SEQUENCE LISTING

<110> Breibart, Eyal
Leubitz, Andrea
Feige, Erez
Penson, Richard

<120> TREATMENT METHODS USING ADENOVIRUS

<130> 3182.043PC02

<140> To be assigned
<141> Herewith

<160> 27

<170> PatentIn version 3.5

<210> 1
<211> 1365
<212> DNA
<213> Homo sapiens TNFRSF1A

<400> 1
atgggcctct ccaccgtgcc tgacctgctg ctgccgctgg tgctcctgga gctgttggtg 60

ggaatatacc cctcaggggt tattggactg gtccctcacc taggggacag ggagaagaga 120

gatagtgtgt gtccccaagg aaaatatatc caccctcaaa ataattcgat ttgctgtacc 180

aagtgccaca aaggaaccta cttgtacaat gactgtccag gcccggggca ggatacggac 240

tgcagggagt gtgagagcgg ctccttcacc gcttcagaaa accacctcag acactgcctc 300

agctgctcca aatgccgaaa ggaaatgggt caggtggaga tctcttcttg cacagtggac 360

cgggacaccg tgtgtggctg caggaagaac cagtaccggc attattggag tgaaaacctt 420

ttccagtgct tcaattgcag cctctgcctc aatgggaccg tgcacctctc ctgccaggag 480

aaacagaaca ccgtgtgcac ctgccatgca ggtttctttc taagagaaaa cgagtgtgtc 540

tcctgtagta actgtaagaa aagcctggag tgcacgaagt tgtgcctacc ccagattgag 600

aatgttaagg gcactgagga ctcaggcacc acagtgctgt tgcccctggt cattttcttt 660

ggtctttgcc ttttatccct cctcttcatt ggtttaatgt atcgctacca acggtggaag 720

tccaagctct actccattgt ttgtgggaaa tcgacacctg aaaaagaggg ggagcttgaa 780

ggaactacta ctaagcccct ggccccaaac ccaagcttca gtcccactcc aggcttcacc 840

cccaccctgg gcttcagtcc cgtgcccagt tccaccttca cctccagctc cacctatacc 900

cccggtgact gtcccaactt tgcggctccc cgcagagagg tggcaccacc ctatcagggg 960

gctgacccca tccttgcgac agccctcgcc tccgacccca tccccaaccc ccttcagaag 1020

tgggaggaca gcgcccacaa gccacagagc ctagacactg atgaccccgc gacgctgtac 1080

gccgtggtgg agaacgtgcc cccgttgcgc tggaaggaat tcgtgcggcg cctagggctg 1140

agcgaccacg agatcgatcg gctggagctg cagaacgggc gctgcctgcg cgaggcgcaa 1200

tacagcatgc tggcgacctg gaggcggcgc acgccgcggc gcgaggccac gctggagctg 1260

ctgggacgcg tgctccgcga catggacctg ctgggctgcc tggaggacat cgaggaggcg 1320

ctttgcggcc ccgccgccct cccgcccgcg cccagtcttc tcaga 1365

<210> 2
<211> 455
<212> PRT
<213> Homo sapiens Wild Type TNF Receptor 1

<400> 2

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

Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Leu Val Pro
20 25 30

His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys
35 40 45

Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys
50 55 60

Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp
65 70 75 80

Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu
85 90 95

Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val
100 105 110

Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg
115 120 125

Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe
130 135 140

Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu
145 150 155 160

Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu
165 170 175

Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr
180 185 190

Lys Leu Cys Leu Pro Gln Ile Glu Asn Val Lys Gly Thr Glu Asp Ser
195 200 205

Gly Thr Thr Val Leu Leu Pro Leu Val Ile Phe Phe Gly Leu Cys Leu
210 215 220

Leu Ser Leu Leu Phe Ile Gly Leu Met Tyr Arg Tyr Gln Arg Trp Lys
225 230 235 240

Ser Lys Leu Tyr Ser Ile Val Cys Gly Lys Ser Thr Pro Glu Lys Glu
245 250 255

Gly Glu Leu Glu Gly Thr Thr Thr Lys Pro Leu Ala Pro Asn Pro Ser
260 265 270

Phe Ser Pro Thr Pro Gly Phe Thr Pro Thr Leu Gly Phe Ser Pro Val
275 280 285

Pro Ser Ser Thr Phe Thr Ser Ser Ser Thr Tyr Thr Pro Gly Asp Cys
290 295 300

Pro Asn Phe Ala Ala Pro Arg Arg Glu Val Ala Pro Pro Tyr Gln Gly
305 310 315 320

Ala Asp Pro Ile Leu Ala Thr Ala Leu Ala Ser Asp Pro Ile Pro Asn
325 330 335

Pro Leu Gln Lys Trp Glu Asp Ser Ala His Lys Pro Gln Ser Leu Asp
340 345 350

Thr Asp Asp Pro Ala Thr Leu Tyr Ala Val Val Glu Asn Val Pro Pro
355 360 365

Leu Arg Trp Lys Glu Phe Val Arg Arg Leu Gly Leu Ser Asp His Glu
370 375 380

Ile Asp Arg Leu Glu Leu Gln Asn Gly Arg Cys Leu Arg Glu Ala Gln
385 390 395 400

Tyr Ser Met Leu Ala Thr Trp Arg Arg Arg Thr Pro Arg Arg Glu Ala
405 410 415

Thr Leu Glu Leu Leu Gly Arg Val Leu Arg Asp Met Asp Leu Leu Gly
420 425 430

Cys Leu Glu Asp Ile Glu Glu Ala Leu Cys Gly Pro Ala Ala Leu Pro
435 440 445

Pro Ala Pro Ser Leu Leu Arg
450 455

<210> 3
<211> 591
<212> DNA
<213> Homo sapiens Ligand Binding Domain of TNFR1

<400> 3
atgggcctct ccaccgtgcc tgacctgctg ctgccgctgg tgctcctgga gctgttggtg 60

ggaatatacc cctcaggggt tattggactg gtccctcacc taggggacag ggagaagaga 120

