgatgaa tctttcaatg acctctccgc ggcggcggcg catggtttca 9360

gtgacggcgc ggccgttctc gcgcggtcgc agagtaaaaa caccgccgcg catctcctta 9420

aagtggtgac tgggaggttc tccgtttggg agggagaggg cgctgattat acattttatt 9480

aattggcccg tagggactgc acgcagagat ctgatcgtgt caagatccac gggatctgaa 9540

aacctttcga cgaaagcgtc taaccagtca cagtcacaag gtaggctgag tacggcttct 9600

tgtgggcggg ggtggttatg tgttcggtct gggtcttctg tttcttcttc atctcgggaa 9660

ggtgagacga tgctgctggt gatgaaatta aagtaggcag ttctaagacg gcggatggtg 9720

gcgaggagca ccaggtcttt gggtccggct tgctggatac gcaggcgatt ggccattccc 9780

caagcattat cctgacatct agcaagatct ttgtagtagt cttgcatgag ccgttctacg 9840

ggcacttctt cctcacccgt tctgccatgc atacgtgtga gtccaaatcc gcgcattggt 9900

tgtaccagtg ccaagtcagc tacgactctt tcggcgagga tggcttgctg tacttgggta 9960

agggtggctt gaaagtcatc aaaatccaca aagcggtggt aagctcctgt attaatggtg 10020

taagcacagt tggccatgac tgaccagtta actgtctggt gaccagggcg cacgagctcg 10080

gtgtatttaa ggcgcgaata ggcgcgggtg tcaaagatgt aatcgttgca ggtgcgcacc 10140

agatactggt accctataag aaaatgcggc ggtggttggc ggtagagagg ccatcgttct 10200

gtagctggag cgccaggggc gaggtcttcc aacataaggc ggtgatagcc gtagatgtac 10260

ctggacatcc aggtgattcc tgcggcggta gtagaagccc gaggaaactc gcgtacgcgg 10320

ttccaaatgt tgcgtagcgg catgaagtag ttcattgtag gcacggtttg accagtgagg 10380

cgcgcgcagt cattgatgct ctatagacac ggagaaaatg aaagcgttca gcgactcgac 10440

tccgtagcct ggaggaacgt gaacgggttg ggtcgcggtg taccccggtt cgagacttgt 10500

actcgagccg gccggagccg cggctaacgt ggtattggca ctcccgtctc gacccagcct 10560

acaaaaatcc aggatacgga atcgagtcgt tttgctggtt tccgaatggc agggaagtga 10620

gtcctatttt tttttttgc cgctcagatg catcccgtgc tgcgacagat gcgcccccaa 10680

caacagcccc cctcgcagca gcagcagcag caatcacaaa aggctgtccc tgcaactact 10740

gcaactgccg ccgtgagcgg tgcgggacag cccgcctatg atctggactt ggaagagggc 10800

gaaggactgg cacgtctagg tgcgccttca cccgagcggc atccgcgagt tcaactgaaa 10860

aaagattctc gcgaggcgta tgtgccccaa cagaacctat ttagagacag aagcggcgag 10920

gagccggagg agatgcgagc ttcccgcttt aacgcgggtc gtgagctgcg tcacggtttg 10980

gaccgaagac gagtgttgcg ggacgaggat ttcgaagttg atgaaatgac agggatcagt 11040

cctgccaggg cacacgtggc tgcagccaac cttgtatcgg cttacgagca gacagtaaag 11100

gaagagcgta acttccaaaa gtcttttaat aatcatgtgc gaaccctgat tgcccgcgaa 11160

gaagttaccc ttggtttgat gcatttgtgg gatttgatgg aagctatcat tcagaaccct 11220

actagcaaac ctctgaccgc ccagctgttt ctggtggtgc aacacagcag agacaatgag 11280

gctttcagag aggcgctgct gaacatcacc gaacccgagg ggagatggtt gtatgatctt 11340

atcaacattc tacagagtat catagtgcag gagcggagcc tgggcctggc cgagaaggtg 11400

gctgccatca attactcggt tttgagcttg ggaaaatatt acgctcgcaa aatctacaag 11460

actccatacg ttcccataga caaggaggtg aagatagatg ggttctacat gcgcatgacg 11520

ctcaaggtct tgaccctgag cgatgatctt ggggtgtatc gcaatgacag aatgcatcgc 11580

gcggttagcg ccagcaggag gcgcgagtta agcgacaggg aactgatgca cagtttgcaa 11640

agagctctga ctggagctgg aaccgagggt gagaattact tcgacatggg agctgacttg 11700

cagtggcagc ctagtcgcag ggctctgagc gccgcgacgg caggatgtga gcttccttac 11760

atagaagagg cggatgaagg cgaggaggaa gagggcgagt acttggaaga ctgatggcac 11820

aacccgtgtt ttttgctaga tggaacagca agcaccggat cccgcaatgc gggcggcgct 11880

gcagagccag ccgtccggca ttaactcctc ggacgattgg acccaggcca tgcaacgtat 11940

catggcgttg acgactcgca accccgaagc ctttagacag caaccccagg ccaaccgtct 12000

atcggccatc atggaagctg tagtgccttc ccgctctaat cccactcatg agaaggtcct 12060

ggccatcgtg aacgcgttgg tggagaacaa agctattcgt ccagatgagg ccggactggt 12120

atacaacgct ctcttagaac gcgtggctcg ctacaacagt agcaatgtgc aaaccaattt 12180

ggaccgtatg ataacagatg tacgcgaagc cgtgtctcag cgcgaaaggt tccagcgtga 12240

tgccaacctg ggttcgctgg tggcgttaaa tgctttcttg agtactcagc ctgctaatgt 12300

gccgcgtggt caacaggatt atactaactt tttaagtgct ttgagactga tggtatcaga 12360

agtacctcag agcgaagtgt atcagtccgg tcctgattac ttctttcaga ctagcagaca 12420

gggcttgcag acggtaaatc tgagccaagc ttttaaaaac cttaaaggtt tgtggggagt 12480

gcatgccccg gtaggagaaa gagcaaccgt gtctagcttg ttaactccga actcccgcct 12540

attattactg ttggtagctc ctttcaccga cagcggtagc atcgaccgta attcctattt 12600

gggttaccta ctaaacctgt atcgcgaagc catagggcaa agtcaggtgg acgagcagac 12660