gatagtgtgt gtccccaagg aaaatatatc caccctcaaa ataattcgat ttgctgtacc 180

aagtgccaca aaggaaccta cttgtacaat gactgtccag gcccggggca ggatacggac 240

tgcagggagt gtgagagcgg ctccttcacc gcttcagaaa accacctcag acactgcctc 300

agctgctcca aatgccgaaa ggaaatgggt caggtggaga tctcttcttg cacagtggac 360

cgggacaccg tgtgtggctg caggaagaac cagtaccggc attattggag tgaaaacctt 420

ttccagtgct tcaattgcag cctctgcctc aatgggaccg tgcacctctc ctgccaggag 480

aaacagaaca ccgtgtgcac ctgccatgca ggtttctttc taagagaaaa cgagtgtgtc 540

tcctgtagta actgtaagaa aagcctggag tgcacgaagt tgtgcctacc a 591

<210> 4
<211> 197
<212> PRT
<213> Homo sapiens Ligand Binding Domain of TNFR1

<400> 4

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

Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Leu Val Pro
20 25 30

His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys
35 40 45

Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys
50 55 60

Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp
65 70 75 80

Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu
85 90 95

Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val
100 105 110

Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg
115 120 125

Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe
130 135 140

Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu
145 150 155 160

Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu
165 170 175

Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr
180 185 190

Lys Leu Cys Leu Pro
195

<210> 5
<211> 1008
<212> DNA
<213> Homo sapiens full-length FAS

<400> 5
atgctgggca tctggaccct cctacctctg gttcttacgt ctgttgctag attatcgtcc 60

aaaagtgtta atgcccaagt gactgacatc aactccaagg gattggaatt gaggaagact 120

gttactacag ttgagactca gaacttggaa ggcctgcatc atgatggcca attctgccat 180

aagccctgtc ctccaggtga aaggaaagct agggactgca cagtcaatgg ggatgaacca 240

gactgcgtgc cctgccaaga agggaaggag tacacagaca aagcccattt ttcttccaaa 300

tgcagaagat gtagattgtg tgatgaagga catggcttag aagtggaaat aaactgcacc 360

cggacccaga ataccaagtg cagatgtaaa ccaaactttt tttgtaactc tactgtatgt 420

gaacactgtg acccttgcac caaatgtgaa catggaatca tcaaggaatg cacactcacc 480

agcaacacca agtgcaaaga ggaaggatcc agatctaact tggggtggct ttgtcttctt 540

cttttgccaa ttccactaat tgtttgggtg aagagaaagg aagtacagaa aacatgcaga 600

aagcacagaa aggaaaacca aggttctcat gaatctccaa ctttaaatcc tgaaacagtg 660

gcaataaatt tatctgatgt tgacttgagt aaatatatca ccactattgc tggagtcatg 720

acactaagtc aagttaaagg ctttgttcga aagaatggtg tcaatgaagc caaaatagat 780

gagatcaaga atgacaatgt ccaagacaca gcagaacaga aagttcaact gcttcgtaat 840

tggcatcaac ttcatggaaa gaaagaagcg tatgacacat tgattaaaga tctcaaaaaa 900

gccaatcttt gtactcttgc agagaaaatt cagactatca tcctcaagga cattactagt 960

gactcagaaa attcaaactt cagaaatgaa atccaaagct tggtctag 1008

<210> 6
<211> 335
<212> PRT
<213> Homo sapiens full-length FAS

<400> 6

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

Arg Leu Ser Ser Lys Ser Val Asn Ala Gln Val Thr Asp Ile Asn Ser
20 25 30

Lys Gly Leu Glu Leu Arg Lys Thr Val Thr Thr Val Glu Thr Gln Asn
35 40 45

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

Pro Gly Glu Arg Lys Ala Arg Asp Cys Thr Val Asn Gly Asp Glu Pro
65 70 75 80

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

Phe Ser Ser Lys Cys Arg Arg Cys Arg Leu Cys Asp Glu Gly His Gly
            100 105 110

Leu Glu Val Glu Ile Asn Cys Thr Arg Thr Gln Asn Thr Lys Cys Arg
        115 120 125

Cys Lys Pro Asn Phe Phe Cys Asn Ser Thr Val Cys Glu His Cys Asp
    130 135 140

Pro Cys Thr Lys Cys Glu His Gly Ile Ile Lys Glu Cys Thr Leu Thr
145 150 155 160

Ser Asn Thr Lys Cys Lys Glu Glu Gly Ser Arg Ser Asn Leu Gly Trp
                165 170 175

Leu Cys Leu Leu Leu Leu Pro Ile Pro Leu Ile Val Trp Val Lys Arg
            180 185 190

Lys Glu Val Gln Lys Thr Cys Arg Lys His Arg Lys Glu Asn Gln Gly
        195 200 205

Ser His Glu Ser Pro Thr Leu Asn Pro Glu Thr Val Ala Ile Asn Leu
    210 215 220

Ser Asp Val Asp Leu Ser Lys Tyr Ile Thr Thr Ile Ala Gly Val Met
225 230 235 240

Thr Leu Ser Gln Val Lys Gly Phe Val Arg Lys Asn Gly Val Asn Glu
                245 250 255

Ala Lys Ile Asp Glu Ile Lys Asn Asp Asn Val Gln Asp Thr Ala Glu
            260 265 270

Gln Lys Val Gln Leu Leu Arg Asn Trp His Gln Leu His Gly Lys Lys
        275 280 285

Glu Ala Tyr Asp Thr Leu Ile Lys Asp Leu Lys Lys Ala Asn Leu Cys
    290 295 300

Thr Leu Ala Glu Lys Ile Gln Thr Ile Ile Leu Lys Asp Ile Thr Ser
305 310 315 320

Asp Ser Glu Asn Ser Asn Phe Arg Asn Glu Ile Gln Ser Leu Val
325 330 335

<210> 7
<211> 505
<212> DNA
<213> Homo sapiens Effector Domain of FAS

<400> 7
aggatccaga tctaacttgg ggtggctttg tcttcttctt ttgccaattc cactaattgt 60

ttgggtgaag agaaaggaag tacagaaaac atgcagaaag cacagaaagg aaaaccaagg 120

ttctcatgaa tctccaacct taaatcctga aacagtggca ataaatttat ctgatgttga 180

cttgagtaaa tatatcacca ctattgctgg agtcatgaca ctaagtcaag ttaaaggctt 240

tgttcgaaag aatggtgtca atgaagccaa aatagatgag atcaagaatg acaatgtcca 300

agacacagca gaacagaaag ttcaactgct tcgtaattgg catcaacttc atggaaagaa 360

agaagcgtat gacacattga ttaaagatct caaaaaagcc aatctttgta ctcttgcaga 420

gaaaattcag actatcatcc tcaaggacat tactagtgac tcagaaaatt caaacttcag 480

aaatgaaatc caaagcttgg tctag 505

<210> 8
<211> 167
<212> PRT
<213> Homo sapiens Effector Domain of FAS

<400> 8

Gly Ser Arg Ser Asn Leu Gly Trp Leu Cys Leu Leu Leu Leu Pro Ile
1 5 10 15

Pro Leu Ile Val Trp Val Lys Arg Lys Glu Val Gln Lys Thr Cys Arg
20 25 30

Lys His Arg Lys Glu Asn Gln Gly Ser His Glu Ser Pro Thr Leu Asn
35 40 45

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

Ile Thr Thr Ile Ala Gly Val Met Thr Leu Ser Gln Val Lys Gly Phe
65 70 75 80

Val Arg Lys Asn Gly Val Asn Glu Ala Lys Ile Asp Glu Ile Lys Asn
85 90 95

Asp Asn Val Gln Asp Thr Ala Glu Gln Lys Val Gln Leu Leu Arg Asn
100 105 110

Trp His Gln Leu His Gly Lys Lys Glu Ala Tyr Asp Thr Leu Ile Lys
115 120 125

Asp Leu Lys Lys Ala Asn Leu Cys Thr Leu Ala Glu Lys Ile Gln Thr
130 135 140

Ile Ile Leu Lys Asp Ile Thr Ser Asp Ser Glu Asn Ser Asn Phe Arg
145 150 155 160

Asn Glu Ile Gln Ser Leu Val
165

<210> 9
<211> 1101
<212> DNA
<213> Homo sapiens FAS-chimera

<400> 9
atgggcctct ccaccgtgcc tgacctgctg ctgccgctgg tgctcctgga gctgttggtg 60

ggaatatacc cctcaggggt tattggactg gtccctcacc taggggacag ggagaagaga 120

gatagtgtgt gtccccaagg aaaatatatc caccctcaaa ataattcgat ttgctgtacc 180

aagtgccaca aaggaaccta cttgtacaat gactgtccag gcccggggca ggatacggac 240

tgcagggagt gtgagagcgg ctccttcacc gcttcagaaa accacctcag acactgcctc 300

agctgctcca aatgccgaaa ggaaatgggt caggtggaga tctcttcttg cacagtggac 360

cgggacaccg tgtgtggctg caggaagaac cagtaccggc attattggag tgaaaacctt 420

ttccagtgct tcaattgcag cctctgcctc aatgggaccg tgcacctctc ctgccaggag 480

aaacagaaca ccgtgtgcac ctgccatgca ggtttctttc taagagaaaa cgagtgtgtc 540

tcctgtagta actgtaagaa aagcctggag tgcacgaagt tgtgcctacc aagcttagga 600

tccagatcta acttggggtg gctttgtctt cttcttttgc caattccact aattgtttgg 660

gtgaagagaa aggaagtaca gaaaacatgc agaaagcaca gaaaggaaaa ccaaggttct 720

catgaatctc caaccttaaa tcctgaaaca gtggcaataa atttatctga tgttgacttg 780

agtaaatata tcaccactat tgctggagtc atgacactaa gtcaagttaa aggctttgtt 840

cgaaagaatg gtgtcaatga agccaaaata gatgagatca agaatgacaa tgtccaagac 900

acagcagaac agaaagttca actgcttcgt aattggcatc aacttcatgg aaagaaagaa 960

gcgtatgaca cattgattaa agatctcaaa aaagccaatc tttgtactct tgcagagaaa 1020

attcagacta tcatcctcaa ggacattact agtgactcag aaaattcaaa cttcagaaat 1080

gaaatccaaa gcttggtcta g 1101

<210> 10
<211> 366
<212> PRT
<213> Homo sapiens FAS-chimera

<400> 10

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

Glu Leu Leu Val Gly Ile Tyr Pro Ser Gly Val Ile Gly Leu Val Pro
20 25 30

His Leu Gly Asp Arg Glu Lys Arg Asp Ser Val Cys Pro Gln Gly Lys
35 40 45

Tyr Ile His Pro Gln Asn Asn Ser Ile Cys Cys Thr Lys Cys His Lys
50 55 60

Gly Thr Tyr Leu Tyr Asn Asp Cys Pro Gly Pro Gly Gln Asp Thr Asp
65 70 75 80

Cys Arg Glu Cys Glu Ser Gly Ser Phe Thr Ala Ser Glu Asn His Leu
85 90 95

Arg His Cys Leu Ser Cys Ser Lys Cys Arg Lys Glu Met Gly Gln Val
100 105 110

Glu Ile Ser Ser Cys Thr Val Asp Arg Asp Thr Val Cys Gly Cys Arg
115 120 125

Lys Asn Gln Tyr Arg His Tyr Trp Ser Glu Asn Leu Phe Gln Cys Phe
130 135 140

Asn Cys Ser Leu Cys Leu Asn Gly Thr Val His Leu Ser Cys Gln Glu
145 150 155 160

Lys Gln Asn Thr Val Cys Thr Cys His Ala Gly Phe Phe Leu Arg Glu
165 170 175

Asn Glu Cys Val Ser Cys Ser Asn Cys Lys Lys Ser Leu Glu Cys Thr
180 185 190

Lys Leu Cys Leu Pro Ser Leu Gly Ser Arg Ser Asn Leu Gly Trp Leu
195 200 205

Cys Leu Leu Leu Leu Pro Ile Pro Leu Ile Val Trp Val Lys Arg Lys
210 215 220

Glu Val Gln Lys Thr Cys Arg Lys His Arg Lys Glu Asn Gln Gly Ser
225 230 235 240

His Glu Ser Pro Thr Leu Asn Pro Glu Thr Val Ala Ile Asn Leu Ser
245 250 255

Asp Val Asp Leu Ser Lys Tyr Ile Thr Thr Ile Ala Gly Val Met Thr
260 265 270

Leu Ser Gln Val Lys Gly Phe Val Arg Lys Asn Gly Val Asn Glu Ala
275 280 285

Lys Ile Asp Glu Ile Lys Asn Asp Asn Val Gln Asp Thr Ala Glu Gln
290 295 300

Lys Val Gln Leu Leu Arg Asn Trp His Gln Leu His Gly Lys Lys Glu
305 310 315 320

Ala Tyr Asp Thr Leu Ile Lys Asp Leu Lys Lys Ala Asn Leu Cys Thr
325 330 335

Leu Ala Glu Lys Ile Gln Thr Ile Ile Leu Lys Asp Ile Thr Ser Asp
340 345 350

Ser Glu Asn Ser Asn Phe Arg Asn Glu Ile Gln Ser Leu Val
355 360 365

<210> 11
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Endothelial Cell-Specific Enhancer Elements

<400> 11
ctggagggtg actttgcttc tggagccagt acttcatact tttcatt 47

<210> 12
<211> 47
<212> DNA
<213> Artificial Sequence

<220>
<223> Endothelial Cell-Specific Enhancer

<400> 12
aatgaaaagt atgaagtact ggctccagaa gcaaagtcac cctccag 47

<210> 13
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Endothelial Cell-Specific Enhancer

<400> 13
gtacttcata cttttcattc caatggggtg actttgcttc tgga 44

<210> 14
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Endothelial Cell-Specific Enhancer Element