ctatcaagaa attacccaag tcagtcgcgc tttgggacag gaagacactg gcagtttgga 12720

agccactctg aacttcttgc ttaccaatcg gtctcaaaag atccctcctc aatatgctct 12780

tactgcggag gaggagagga tccttagata tgtgcagcag agcgtgggat tgtttctgat 12840

gcaagagggg gcaactccga ctgcagcact ggacatgaca gcgcgaaata tggagcccag 12900

catgtatgcc agtaaccgac ctttcattaa caaactgctg gactacttgc acagagctgc 12960

cgctatgaac tctgattatt tcaccaatgc catcttaaac ccgcactggc tgcccccacc 13020

tggtttctac acgggcgaat atgacatgcc cgaccctaat gacggatttc tgtgggacga 13080

cgtggacagc gatgtttttt cacctctttc tgatcatcgc acgtggaaaa aggaaggcgg 13140

cgatagaatg cattcttctg catcgctgtc cggggtcatg ggtgctaccg cggctgagcc 13200

cgagtctgca agtccttttc ctagtctacc cttttctcta cacagtgtac gtagcagcga 13260

agtgggtaga ataagtcgcc cgagtttaat gggcgaagag gagtatctaa acgattcctt 13320

gctcagaccg gcaagagaaa aaaatttccc aaacaatgga atagaaagtt tggtggataa 13380

aatgagtaga tggaagactt atgctcagga tcacagagac gagcctggga tcatggggat 13440

tacaagtaga gcgagccgta gacgccagcg ccatgacaga cagaggggtc ttgtgtggga 13500

cgatgaggat tcggccgatg atagcagcgt gctggacttg ggtgggagag gaaggggcaa 13560

cccgtttgct catttgcgcc ctcgcttggg tggtatgttg taaaaaaaaa taaaaaaaaa 13620

actcaccaag gccatggcga cgagcgtacg ttcgttcttc tttattatct gtgtctagta 13680

taatgaggcg agtcgtgcta ggcggagcgg tggtgtatcc ggagggtcct cctccttcgt 13740

acgagagcgt gatgcagcag cagcaggcga cggcggtgat gcaatcccca ctggaggctc 13800

cctttgtgcc tccgcgatac ctggcaccta cggagggcag aaacagcatt cgttattcgg 13860

aactggcacc tcagtacgat accaccaggt tgtatctggt ggacaacaag tcggcggaca 13920

ttgcttctct gaactatcag aatgaccaca gcaacttctt gaccacggtg gtgcaaaaca 13980

atgactttac ccctacggaa gccagcaccc agaccattaa ctttgatgaa cgatcgcggt 14040

ggggcggtca gctaaagacc atcatgcata ctaacatgcc aaacgtgaac gagtatatgt 14100

ttagtaacaa gttcaaagcg cgtgtgatgg tgtccagaaa acctcccgac ggtgctgcag 14160

ttggggatac ttatgatcac aagcaggata ttttgaaata tgagtggttc gagtttactt 14220

tgccagaagg caacttttca gttactatga ctattgattt gatgaacaat gccatcatag 14280

ataattactt gaaagtgggt agacagaatg gagtgcttga aagtgacatt ggtgttaagt 14340

tcgacaccag gaacttcaag ctgggatggg atcccgaaac caagttgatc atgcctggag 14400

tgtatacgta tgaagccttc catcctgaca ttgtcttact gcctggctgc ggagtggatt 14460

ttaccgagag tcgtttgagc aaccttcttg gtatcagaaa aaaacagcca tttcaagagg 14520

gttttaagat tttgtatgaa gatttagaag gtggtaatat tccggccctc ttggatgtag 14580

atgcctatga gaacagtaag aaagaacaaa aagccaaaat agaagctgct acagctgctg 14640

cagaagctaa ggcaaacata gttgccagcg actctacaag ggttgctaac gctggagagg 14700

tcagaggaga caattttgcg ccaacacctg ttccgactgc agaatcatta ttggccgatg 14760

tgtctgaagg aacggacgtg aaactcacta ttcaacctgt agaaaaagat agtaagaata 14820

gaagctataa tgtgttggaa gacaaaatca acacagccta tcgcagttgg tatctttcgt 14880

acaattatgg cgatcccgaa aaaggagtgc gttcctggac attgctcacc acctcagatg 14940

tcacctgcgg agcagagcag gtctactggt cgcttccaga catgatgaag gatcctgtca 15000

ctttccgctc cactagacaa gtcagtaact accctgtggt gggtgcagag cttatgcccg 15060

tcttctcaaa gagcttctac aacgaacaag ctgtgtactc ccagcagctc cgccagtcca 15120

cctcgcttac gcacgtcttc aaccgctttc ctgagaacca gattttaatc cgtccgccgg 15180

cgcccaccat taccaccgtc agtgaaaacg ttcctgctct cacagatcac gggaccctgc 15240

cgttgcgcag cagtatccgg ggagtccaac gtgtgaccgt tactgacgcc agacgccgca 15300

cctgtcccta cgtgtacaag gcactgggca tagtcgcacc gcgcgtcctt tcaagccgca 15360

ctttctaaaa aaaaaaaaaa tgtccattct tatctcgccc agtaataaca ccggttgggg 15420

tctgcgcgct ccaagcaaga tgtacggagg cgcacgcaaa cgttctaccc aacatcctgt 15480

ccgtgttcgc ggacattttc gcgctccatg gggcgccctc aagggccgca ctcgcgttcg 15540

aaccaccgtc gatgatgtaa tcgatcaggt ggttgccgac gcccgtaatt atactcctac 15600

tgcgcctaca tctactgtgg atgcagttat tgacagtgta gtggctgacg ctcgcaacta 15660

tgctcgacgt aagagccggc gaaggcgcat tgccagacgc caccgagcta ccactgccat 15720

gcgagccgca agagctctgc tacgaagagc tagacgcgtg gggcgaagag ccatgcttag 15780

ggcggccaga cgtgcagctt cgggcgccag cgccggcagg tcccgcaggc aagcagccgc 15840

tgtcgcagcg gcgactattg ccgacatggc ccaatcgcga agaggcaatg tatactgggt 15900

gcgtgacgct gccaccggtc aacgtgtacc cgtgcgcacc cgtccccctc gcacttagaa 15960

gatactgagc agtctccgat gttgtgtccc agcggcgagg atgtccaagc gcaaatacaa 16020