<400> 14
tccagaagca aagtcacccc attggaatga aaagtatgaa gtac 44

<210> 15
<211> 131
<212> DNA
<213> Artificial Sequence

<220>
<223> Endothelial Cell-Specific 3X Enhancer Element

<400> 15
ctccagaagc aaagtcaccc cattggaatg aaaagtatga agtacaatga aaagtatgaa 60

gtactggctc cagaagcaaa gtcaccctcc agaagcaaag tcaccccatt ggaatgaaaa 120

gtatgaagta c 131

<210> 16
<211> 131
<212> DNA
<213> Artificial Sequence

<220>
<223> Endothelial Cell-Specific 3X Enhancer Element

<400> 16
gtacttcata cttttcattc caatggggtg actttgcttc tggagggtga ctttgcttct 60

ggagccagta cttcatactt ttcattgtac ttcatacttt tcattccaat ggggtgactt 120

tgcttctgga g 131

<210> 17
<211> 850
<212> DNA
<213> Artificial Sequence

<220>
<223> Endothelial Cell-Specific PPE-1 Promoter

<400> 17
gtacgtgtac ttctgatcgg cgatactagg gagataagga tgtgcctgac aaaaccacat 60

tgttgttgtt atcattatta tttagttttc cttccttgct aactcctgac ggaatctttc 120

tcacctcaaa tgcgaagtac tttagtttag aaaagacttg gtggaagggg tggtggtgga 180

aaagtagggt gatcttccaa actaatctgg ttccccgccc gccccagtag ctgggattca 240

agagcgaaga gtggggatcg tccccttgtt tgatcagaaa gacataaaag gaaaatcaag 300

tgaacaatga tcagccccac ctccacccca ccccccctgcg cgcgcacaat acaatctatt 360

taattgtact tcatactttt cattccaatg gggtgacttt gcttctggag aaactcttga 420

ttcttgaact ctggggctgg cagctagcaa aaggggaagc gggctgctgc tctctgcagg 480

ttctgcagcg gtctctgtct agtgggtgtt ttctttttct tagccctgcc cctggattgt 540

cagacggcgg gcgtctgcct ctgaagttag ccgtgatttc ctctagagcc gggtcttatc 600

tctggctgca cgttgcctgt gggtgactaa tcacacaata acattgttta gggctggaat 660

gaagtcagag ctgtttaccc ccactctata ggggttcaat ataaaaaggc ggcggagaac 720

tgtccgagtc agaagcgttc ctgcaccggc gctgagagcc tgacccggtc tgctccgctg 780

tccttgcgcg ctgcctcccg gctgcccgcg acgctttcgc cccagtggaa gggccacttg 840

ctgcggccgc 850

<210> 18
<211> 987
<212> DNA
<213> Artificial Sequence

<220>
<223> Endothelial Cell-Specific PPE-1 3X Promoter

<400> 18
gtacgtgtac ttctgatcgg cgatactagg gagataagga tgtgcctgac aaaaccacat 60

tgttgttgtt atcattatta tttagttttc cttccttgct aactcctgac ggaatctttc 120

tcacctcaaa tgcgaagtac tttagtttag aaaagacttg gtggaagggg tggtggtgga 180

aaagtagggt gatcttccaa actaatctgg ttccccgccc gccccagtag ctgggattca 240

agagcgaaga gtggggatcg tccccttgtt tgatcagaaa gacataaaag gaaaatcaag 300

tgaacaatga tcagccccac ctccacccca ccccccctgcg cgcgcacaat acaatctatt 360

taattgtact tcatactttt cattccaatg gggtgacttt gcttctggag aaactcttga 420

ttcttgaact ctggggctgg cagctagcct ccagaagcaa agtcacccca ttggaatgaa 480

aagtatgaag tacaatgaaa agtatgaagt actggctcca gaagcaaagt caccctccag 540

aagcaaagtc accccattgg aatgaaaagt atgaagtacg ctagcaaaag gggaagcggg 600

ctgctgctct ctgcaggttc tgcagcggtc tctgtctagt gggtgttttc tttttcttag 660

ccctgcccct ggattgtcag acggcgggcg tctgcctctg aagttagccg tgatttcctc 720

tagagccggg tcttatctct ggctgcacgt tgcctgtggg tgactaatca cacaataaca 780

ttgtttaggg ctggaatgaa gtcagagctg tttacccccca ctctataggg gttcaatata 840

aaaaggcggc ggagaactgt ccgagtcaga agcgttcctg caccggcgct gagagcctga 900

cccggtctgc tccgctgtcc ttgcgcgctg cctcccggct gcccgcgacg ctttcgcccc 960

agtggaaggg ccacttgctg cggccgc 987

<210> 19
<211> 35207
<212> DNA
<213> Artificial Sequence

<220>
<223> VB-111 entire construct

<400> 19
catcatcaat aatatacctt attttggatt gaagccaata tgataatgag ggggtggagt 60

ttgtgacgtg gcgcggggcg tgggaacggg gcgggtgacg tagtagtgtg gcggaagtgt 120

gatgttgcaa gtgtggcgga acacatgtaa gcgacggatg tggcaaaagt gacgtttttg 180

gtgtgcgccg gtgtacacag gaagtgacaa ttttcgcgcg gttttaggcg gatgttgtag 240

taaatttggg cgtaaccgag taagatttgg ccattttcgc gggaaaactg aataagagga 300

agtgaaatct gaataatttt gtgttactca tagcgcgtaa tatttgtcta gggccgcggg 360

gactttgacc gtttacgtgg agactcgccc aggtgttttt ctcaggtgtt ttccgcgttc 420
cgggtcaaag ttggcgtttt attattatag tcagtacgta cgtgtacttc tgatcggcga 480
tactagggag ataaggatgt gcctgacaaa accacattgt tgttgttatc attattattt 540
agttttcctt ccttgctaac tcctgacgga atctttctca cctcaaatgc gaagtacttt 600
agtttagaaa agacttggtg gaaggggtgg tggtggaaaa gtagggtgat cttccaaact 660
aatctggttc cccgcccgcc ccagtagctg ggattcaaga gcgaagagtg gggatcgtcc 720
ccttgtttga tcagaaagac ataaaaggaa aatcaagtga acaatgatca gccccacctc 780
caccccaccc ccctgcgcgc gcacaataca atctatttaa ttgtacttca tacttttcat 840
tccaatgggg tgactttgct tctggagaaa ctcttgattc ttgaactctg gggctggcag 900