ggaagaaatg ctgcaggtta tcgcacctga agtctacggc caaccgttga aggatgaaaa 16080

aaaaccccgc aaaatcaagc gggttaaaaa ggacaaaaaa gaagaggaag atggcgatga 16140

tgggctggcg gagtttgtgc gcgagtttgc cccacggcga cgcgtgcaat ggcgtgggcg 16200

caaagttcga catgtgttga gacctggaac ttcggtggtc tttacacccg gcgagcgttc 16260

aagcgctact tttaagcgtt cctatgatga ggtgtacggg gatgatgata ttcttgagca 16320

ggcggctgac cgattaggcg agtttgctta tggcaagcgt agtagaataa cttccaagga 16380

tgagacagtg tcgataccct tggatcatgg aaatcccacc cctagtctta aaccggtcac 16440

tttgcagcaa gtgttacccg taactccgcg aacaggtgtt aaacgcgaag gtgaagattt 16500

gtatcccact atgcaactga tggtacccaa acgccagaag ttggaggacg ttttggagaa 16560

agtaaaagtg gatccagata ttcaacctga ggttaaagtg agacccatta agcaggtagc 16620

gcctggtctg ggggtacaaa ctgtagacat taagattccc actgaaagta tggaagtgca 16680

aactgaaccc gcaaagccta ctgccacctc cactgaagtg caaacggatc catggatgcc 16740

catgcctatt acaactgacg ccgccggtcc cactcgaaga tcccgacgaa agtacggtcc 16800

agcaagtctg ttgatgccca attatgttgt acacccatct attattccta ctcctggtta 16860

ccgaggcact cgctactatc gcagccgaaa cagtacctcc cgccgtcgcc gcaagacacc 16920

tgcaaatcgc agtcgtcgcc gtagacgcac aagcaaaccg actcccggcg ccctggtgcg 16980

gcaagtgtac cgcaatggta gtgcggaacc tttgacactg ccgcgtgcgc gttaccatcc 17040

gagtatcatc acttaatcaa tgttgccgct gcctccttgc agatatggcc ctcacttgtc 17100

gccttcgcgt tcccatcact ggttaccgag gaagaaactc gcgccgtaga agagggatgt 17160

tgggacgcgg aatgcgacgc tacaggcgac ggcgtgctat ccgcaagcaa ttgcggggtg 17220

gtttttacc agccttaatt ccaattatcg ctgctgcaat tggcgcgata ccaggcatag 17280

cttccgtggc ggttcaggcc tcgcaacgac attgacattg gaaaaaaacg tataaataaa 17340

aaaaaaaaaa tacaatggac tctgacactc ctggtcctgt gactatgttt tcttagagat 17400

ggaagacatc aatttttcat ccttggctcc gcgacacggc acgaagccgt acatgggcac 17460

ctggagcgac atcggcacga gccaactgaa cgggggcgcc ttcaattgga gcagtatctg 17520

gagcgggctt aaaaattttg gctcaaccat aaaaacatac gggaacaaag cttggaacag 17580

cagtacagga caggcgctta gaaataaact taaagaccag aacttccaac aaaaagtagt 17640

cgatgggata gcttccggca tcaatggagt ggtagatttg gctaaccagg ctgtgcagaa 17700

aaagataaac agtcgtttgg acccgccgcc agcaacccca ggtgaaatgc aagtggagga 17760

agaaattcct ccgccagaaa aacgaggcga caagcgtccg cgtcccgatt tggaagagac 17820

gctggtgacg cgcgtagatg aaccgccttc ttatgaggaa gcaacgaagc ttggaatgcc 17880

caccactaga ccgatagccc caatggccac cggggtgatg aaaccttctc agttgcatcg 17940

acccgtcacc ttggatttgc cccctccccc tgctgctact gctgtacccg cttctaagcc 18000

tgtcgctgcc ccgaaaccag tcgccgtagc caggtcacgt cccgggggcg ctcctcgtcc 18060

aaatgcgcac tggcaaaata ctctgaacag catcgtgggt ctaggcgtgc aaagtgtaaa 18120

acgccgtcgc tgcttttaat taaatatgga gtagcgctta acttgcctat ctgtgtatat 18180

gtgtcattac acgccgtcac agcagcagag gaaaaaagga agaggtcgtg cgtcgacgct 18240

gagttacttt caagatggcc accccatcga tgctgcccca atgggcatac atgcacatcg 18300

ccggacagga tgcttcggag tacctgagtc cgggtctggt gcagttcgcc cgcgccacag 18360

acacctactt caatctggga aataagttta gaaatcccac cgtagcgccg acccacgatg 18420

tgaccaccga ccgtagccag cggctcatgt tgcgcttcgt gcccgttgac cgggaggaca 18480

atacatactc ttacaaagtg cggtacaccc tggccgtggg cgacaacaga gtgctggata 18540

tggccagcac gttctttgac attaggggtg tgttggacag aggtcccagt ttcaaaccct 18600

attctggtac ggcttacaac tccctggctc ctaaaggcgc tccaaataca tctcagtgga 18660

ttgcagaagg tgtaaaaaat acaactggtg aggaacacgt aacagaagag gaaaccaata 18720

ctactactta cacttttggc aatgctcctg taaaagctga agctgaaatt acaaaagaag 18780

gactcccagt aggtttggaa gtttcagatg aagaaagtaa accgatttat gctgataaaa 18840

catatcagcc agaacctcag ctgggagatg aaacttggac tgaccttgat ggaaaaaccg 18900

aaaagtatgg aggcagggct ctcaaacccg atactaagat gaaaccatgc tacgggtcct 18960

ttgccaaacc tactaatgtg aaaggcggtc aggcaaaaca aaaaacaacg gagcagccaa 19020

atcagaaagt cgaatatgat atcgacatgg agtttttga tgcggcatcg cagaaaacaa 19080

acttaagtcc taaaattgtc atgtatgcag aaaatgtaaa tttggaaact ccagacactc 19140

atgtagtgta caaacctgga acagaagaca caagttccga agctaatttg ggacaacaat 19200

ctatgcccaa cagacccaac tacattggct tcagagataa ctttattgga cttatgtact 19260

ataacagtac tggtaacatg ggggtgctgg ctggtcaagc gtctcagtta aatgcagtgg 19320

ttgacttgca ggacagaaac acagaacttt cttaccaact cttgcttgac tctctgggcg 19380

acagaaccag atactttagc atgtggaatc aggctgtgga cagttatgat cctgatgtac 19440

gtgttattga aaatcatggt gtggaagatg aacttcccaa ctactgtttt ccactggacg 19500

gcataggtgt tccaacaacc agttacaaat caatagttcc aaatggagac aatgcgccta 19560

attggaagga acctgaagta aatggaacaa gtgagatcgg acagggtaat ttgtttgcca 19620

tggaaattaa ccttcaagcc aatctatggc gaagtttcct ttattccaat gtggctctat 19680

atctcccaga ctcgtacaaa tacaccccgt ccaatgtcac tcttccagaa aacaaaaaca 19740

cctacgacta catgaacggg cgggtggtgc cgccatctct agtagacacc tatgtgaaca 19800

ttggtgccag gtggtctctg gatgccatgg acaatgtcaa cccattcaac caccaccgta 19860

acgctggctt gcgttaccga tccatgcttc tgggtaacgg acgttatgtg cctttccaca 19920

tacaagtgcc tcaaaaattc ttcgctgtta aaaacctgct gcttctccca ggctcctaca 19980

cttatgagtg gaactttagg aaggatgtga acatggttct acagagttcc ctcggtaacg 20040

acctgcgggt agatggcgcc agcatcagtt tcacgagcat caacctctat gctacttttt 20100

tccccatggc tcacaacacc gcttccaccc ttgaagccat gctgcggaat gacaccaatg 20160

atcagtcatt caacgactac ctatctgcag ctaacatgct ctaccccatt cctgccaatg 20220

caaccaatat tcccatttcc attccttctc gcaactgggc ggctttcaga ggctggtcat 20280

ttaccagact gaaaaccaaa gaaactccct ctttggggtc tggatttgac ccctactttg 20340

tctattctgg ttctattccc tacctggatg gtaccttcta cctgaaccac acttttaaga 20400

aggtttccat catgtttgac tcttcagtga gctggcctgg aaatgacagg ttactatctc 20460

ctaacgaatt tgaaataaag cgcactgtgg atggcgaagg ctacaacgta gcccaatgca 20520

acatgaccaa agactggttc ttggtacaga tgctcgccaa ctacaacatc ggctatcagg 20580

gcttctacat tccagaagga tacaaagatc gcatgtattc atttttcaga aacttccagc 20640

ccatgagcag gcaggtggtt gatgaggtca attacaaaga cttcaaggcc gtcgccatac 20700

cctaccaaca caacaactct ggctttgtgg gttacatggc tccgaccatg cgccaaggtc 20760

aaccctatcc cgctaactat ccctatccac tcattggaac aactgccgta aatagtgtta 20820

cgcagaaaaa gttcttgtgt gacagaacca tgtggcgcat accgttctcg agcaacttca 20880

tgtctatggg ggcccttaca gacttgggac agaatatgct ctatgccaac tcagctcatg 20940

ctctggacat gacctttgag gtggatccca tggatgagcc caccctgctt tatcttctct 21000

tcgaagtttt cgacgtggtc agagtgcatc agccacaccg cggcatcatc gaggcagtct 21060

acctgcgtac accgttctcg gccggtaacg ctaccacgta agaagcttct tgcttcttgc 21120

aaatagcagc tgcaaccatg gcctgcggat cccaaaacgg ctccagcgag caagagctca 21180

gagccattgt ccaagacctg ggttgcggac cctatttttt gggaacctac gataagcgct 21240

tcccggggtt catggccccc gataagctcg cctgtgccat tgtaaatacg gccggacgtg 21300

agacgggggg agagcactgg ttggctttcg gttggaaccc acgttctaac acctgctacc 21360

tttttgatcc ttttggattc tcggatgatc gtctcaaaca gatttaccag tttgaatatg 21420

agggtctcct gcgccgcagc gctcttgcta ccaaggaccg ctgtattacg ctggaaaaat 21480

ctacccagac cgtgcagggt ccccgttctg ccgcctgcgg acttttctgc tgcatgttcc 21540

ttcacgcctt tgtgcactgg cctgaccgtc ccatggacgg aaaccccacc atgaaattgc 21600

taactggagt gccaaacaac atgcttcatt ctcctaaagt ccagcccacc ctgtgtgaca 21660

atcaaaaagc actctaccat tttcttaata cccattcgcc ttattttcgc tcccatcgta 21720

cacacatcga aagggccact gcgttcgacc gtatggatgt tcaataatga ctcatgtaaa 21780

caacgtgttc aataaacatc actttatttt tttacatgta tcaaggctct gcattactta 21840

tttatttaca agtcgaatgg gttctgacga gaatcagaat gacccgcagg cagtgatacg 21900

ttgcggaact gatacttggg ttgccacttg aattcgggaa tcaccaactt gggaaccggt 21960

atatcgggca ggatgtcact ccacagcttt ctggtcagct gcaaagctcc aagcaggtca 22020

ggagccgaaa tcttgaaatc acaattagga ccagtgcttt gagcgcgaga gttgcggtac 22080

accggattgc agcactgaaa caccatcagc gacggatgtc tcacgcttgc cagcacggtg 22140

ggatctgcaa tcatgcccac atccagatct tcagcattgg caatgctgaa cggggtcatc 22200

ttgcaggtct gcctacccat ggcgggcacc caattaggct tgtggttgca atcgcagtgc 22260

agggggatca gtatcatctt ggcctgatcc tgtctgattc ctggatacac ggctctcatg 22320

aaagcatcat attgcttgaa agcctgctgg gctttactac cctcggtata aaacatcccg 22380

caggacctgc tcgaaaactg gttagctgca cagccggcat cattcacaca gcagcgggcg 22440

tcattgttag ctatttgcac cacacttctg ccccagcggt tttgggtgat tttggttcgc 22500

tcgggattct cctttaaggc tcgttgtccg ttctcgctgg ccacatccat ctcgataatc 22560

tgctccttct gaatcataat attgccatgc aggcacttca gcttgccctc ataatcattg 22620

cagccatgag gccacaacgc acagcctgta cattcccaat tatggtgggc gatctgagaa 22680

aaagaatgta tcattccctg cagaaatctt cccatcatcg tgctcagtgt cttgtgacta 22740