ctagcctcca gaagcaaagt caccccattg gaatgaaaag tatgaagtac aatgaaaagt 960
atgaagtact ggctccagaa gcaaagtcac cctccagaag caaagtcacc ccattggaat 1020
gaaaagtatg aagtacgcta gcaaaagggg aagcgggctg ctgctctctg caggttctgc 1080
agcggtctct gtctagtggg tgttttcttt ttcttagccc tgcccctgga ttgtcagacg 1140
gcgggcgtct gcctctgaag ttagccgtga tttcctctag agccgggtct tatctctggc 1200
tgcacgttgc ctgtgggtga ctaatcacac aataacattg tttagggctg gaatgaagtc 1260
agagctgttt acccccactc tatagggggtt caatataaaa aggcggcgga gaactgtccg 1320
agtcagaagc gttcctgcac cggcgctgag agcctgaccc ggtctgctcc gctgtccttg 1380
cgcgctgcct cccggctgcc cgcgacgctt tcgccccagt ggaagggcca cttgctgcgg 1440
ccgctaattc tgcagatcgg gatccggcat gggcctctcc accgtgcctg acctgctgct 1500
gccgctggtg ctcctggagc tgttggtggg aatatacccc tcaggggtta ttggactggt 1560
ccctcaccta ggggacaggg agaagagaga tagtgtgtgt ccccaaggaa aatatatcca 1620
ccctcaaaat aattcgattt gctgtaccaa gtgccacaaa ggaacctact tgtacaatga 1680
ctgtccaggc ccggggcagg atacggactg cagggagtgt gagagcggct ccttcaccgc 1740
ttcagaaaac cacctcagac actgcctcag ctgctccaaa tgccgaaagg aaatgggtca 1800
ggtggagatc tcttcttgca cagtggaccg ggacaccgtg tgtggctgca ggaagaacca 1860
gtaccggcat tattggagtg aaaacctttt ccagtgcttc aattgcagcc tctgcctcaa 1920
tgggaccgtg cacctctcct gccaggagaa acagaacacc gtgtgcacct gccatgcagg 1980
tttctttcta agagaaaacg agtgtgtctc ctgtagtaac tgtaagaaaa gcctggagtg 2040
cacgaagttg tgcctaccaa gcttaggatc cagatctaac ttggggtggc tttgtcttct 2100
tcttttgcca attccactaa ttgtttgggt gaagagaaag gaagtacaga aaacatgcag 2160
aaagcacaga aaggaaaacc aaggttctca tgaatctcca accttaaatc ctgaaacagt 2220
ggcaataaat ttatctgatg ttgacttgag taaatatatc accactattg ctggagtcat 2280
gacactaagt caagttaaag gctttgttcg aaagaatggt gtcaatgaag ccaaaataga 2340
tgagatcaag aatgacaatg tccaagacac agcagaacag aaagttcaac tgcttcgtaa 2400

ttggcatcaa cttcatggaa agaaagaagc gtatgacaca ttgattaaag atctcaaaaa 2460
agccaatctt tgtactcttg cagagaaaat tcagactatc atcctcaagg acattactag 2520
tgactcagaa aattcaaact tcagaaatga aatccaaagc ttggtctagc tcgagcatgc 2580
atctaggcgg ccgcatggca gaaattcgcg aattcgctag cgttaacgga tcctctagac 2640
gagatccgaa cttgtttatt gcagcttata atggttacaa ataaagcaat agcatcacaa 2700
atttcacaaa taaagcattt ttttcactgc attctagttg tggtttgtcc aaactcatca 2760
atgtatctta tcatgtctag atctgtactg aaatgtgtgg gcgtggctta agggtgggaa 2820
agaatatata aggtgggggt cttatgtagt tttgtatctg ttttgcagca gccgccgccg 2880
ccatgagcac caactcgttt gatggaagca ttgtgagctc atatttgaca acgcgcatgc 2940
ccccatgggc cggggtgcgt cagaatgtga tgggctccag cattgatggt cgccccgtcc 3000
tgcccgcaaa ctctactacc ttgacctacg agaccgtgtc tggaacgccg ttggagactg 3060
cagcctccgc cgccgcttca gccgctgcag ccaccgcccg cgggattgtg actgactttg 3120
ctttcctgag cccgcttgca agcagtgcag cttcccgttc atccgcccgc gatgacaagt 3180
tgacggctct tttggcacaa ttggattctt tgacccggga acttaatgtc gtttctcagc 3240
agctgttgga tctgcgccag caggtttctg ccctgaaggc ttcctcccct cccaatgcgg 3300
tttaaaacat aaataaaaaa ccagactctg tttggatttg gatcaagcaa gtgtcttgct 3360
gtctttattt aggggttttg cgcgcgcggt aggcccggga ccagcggtct cggtcgttga 3420
gggtcctgtg tatttttcc aggacgtggt aaaggtgact ctggatgttc agatacatgg 3480
gcataagccc gtctctgggg tggaggtagc accactgcag agcttcatgc tgcggggtgg 3540
tgttgtagat gatccagtcg tagcaggagc gctgggcgtg gtgcctaaaa atgtctttca 3600
gtagcaagct gattgccagg ggcaggccct tggtgtaagt gtttacaaag cggttaagct 3660
gggatgggtg catacgtggg gatatgagat gcatcttgga ctgtattttt aggttggcta 3720
tgttcccagc catatccctc cggggattca tgttgtgcag aaccaccagc acagtgtatc 3780
cggtgcactt gggaaatttg tcatgtagct tagaaggaaa tgcgtggaag aacttggaga 3840
cgcccttgtg acctccaaga ttttccatgc attcgtccat aatgatggca atgggcccac 3900
gggcggcggc ctgggcgaag atatttctgg gatcactaac gtcatagttg tgttccagga 3960
tgagatcgtc ataggccatt tttacaaagc gcgggcggag ggtgccagac tgcggtataa 4020
tggttccatc cggcccaggg gcgtagttac cctcacagat ttgcatttcc cacgctttga 4080
gttcagatgg ggggatcatg tctacctgcg gggcgatgaa gaaaacggtt tccggggtag 4140
gggagatcag ctgggaagaa agcaggttcc tgagcagctg cgacttaccg cagccggtgg 4200
gcccgtaaat cacacctatt accggctgca actggtagtt aagagagctg cagctgccgt 4260
catccctgag cagggggcc acttcgttaa gcatgtccct gactcgcatg ttttccctga 4320
ccaaatccgc cagaaggcgc tcgccgccca gcgatagcag ttcttgcaag gaagcaaagt 4380
ttttcaacgg tttgagaccg tccgccgtag gcatgctttt gagcgtttga ccaagcagtt 4440