gtgaaagtta actggatgcc tcggtgctcc tcgtttacgt actggtgaca gatgcgcttg 22800

tattgttcgt gttgctcagg cattagttta aaagaggttc taagttcgtt atccagcctg 22860

tacttctcca tcagcagaca catcacttcc atgcctttct cccaagcaga caccaggggc 22920

aagctaatcg gattcttaac agtgcaggca gcagctcctt tagccagagg gtcatcttta 22980

gcgatcttct caatgcttct tttgccatcc ttctcaacga tgcgcacggg cgggtagctg 23040

aaacccactg ctacaagttg cgcctcttct ctttcttctt cgctgtcttg actgatgtct 23100

tgcatgggga tatgtttggt cttccttggc ttctttttgg ggggtatcgg aggaggagga 23160

ctgtcgctcc gttccggaga cagggaggat tgtgacgttt cgctcaccat taccaactga 23220

ctgtcggtag aagaacctga ccccacacgg cgacaggtgt ttctcttcgg gggcagaggt 23280

ggaggcgatt gcgaagggct gcggtccgac ctggaaggcg gatgactggc agaacccctt 23340

ccgcgttcgg gggtgtgctc cctgtggcgg tcgcttaact gatttccttc gcggctggcc 23400

attgtgttct cctaggcaga gaaacaacag acatggaaac tcagccattg ctgtcaacat 23460

cgccacgagt gccatcacat ctcgtcctca gcgacgagga aaaggagcag agcttaagca 23520

ttccaccgcc cagtcctgcc accacctcta ccctagaaga taaggaggtc gacgcatctc 23580

atgacatgca gaataaaaaa gcgaaagagt ctgagacaga catcgagcaa gacccgggct 23640

atgtgacacc ggtggaacac gaggaagagt tgaaacgctt tctagagaga gaggatgaaa 23700

actgcccaaa acaacgagca gataactatc accaagatgc tggaaatagg gatcagaaca 23760

ccgactacct catagggctt gacggggaag acgcgctcct taaacatcta gcaagacagt 23820

cgctcatagt caaggatgca ttattggaca gaactgaagt gcccatcagt gtggaagagc 23880

tcagccgcgc ctacgagctt aacctctttt cacctcgtac tccccccaaa cgtcagccaa 23940

acggcacctg cgagccaaat cctcgcttaa acttttatcc agcttttgct gtgccagaag 24000

tactggctac ctatcacatc ttttttaaaa atcaaaaaat tccagtctcc tgccgcgcta 24060

atcgcacccg cgccgatgcc ctactcaatc tgggacctgg ttcacgctta cctgatatag 24120

cttccttgga agaggttcca aagatcttcg agggtctggg caataatgag actcgggccg 24180

caaatgctct gcaaaaggga gaaaatggca tggatgagca tcacagcgtt ctggtggaat 24240

tggaaggcga taatgccaga ctcgcagtac tcaagcgaag catcgaggtc acacacttcg 24300

catatcccgc tgtcaacctg ccccctaaag tcatgacggc ggtcatggac cagttactca 24360

ttaagcgcgc aagtcccctt tcagaagaca tgcatgaccc agatgcctgt gatgagggta 24420

aaccagtggt cagtgatgag cagctaaccc gatggctggg caccgactct cccagggatt 24480

tggaagagcg tcgcaagctt atgatggccg tggtgctggt taccgtagaa ctagagtgtc 24540

tccgacgttt ctttaccgat tcagaaacct tgcgcaaact cgaagagaat ctgcactaca 24600

cttttagaca cggctttgtg cggcaggcat gcaagatatc taacgtggaa ctcaccaacc 24660

tggtttccta catgggtatt ctgcatgaga atcgcctagg acaaagcgtg ctgcacagca 24720

ccctgaaggg ggaagcccgc cgtgattaca tccgcgattg tgtctatctg tacctgtgcc 24780

acacgtggca aaccggcatg ggtgtatggc agcaatgttt agaagaacag aacttgaaag 24840

agcttgacaa gctcttacag aaatctctta aggttctgtg gacagggttc gacgagcgca 24900

ccgtcgcttc cgacctggca gacctcatct tcccagagcg tctcagggtt actttgcgaa 24960

acggattgcc tgactttatg agccagagca tgcttaacaa ttttcgctct ttcatcctgg 25020

aacgctccgg tatcctgccc gccacctgct gcgcactgcc ctccgacttt gtgcctctca 25080

cctaccgcga gtgccccccg ccgctatgga gtcactgcta cctgttccgt ctggccaact 25140

atctctccta ccactcggat gtgatcgagg atgtgagcgg agacggcttg ctggagtgtc 25200

actgccgctg caatctgtgc acgccccacc ggtccctagc ttgcaacccc cagttgatga 25260

gcgaaaccca gataataggc acctttgaat tgcaaggccc cagcagccaa ggcgatgggt 25320

cttctcctgg gcaaagttta aaactgaccc cgggactgtg gacctccgcc tacttgcgca 25380

agtttgctcc ggaagattac cacccctatg aaatcaagtt ctatgaggac caatcacagc 25440

ctccaaaggc cgaactttcg gcctgcgtca tcacccaggg ggcaattctg gcccaattgc 25500

aagccatcca aaaatcccgc caagaatttc tactgaaaaa gggtaagggg gtctaccttg 25560

acccccagac cggcgaggaa ctcaacacaa ggttccctca ggatgtccca acgacgagaa 25620

aacaagaagt tgaaggtgca gccgccgccc ccagaagata tggaggaaga ttgggacagt 25680

caggcagagg aggcggagga ggacagtctg gaggacagtc tggaggaaga cagtttggag 25740

gaggaaaacg aggaggcaga ggaggtggaa gaagtaaccg ccgacaaaca gttatcctcg 25800

gctgcggaga caagcaacag cgctaccatc tccgctccga gtcgaggaac ccggcggcgt 25860

cccagcagta gatgggacga gaccggacgc ttcccgaacc caaccagcgc ttccaagacc 25920

ggtaagaagg atcggcaggg atacaagtcc tggcgggggc ataagaatgc catcatctcc 25980

tgcttgcatg agtgcggggg caacatatcc ttcacgcggc gctacttgct attccaccat 26040

ggggtgaact ttccgcgcaa tgttttgcat tactaccgtc acctccacag cccctactat 26100

agccagcaaa tcccggcagt ctcgacagat aaagacagcg gcggcgacct ccaacagaaa 26160

accagcagcg gcagttagaa aatacacaac aagtgcagca acaggaggat taaagattac 26220

agccaacgag ccagcgcaaa cccgagagtt aagaaatcgg atctttccaa ccctgtatgc 26280

catcttccag cagagtcggg gtcaagagca ggaactgaaa ataaaaaacc gatctctgcg 26340

ttcgctcacc agaagttgtt tgtatcacaa gagcgaagat caacttcagc gcactctcga 26400

ggacgccgag gctctcttca acaagtactg cgcgctgact cttaaagagt aggcagcgac 26460

cgcgcttatt caaaaaaggc gggaattaca tcatcctcga catgagtaaa gaaattccca 26520

cgccttacat gtggagttat caaccccaaa tgggattggc ggcaggcgcc tcccaggact 26580

actccacccg catgaattgg ctcagcgccg ggccttctat gatttctcga gttaatgata 26640

tacgcgccta ccgaaaccaa atacttttgg aacagtcagc tcttaccacc acgccccgcc 26700

aacaccttaa tcccagaaat tggcccgccg ccctagtgta ccaggaaagt cccgctccca 26760

ccactgtatt acttcctcga gacgcccagg ccgaagtcca aatgactaat gcaggtgcgc 26820

agttagctgg cggctccacc ctatgtcgtc acaggcctcg gcataatata aaacgcctga 26880

tgatcagagg ccgaggtatc cagctcaacg acgagtcggt gagctctccg cttggtctac 26940

gaccagacgg aatctttcag attgccggct gcgggagatc ttccttcacc cctcgtcagg 27000

ctgttctgac tttggaaagt tcgtcttcgc aaccccgctc gggcggaatc gggaccgttc 27060

aatttgtgga ggagtttact ccctctgtct acttcaaccc cttctccgga tctcctgggc 27120

attacccgga cgagttcata ccgaacttcg acgcgattag cgagtcagtg gacggctacg 27180

attgatgtct ggtgacgcgg ctgagctatc tcggctgcga catctagacc actgccgccg 27240

ctttcgctgc tttgcccggg aactcattga gttcatctac ttcgaactcc ccaaggatca 27300

ccctcaaggt ccggcccacg gagtgcggat ttctatcgaa ggcaaaatag actctcgcct 27360

gcaacgaatt ttctcccagc ggcccgtgct gatcgagcga gaccagggaa acaccacggt 27420

ttccatctac tgcatttgta atcaccccgg attgcatgaa agcctttgct gtcttatgtg 27480

tactgagttt aataaaaact gaattaagac tctcctacgg actgccgctt cttcaacccg 27540

gattttacaa ccagaagaac gaaacttttc ctgtcgtcca ggactctgtt aacttcacct 27600

ttcctactca caaactagaa gctcaacgac tacaccgctt ttccagaagc attttcccta 27660

ctaatactac tttcaaaacc ggaggtgagc tccaaggtct tcctacagaa aacccttggg 27720

tggaagcggg ccttgtagtg ctaggaattc ttgcgggtgg gcttgtgatt attctttgct 27780

acctatacac accttgcttc actttcttag tggtgttgtg gtattggttt aaaaaatggg 27840

gcccatacta gtcttgcttg ttttactttc gcttttggaa ccgggttctg ccaattacga 27900

tccatgtcta gacttcgacc cagaaaactg cacacttact tttgcacccg acacaagccg 27960

catctgtgga gttcatcgcc tctcttacga acttggcccc caacgacaaa aatttacctg 28020

catggtggga atcaacccca tagttatcac ccagcaaagt ggagatacta agggttgcat 28080

tcactgctcc tgcgattcca tcgagtgcac ctacaccctg ctgaagaccc tatgcggcct 28140

aagagacctg ctaccaatga attaaaaaat gattaataaa aaatcactta cttgaaatca 28200

gcaataaggt ctctgttgaa attttctccc agcagcacct cacttccctc ttcccaactc 28260

tggtattcta aaccccgttc agcggcatac tttctccata ctttaaaggg gatgtcaaat 28320

tttagctcct ctcctgtacc cacaatcttc atgtctttct tcccagatga ccaagagagt 28380

ccggctcagt gactccttca accctgtcta cccctatgaa gatgaaagca cctcccaaca 28440

ccccttttata aacccagggt ttatttcccc aaatggcttc acacaaagcc caaacggagt 28500

tcttacttta aaatgtttaa ccccactaac aaccacaggc ggatctctac agctaaaagt 28560

gggaggggga cttacagtgg atgacaccaa cggttttttg aaagaaaaca taagtgccac 28620

cacaccactc gttaagactg gtcactctat aggtttacca ctaggagccg gattgggaac 28680

gaatgaaaat aaactttgta tcaaattagg acaaggactt acattcaatt caaacaacat 28740

ttgcattgat gacaatatta acaccttatg gacaggagtc aaccccaccg aagccaactg 28800

tcaaatcatg aactccagtg aatctaatga ttgcaaatta attctaacac tagttaaaac 28860

tggagcacta gtcactgcat ttgtttatgt tataggagta tctaacaatt ttaatatgct 28920

aactacacac agaaatataa attttactgc agagctgttt ttcgattcta ctggtaattt 28980

actaactaga ctctcatccc tcaaaactcc acttaatcat aaatcaggac aaaacatggc 29040

tactggtgcc attactaatg ctaaaggttt catgcccagc acgactgcct atcctttcaa 29100

tgataattct agagaaaaag aaaactacat ttacggaact tgttactaca cagctagtga 29160

tcgcactgct tttcccattg acatatctgt catgcttaac cgaagagcaa taaatgacga 29220

gacatcatat tgtattcgta taacttggtc ctggaacaca ggagatgccc cagaggtgca 29280

aacctctgct acaaccctag tcacctcccc atttaccttt tactacatca gagaagacga 29340

ctgacaaata aagtttgcga tcgctttctc tcttcaggcc caccatgggc tggagctgca 29400

tcatcttgtt cctggtcgca actgctaccg gagtccattc ggacatcgtc atgacccaaa 29460