ccaggcggtc ccacagctcg gtcacctgct ctacggcatc tcgatccagc atatctcctc 4500
gtttcgcggg ttggggcggc tttcgctgta cggcagtagt cggtgctcgt ccagacgggc 4560
cagggtcatg tctttccacg ggcgcagggt cctcgtcagc gtagtctggg tcacggtgaa 4620
ggggtgcgct ccgggctgcg cgctggccag ggtgcgcttg aggctggtcc tgctggtgct 4680
gaagcgctgc cggtcttcgc cctgcgcgtc ggccaggtag catttgacca tggtgtcata 4740
gtccagcccc tccgcggcgt ggcccttggc gcgcagcttg cccttggagg aggcgccgca 4800
cgaggggcag tgcagacttt tgagggcgta gagcttgggc gcgagaaata ccgattccgg 4860
ggagtaggca tccgcgccgc aggccccgca gacggtctcg cattccacga gccaggtgag 4920
ctctggccgt tcggggtcaa aaaccaggtt tcccccatgc tttttgatgc gtttcttacc 4980
tctggtttcc atgagccggt gtccacgctc ggtgacgaaa aggctgtccg tgtccccgta 5040
tacagacttg agaggcctgt cctcgagcgg tgttccgcgg tcctcctcgt atagaaactc 5100
ggaccactct gagacaaagg ctcgcgtcca ggccagcacg aaggaggcta agtgggaggg 5160
gtagcggtcg ttgtccacta gggggtccac tcgctccagg gtgtgaagac acatgtcgcc 5220
ctcttcggca tcaaggaagg tgattggttt gtaggtgtag gccacgtgac cgggtgttcc 5280
tgaagggggg ctataaaagg gggtgggggc gcgttcgtcc tcactctctt ccgcatcgct 5340
gtctgcgagg gccagctgtt ggggtgagta ctccctctga aaagcgggca tgacttctgc 5400
gctaagattg tcagtttcca aaaacgagga ggatttgata ttcacctggc ccgcggtgat 5460
gcctttgagg gtggccgcat ccatctggtc agaaaagaca atctttttgt tgtcaagctt 5520
ggtggcaaac gacccgtaga gggcgttgga cagcaacttg gcgatggagc gcagggtttg 5580
gtttttgtcg cgatcggcgc gctccttggc cgcgatgttt agctgcacgt attcgcgcgc 5640
aacgcaccgc cattcgggaa agacggtggt gcgctcgtcg ggcaccaggt gcacgcgcca 5700
accgcggttg tgcagggtga caaggtcaac gctggtggct acctctccgc gtaggcgctc 5760
gttggtccag cagaggcggc cgcccttgcg cgagcagaat ggcggtaggg ggtctagctg 5820
cgtctcgtcc ggggggtctg cgtccacggt aaagaccccg ggcagcaggc gcgcgtcgaa 5880
gtagtctatc ttgcatcctt gcaagtctag cgcctgctgc catgcgcggg cggcaagcgc 5940
gcgctcgtat gggttgagtg ggggacccca tggcatgggg tgggtgagcg cggaggcgta 6000
catgccgcaa atgtcgtaaa cgtagagggg ctctctgagt attccaagat atgtagggta 6060
gcatcttcca ccgcggatgc tggcgcgcac gtaatcgtat agttcgtgcg agggagcgag 6120
gaggtcggga ccgaggttgc tacgggcggg ctgctctgct cggaagacta tctgcctgaa 6180
gatggcatgt gagttggatg atatggttgg acgctggaag acgttgaagc tggcgtctgt 6240
gagacctacc gcgtcacgca cgaaggaggc gtaggagtcg cgcagcttgt tgaccagctc 6300
ggcggtgacc tgcacgtcta gggcgcagta gtccagggtt tccttgatga tgtcatactt 6360
atcctgtccc tttttttcc acagctcgcg gttgaggaca aactcttcgc ggtctttcca 6420
gtactcttgg atcggaaacc cgtcggcctc cgaacggtaa gagcctagca tgtagaactg 6480

gttgacggcc tggtaggcgc agcatccctt ttctacgggt agcgcgtatg cctgcgcggc 6540
cttccggagc gaggtgtggg tgagcgcaaa ggtgtccctg accatgactt tgaggtactg 6600
gtatttgaag tcagtgtcgt cgcatccgcc ctgctcccag agcaaaaagt ccgtgcgctt 6660
tttggaacgc ggatttggca gggcgaaggt gacatcgttg aagagtatct ttcccgcgcg 6720
aggcataaag ttgcgtgtga tgcggaaggg tcccggcacc tcggaacggt tgttaattac 6780
ctgggcggcg agcacgatct cgtcaaagcc gttgatgttg tggcccacaa tgtaaagttc 6840
caagaagcgc gggatgccct tgatggaagg caatttttta agttcctcgt aggtgagctc 6900
ttcaggggag ctgagcccgt gctctgaaag ggcccagtct gcaagatgag ggttggaagc 6960
gacgaatgag ctccacaggt cacgggccat tagcatttgc aggtggtcgc gaaaggtcct 7020
aaactggcga cctatggcca ttttttctgg ggtgatgcag tagaaggtaa gcgggtcttg 7080
ttcccagcgg tcccatccaa ggttcgcggc taggtctcgc gcggcagtca ctagaggctc 7140
atctccgccg aacttcatga ccagcatgaa gggcacgagc tgcttcccaa aggcccccat 7200
ccaagtatag gtctctacat cgtaggtgac aaagagacgc tcggtgcgag gatgcgagcc 7260
gatcgggaag aactggatct cccgccacca attggaggag tggctattga tgtggtgaaa 7320
gtagaagtcc ctgcgacggg ccgaacactc gtgctggctt ttgtaaaaac gtgcgcagta 7380
ctggcagcgg tgcacgggct gtacatcctg cacgaggttg acctgacgac cgcgcacaag 7440
gaagcagagt gggaatttga gcccctcgcc tggcgggttt ggctggtggt cttctacttc 7500
ggctgcttgt ccttgaccgt ctggctgctc gaggggagtt acggtggatc ggaccaccac 7560
gccgcgcgag cccaaagtcc agatgtccgc gcgcggcggt cggagcttga tgacaacatc 7620
gcgcagatgg gagctgtcca tggtctggag ctcccgcggc gtcaggtcag gcgggagctc 7680
ctgcaggttt acctcgcata gacgggtcag ggcgcgggct agatccaggt gatacctaat 7740
ttccaggggc tggttggtgg cggcgtcgat ggcttgcaag aggccgcatc cccgcggcgc 7800
gactacggta ccgcgcggcg ggcggtgggc cgcgggggtg tccttggatg atgcatctaa 7860
aagcggtgac gcgggcgagc ccccggaggt agggggggct ccggacccgc cgggagaggg 7920
ggcaggggca cgtcggcgcc gcgcgcgggc aggagctggt gctgcgcgcg taggttgctg 7980
gcgaacgcga cgacgcggcg gttgatctcc tgaatctggc gcctctgcgt gaagacgacg 8040
ggcccggtga gcttgaacct gaaagagagt tcgacagaat caatttcggt gtcgttgacg 8100
gcggcctggc gcaaaatctc ctgcacgtct cctgagttgt cttgataggc gatctcggcc 8160
atgaactgct cgatctcttc ctcctggaga tctccgcgtc cggctcgctc cacggtggcg 8220
gcgaggtcgt tggaaatgcg ggccatgagc tgcgagaagg cgttgaggcc tccctcgttc 8280
cagacgcggc tgtagaccac gcccccttcg gcatcgcggg cgcgcatgac cacctgcgcg 8340
agattgagct ccacgtgccg ggcgaagacg gcgtagtttc gcaggcgctg aaagaggtag 8400
ttgagggtgg tggcggtgtg ttctgccacg aagaagtaca taacccagcg tcgcaacgtg 8460
gattcgttga tatcccccaa ggcctcaagg cgctccatgg cctcgtagaa gtccacggcg 8520