gccctgactc gctcgctgtg tcactgggag agcgggcgac tatcaactgc aaatcatccc 29520

agagcctgct gtattcacgc aatcagaaaa actacctggc ctggtatcag cagaagccgg 29580

gccagcctcc caagctgctg atcttctggg cctccacccg cgaaagcggc gtgccggacc 29640

gcttcagcgg aagcggattc ggaactgact ttactctgac cattagctcc ttgcaggcgg 29700

aggacgtggc cgtctactac tgccagcagt atttctccta tccgctcacc tttgggcaag 29760

gcaccaaggt ggagattaag ggagggggcg gcagcggggg aggcggcagc ggcggcgggg 29820

gatcgcaggt ccagctcgtc caatccggag ccgaagtcaa gaagccggga gcgtcggtca 29880

aggtcagctg caaaacttcg cgctacacct tcactgagta cacgatccac tgggtccgcc 29940

aggcgcccgg ccagcggctg gagtggatcg gcgggatcaa cccaaacaac ggaatcccaa 30000

attacaatca gaaatttaaa gggcgggtga ctatcaccgt ggatacctcg gcctccacgg 30060

cgtacatgga gctctcatca ctcagatcgg aggacaccgc ggtctattac tgcgcccgcc 30120

gccggatcgc ttatggatac gatgaaggac atgcgatgga ttactggggc cagggcaccc 30180

tcgtcacggt gtcgtcagga ggcggcggtt cacaggtgca gctgcagcag tctggggctg 30240

aactggcaag acctggggcc tcagtgaaga tgtcctgcaa ggcttctggc tacaccttta 30300

ctaggtacac gatgcactgg gtaaaacaga ggcctggaca gggtctggaa tggattggat 30360

acattaatcc tagccgtggt tatactaatt acaatcagaa gttcaaggac aaggccacat 30420

tgactacaga caaatcctcc agcacagcct acatgcaact gagcagcctg acatctgagg 30480

actctgcagt ctattactgt gcaagatatt atgatgatca ttactgcctt gactactggg 30540

gccaaggcac cactctcaca gtctcctcag gtggcggtgg ctcgggcggt ggtggatctg 30600

gtggcggcgg atctgatatc gtgctcactc agtctccagc aatcatgtct gcatctccag 30660

gggagaaggt caccatgacc tgcagtgcca gctcaagtgt aagttacatg aactggtacc 30720

agcagaagtc aggcacctcc cccaaaagat ggatttatga cacatccaaa ctggcttctg 30780

gagtccctgc tcacttcagg ggcagtgggt ctgggacctc ttactctctc acaatcagcg 30840

gcatggaggc tgaagatgct gccacttatt actgccagca gtggagtagt aacccattca 30900

cgttcggctc ggggacaaag ttggaaataa accggggaag cggacagtgt actaattatg 30960

ctctcttgaa attggctgga gatgttgaga gcaaccctgg acctacagtg ctggcgccag 31020

cctggagccc aacaacctat ctcctcctgc tgctgctgct gagctcggga ctcagtggga 31080

cccaggactg ctccttccaa cacagcccca tctcctccga cttcgctgtc aaaatccgtg 31140

agctgtctga ctacctgctt caagattacc cagtcaccgt ggcctccaac ctccaggacg 31200

aggagctctg cgggggcctc tggcggctgg tcctggcaca gcgctggatg gagcggctca 31260

agactgtcgc tgggtccaag atgcaaggct tgctggagcg cgtgaacacg gagatacact 31320

ttgtcaccaa atgtgccttt cagcccccc ccagctgtct tcgcttcgtc cagaccaaca 31380

tctcccgcct cctacaggag acctccgagc agctggtggc gctgaagccc tggatcactc 31440

gccagaactt ctcccggtgc ctggagctgc agtgtcagcc cgactcctca accctgccac 31500

ccccatggag tccccggccc ctggaggcca cagccccggg aagcggagct actaacttca 31560

gcctgctgaa gcaggctgga gacgtggagg agaaccctgg acctcaggtc tccactgctg 31620

cccttgccgt cctcctctgc accatggctc tctgcaacca ggtcctctct gcaccacttg 31680

ctgctgacac gccgaccgcc tgctgcttca gctacacctc ccgacagatt ccacagaatt 31740

tcatagctga ctactttgag acgagcagcc agtgctccaa gcccagtgtc atcttcctaa 31800

ccaagagagg ccggcaggtc tgtgctgacc ccagtgagga gtgggtccag aaatacgtca 31860

gtgacctgga gctgagtgcc ggaagcggag agggcagagg aagtctgcta acatgcggtg 31920

acgtcgagga gaatcctgga cctgccttga cctttgcttt actggtggcc ctcctggtgc 31980

tcagctgcaa gtcaagctgc tctgtgggct gtgatctgcc tcaaacccac agcctgggta 32040

gcaggaggac cttgatgctc ctggcacaga tgaggagaat ctctcttttc tcctgcttga 32100

aggacagaca tgactttgga tttccccagg aggagtttgg caaccagttc caaaaggctg 32160

aaaccatccc tgtcctccat gagatgatcc agcagatctt caatctcttc agcacaaagg 32220

actcatctgc tgcttgggat gagaccctcc tagacaaatt ctacactgaa ctctaccagc 32280

agctgaatga cctggaagcc tgtgtgatac agggggtggg ggtgacagag actcccctga 32340

tgaaggagga ctccattctg gctgtgagga aatacttcca aagaatcact ctctatctga 32400

aagagaagaa atacagccct tgtgcctggg aggttgtcag agcagaaatc atgagatctt 32460

tttctttgtc aacaaacttg caagaaagtt taagaagtaa ggaataagct agcttgactg 32520

actgagatac agcgtacctt cagctcacag acatgataag atacattgat gagtttggac 32580

aaaccacaac tagaatgcag tgaaaaaaat gctttatttg tgaaatttgt gatgctattg 32640

ctttatttgt aaccattata agctgcaata aacaagttaa caacaacaat tgcattcatt 32700

ttatgtttca ggttcagggg gaggtgtggg aggtttttta aagcaagtaa aacctctaca 32760

aatgtggtag tcgtcagcta tcctgcagga acttgtttat ttgaaaatca attcacaaaa 32820

tccgagtagt tattttgcct ccccccttccc atttaacaga atacaccaat ctctccccac 32880

gcacagcttt aaacatttgg ataccattag atatagacat ggttttagat tccacattcc 32940

aaacagtttc agagcgagcc aatctggggt cagtgataga taaaaatcca tcgggatagt 33000

cttttaaagc gctttcacag tccaactgct gcggatgcga ctccggagtc tggatcacgg 33060

tcatctggaa gaagaacgat gggaatcata atccgaaaac ggtatcggac gattgtgtct 33120

catcaaaccc acaagcagcc gctgtctgcg tcgctccgtg cgactgctgt ttatgggatc 33180

agggtccaca gtgtcctgaa gcatgatttt aatagccctt aacatcaact ttctggtgcg 33240

atgcgcgcag caacgcattc tgatttcact caaatctttg cagtaggtac aacacattat 33300

tacaatattg tttaataaac cataattaaa agcgctccag ccaaaactca tatctgatat 33360

aatcgcccct gcatgaccat cataccaaag tttaatataa attaaatgac gttccctcaa 33420

aaacacacta cccacataca tgatctcttt tggcatgtgc atattaacaa tctgtctgta 33480

ccatggacaa cgttggttaa tcatgcaacc caatataacc ttccggaacc acactgccaa 33540

caccgctccc ccagccatgc attgaagtga accctgctga ttacaatgac aatgaagaac 33600

ccaattctct cgaccgtgaa tcacttgaga atgaaaaata tctatagtgg cacaacatag 33660

acataaatgc atgcatcttc tcataatttt taactcctca ggatttagaa acatatccca 33720

gggaatagga agctcttgca gaacagtaaa gctggcagaa caaggaagac cacgaacaca 33780

acttacacta tgcatagtca tagtatcaca atctggcaac agcgggtggt cttcagtcat 33840

agaagctcgg gtttcatttt cctcacaacg tggtaactgg gctctggtgt aagggtgatg 33900

tctggcgcat gatgtcgagc gtgcgcgcaa ccttgtcata atggagttgc ttcctgacat 33960

tctcgtattt tgtatagcaa aacgcggccc tggcagaaca cactcttctt cgccttctat 34020

cctgccgctt agcgtgttcc gtgtgatagt tcaagtacaa ccacactctt aagttggtca 34080

aaagaatgct ggcttcagtt gtaatcaaaa ctccatcgca tctaatcgtt ctgaggaaat 34140

catccaagca atgcaactgg attgtgtttc aagcaggaga ggagagggaa gagacggaag 34200

aaccatgtta atttttattc caaacgatct cgcagtactt caaattgtag atcgcgcaga 34260

tggcatctct cgcccccact gtgttggtga aaaagcacag ctagatcaaa agaaatgcga 34320

ttttcaaggt gctcaacggt ggcttccagc aaagcctcca cgcgcacatc caagaacaaa 34380

agaataccaa aagaaggagc attttctaac tcctcaatca tcatattaca ttcctgcacc 34440

attcccagat aattttcagc tttccagcct tgaattattc gtgtcagttc ttgtggtaaa 34500

tccaatccac acattacaaa caggtcccgg agggcgccct ccaccaccat tcttaaacac 34560

accctcataa tgacaaaata tcttgctcct gtgtcacctg tagcgaattg agaatggcaa 34620

catcaattga catgcccttg gctctaagtt cttctttaag ttctagttgt aaaaactctc 34680

tcatattatc accaaactgc ttagccagaa gccccccggg aacaagagca ggggacgcta 34740

cagtgcagta caagcgcaga cctccccaat tggctccagc aaaaacaaga ttggaataag 34800

catattggga accgccagta atatcatcga agttgctgga aatataatca ggcagagttt 34860

cttgtaaaaa ttgaataaaa gaaaaatttg ccaaaaaaac attcaaaacc tctgggatgc 34920

aaatgcaata ggttaccgcg ctgcgctcca acattgttag ttttgaatta gtctgcaaaa 34980

ataaaaaaaa aaacaagcgt catatcatag tagcctgacg aacagatgga taaatcagtc 35040

tttccatcac aagacaagcc acagggtctc cagctcgacc ctcgtaaaac ctgtcatcat 35100

gattaaacaa cagcaccgaa agttcctcgc ggtgaccagc atgaataatt cttgatgaag 35160

catacaatcc agacatgtta gcatcagtta acgagaaaaa acagccaaca tagcctttgg 35220

gtataattat gcttaatcgt aagtatagca aagccacccc tcgcggatac aaagtaaaag 35280

gcacaggaga ataaaaaata taattatttc tctgctgctg ttcaggcaac gtcgcccccg 35340

gtccctctaa atacacatac aaagcctcat cagccatggc ttaccagaca aagtacagcg 35400

ggcacacaaa gcacaagctc taaagtgact ctccaacctc tccacaatat atatatacac 35460

aagccctaaa ctgacgtaat gggagtaaag tgtaaaaaat cccgccaaac ccaacacaca 35520

ccccgaaact gcgtcaccag ggaaaagtac agtttcactt ccgcaatccc aacaggcgta 35580

acttcctctt tctcacggta cgtgatatcc cactaacttg caacgtcatt ttcccacggt 35640

cgcaccgccc cttttagccg ttaaccccac agccaatcac cacacgatcc acacttttta 35700

aaatcacctc atttacatat tggcaccatt ccatctataa ggtatattat atagataga 35759

<210> 279
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Primer

<400> 279
tacatgcaca tcgccgga 18

<210> 280
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Primer

<400> 280

Cys Gly Gly Gly Cys Gly Ala Ala Cys Thr Gly Cys Ala Cys Cys Ala
1 5 10 15

<210> 281
<211> 27
<212> PRT
<213> Artificial Sequence

<220>
<223> Probe

<400> 281

Cys Cys Gly Gly Ala Cys Thr Cys Ala Gly Gly Thr Ala Cys Thr Cys
1 5 10 15

Cys Gly Ala Ala Gly Cys Ala Thr Cys Cys Thr
20 25