aagttgaaaa actgggagtt gcgcgccgac acggttaact cctcctccag aagacggatg 8580
agctcggcga cagtgtcgcg cacctcgcgc tcaaaggcta caggggcctc ttcttcttct 8640
tcaatctcct cttccataag ggcctcccct tcttcttctt ctggcggcgg tgggggaggg 8700
gggacacggc ggcgacgacg gcgcaccggg aggcggtcga caaagcgctc gatcatctcc 8760
ccgcggcgac ggcgcatggt ctcggtgacg gcgcggccgt tctcgcgggg gcgcagttgg 8820
aagacgccgc ccgtcatgtc ccggttatgg gttggcgggg ggctgccatg cggcagggat 8880
acggcgctaa cgatgcatct caacaattgt tgtgtaggta ctccgccgcc gagggacctg 8940
agcgagtccg catcgaccgg atcggaaaac ctctcgagaa aggcgtctaa ccagtcacag 9000
tcgcaaggta ggctgagcac cgtggcgggc ggcagcgggc ggcggtcggg gttgtttctg 9060
gcggaggtgc tgctgatgat gtaattaaag taggcggtct tgagacggcg gatggtcgac 9120
agaagcacca tgtccttggg tccggcctgc tgaatgcgca ggcggtcggc catgccccag 9180
gcttcgtttt gacatcggcg caggtctttg tagtagtctt gcatgagcct ttctaccggc 9240
acttcttctt ctccttcctc ttgtcctgca tctcttgcat ctatcgctgc ggcggcggcg 9300
gagtttggcc gtaggtggcg ccctcttcct cccatgcgtg tgaccccgaa gcccctcatc 9360
ggctgaagca gggctaggtc ggcgacaacg cgctcggcta atatggcctg ctgcacctgc 9420
gtgagggtag actggaagtc atccatgtcc acaaagcggt ggtatgcgcc cgtgttgatg 9480
gtgtaagtgc agttggccat aacggaccag ttaacggtct ggtgacccgg ctgcgagagc 9540
tcggtgtacc tgagacgcga gtaagccctc gagtcaaata cgtagtcgtt gcaagtccgc 9600
accaggtact ggtatcccac caaaaagtgc ggcggcggct ggcggtagag gggccagcgt 9660
agggtggccg gggctccggg ggcgagatct tccaacataa ggcgatgata tccgtagatg 9720
tacctggaca tccaggtgat gccggcggcg gtggtggagg cgcgcggaaa gtcgcggacg 9780
cggttccaga tgttgcgcag cggcaaaaag tgctccatgg tcgggacgct ctggccggtc 9840
aggcgcgcgc aatcgttgac gctctagacc gtgcaaaagg agagcctgta agcgggcact 9900
cttccgtggt ctggtggata aattcgcaag ggtatcatgg cggacgaccg gggttcgagc 9960
cccgtatccg gccgtccgcc gtgatccatg cggttaccgc ccgcgtgtcg aacccaggtg 10020
tgcgacgtca gacaacgggg gagtgctcct tttggcttcc ttccaggcgc ggcggctgct 10080
gcgctagctt ttttggccac tggccgcgcg cagcgtaagc ggttaggctg gaaagcgaaa 10140
gcattaagtg gctcgctccc tgtagccgga gggttatttt ccaagggttg agtcgcggga 10200
cccccggttc gagtctcgga ccggccggac tgcggcgaac gggggtttgc ctccccgtca 10260
tgcaagaccc cgcttgcaaa ttcctccgga aacagggacg agccccttt ttgcttttcc 10320
cagatgcatc cggtgctgcg gcagatgcgc ccccctcctc agcagcggca agagcaagag 10380
cagcggcaga catgcagggc accctcccct cctcctaccg cgtcaggagg ggcgacatcc 10440
gcggttgacg cggcagcaga tggtgattac gaacccccgc ggcgccgggc ccggcactac 10500
ctggacttgg aggagggcga gggcctggcg cggctaggag cgccctctcc tgagcggcac 10560

ccaagggtgc agctgaagcg tgatacgcgt gaggcgtacg tgccgcggca gaacctgttt 10620
cgcgaccgcg agggagagga gcccgaggag atgcgggatc gaaagttcca cgcagggcgc 10680
gagctgcggc atggcctgaa tcgcgagcgg ttgctgcgcg aggaggactt tgagcccgac 10740
gcgcgaaccg ggattagtcc cgcgcgcgca cacgtggcgg ccgccgacct ggtaaccgca 10800
tacgagcaga cggtgaacca ggagattaac tttcaaaaaa gctttaacaa ccacgtgcgt 10860
acgcttgtgg cgcgcgagga ggtggctata ggactgatgc atctgtggga ctttgtaagc 10920
gcgctggagc aaaacccaaa tagcaagccg ctcatggcgc agctgttcct tatagtgcag 10980
cacagcaggg acaacgaggc attcagggat gcgctgctaa acatagtaga gcccgagggc 11040
cgctggctgc tcgatttgat aaacatcctg cagagcatag tggtgcagga gcgcagcttg 11100
agcctggctg acaaggtggc cgccatcaac tattccatgc ttagcctggg caagttttac 11160
gcccgcaaga tataccatac cccttacgtt cccatagaca aggaggtaaa gatcgagggg 11220
ttctacatgc gcatggcgct gaaggtgctt accttgagcg acgacctggg cgtttatcgc 11280
aacgagcgca tccacaaggc cgtgagcgtg agccggcggc gcgagctcag cgaccgcgag 11340
ctgatgcaca gcctgcaaag ggccctggct ggcacgggca gcggcgatag agaggccgag 11400
tcctactttg acgcgggcgc tgacctgcgc tgggccccaa gccgacgcgc cctggaggca 11460
gctggggccg gacctgggct ggcggtggca cccgcgcgcg ctggcaacgt cggcggcgtg 11520
gaggaatatg acgaggacga tgagtacgag ccagaggacg gcgagtacta agcggtgatg 11580
tttctgatca gatgatgcaa gacgcaacgg acccggcggt gcgggcggcg ctgcagagcc 11640
agccgtccgg ccttaactcc acggacgact ggcgccaggt catggaccgc atcatgtcgc 11700
tgactgcgcg caatcctgac gcgttccggc agcagccgca ggccaaccgg ctctccgcaa 11760
ttctggaagc ggtggtcccg gcgcgcgcaa accccacgca cgagaaggtg ctggcgatcg 11820
taaacgcgct ggccgaaaac agggccatcc ggcccgacga ggccggcctg gtctacgacg 11880
cgctgcttca gcgcgtggct cgttacaaca gcggcaacgt gcagaccaac ctggaccggc 11940
tggtggggga tgtgcgcgag gccgtggcgc agcgtgagcg cgcgcagcag cagggcaacc 12000
tgggctccat ggttgcacta aacgccttcc tgagtacaca gcccgccaac gtgccgcggg 12060
gacaggagga ctacaccaac tttgtgagcg cactgcggct aatggtgact gagacaccgc 12120
aaagtgaggt gtaccagtct gggccagact attttttcca gaccagtaga caaggcctgc 12180
agaccgtaaa cctgagccag gctttcaaaa acttgcaggg gctgtggggg gtgcgggctc 12240
ccacaggcga ccgcgcgacc gtgtctagct tgctgacgcc caactcgcgc ctgttgctgc 12300
tgctaatagc gcccttcacg gacagtggca gcgtgtcccg ggacacatac ctaggtcact 12360
tgctgacact gtaccgcgag gccataggtc aggcgcatgt ggacgagcat actttccagg 12420
agattacaag tgtcagccgc gcgctggggc aggaggacac gggcagcctg gaggcaaccc 12480
taaactacct gctgaccaac cggcggcaga agatcccctc gttgcacagt ttaaacagcg 12540
aggaggagcg cattttgcgc tacgtgcagc agagcgtgag ccttaacctg atgcgcgacg 12600

gggtaacgcc cagcgtggcg ctggacatga ccgcgcgcaa catggaaccg ggcatgtatg 12660
cctcaaaccg gccgtttatc aaccgcctaa tggactactt gcatcgcgcg gccgccgtga 12720
accccgagta tttcaccaat gccatcttga acccgcactg gctaccgccc cctggtttct 12780
acaccggggg attcgaggtg cccgagggta acgatggatt cctctgggac gacatagacg 12840
acagcgtgtt ttccccgcaa ccgcagaccc tgctagagtt gcaacagcgc gagcaggcag 12900
aggcggcgct gcgaaaggaa agcttccgca ggccaagcag cttgtccgat ctaggcgctg 12960
cggccccgcg gtcagatgct agtagcccat ttccaagctt gatagggtct cttaccagca 13020
ctcgcaccac ccgcccgcgc ctgctgggcg aggaggagta cctaaacaac tcgctgctgc 13080
agccgcagcg cgaaaaaaac ctgcctccgg catttcccaa caacgggata gagagcctag 13140
tggacaagat gagtagatgg aagacgtacg cgcaggagca cagggacgtg ccaggcccgc 13200
gcccgcccac ccgtcgtcaa aggcacgacc gtcagcgggg tctggtgtgg gaggacgatg 13260
actcggcaga cgacagcagc gtcctggatt tgggagggag tggcaacccg tttgcgcacc 13320
ttcgccccag gctggggaga atgttttaaa aaaaaaaaaa gcatgatgca aaataaaaaa 13380
ctcaccaagg ccatggcacc gagcgttggt tttcttgtat tccccttagt atgcggcgcg 13440
cggcgatgta tgaggaaggt cctcctccct cctacgagag tgtggtgagc gcggcgccag 13500
tggcggcggc gctgggttct cccttcgatg ctcccctgga cccgccgttt gtgcctccgc 13560
ggtacctgcg gcctaccggg gggagaaaca gcatccgtta ctctgagttg gcacccctat 13620
tcgacaccac ccgtgtgtac ctggtggaca acaagtcaac ggatgtggca tccctgaact 13680
accagaacga ccacagcaac tttctgacca cggtcattca aaacaatgac tacagcccgg 13740
gggaggcaag cacacagacc atcaatcttg acgaccggtc gcactggggc ggcgacctga 13800
aaaccatcct gcataccaac atgccaaatg tgaacgagtt catgtttacc aataagttta 13860
aggcgcgggt gatggtgtcg cgcttgccta ctaaggacaa tcaggtggag ctgaaatacg 13920
agtgggtgga gttcacgctg cccgagggca actactccga gaccatgacc atagacctta 13980
tgaacaacgc gatcgtggag cactacttga aagtgggcag acagaacggg gttctggaaa 14040
gcgacatcgg ggtaaagttt gacacccgca acttcagact ggggtttgac cccgtcactg 14100
gtcttgtcat gcctggggta tatacaaacg aagccttcca tccagacatc attttgctgc 14160
caggatgcgg ggtggacttc acccacagcc gcctgagcaa cttgttgggc atccgcaagc 14220
ggcaaccctt ccaggagggc tttaggatca cctacgatga tctggagggt ggtaacattc 14280
ccgcactgtt ggatgtggac gcctaccagg cgagcttgaa agatgacacc gaacagggcg 14340
ggggtggcgc aggcggcagc aacagcagtg gcagcggcgc ggaagagaac tccaacgcgg 14400
cagccgcggc aatgcagccg gtggaggaca tgaacgatca tgccattcgc ggcgacacct 14460
ttgccacacg ggctgaggag aagcgcgctg aggccgaagc agcggccgaa gctgccgccc 14520
ccgctgcgca acccgaggtc gagaagcctc agaagaaacc ggtgatcaaa cccctgacag 14580
aggacagcaa gaaacgcagt tacaacctaa taagcaatga cagcaccttc acccagtacc 14640

gcagctggta ccttgcatac aactacggcg accctcagac cggaatccgc tcatggaccc 14700
tgctttgcac tcctgacgta acctgcggct cggagcaggt ctactggtcg ttgccagaca 14760
tgatgcaaga ccccgtgacc ttccgctcca cgcgccagat cagcaacttt ccggtggtgg 14820
gcgccgagct gttgcccgtg cactccaaga gcttctacaa cgaccaggcc gtctactccc 14880
aactcatccg ccagtttacc tctctgaccc acgtgttcaa tcgctttccc gagaaccaga 14940
ttttggcgcg cccgccagcc cccaccatca ccaccgtcag tgaaaacgtt cctgctctca 15000
cagatcacgg gacgctaccg ctgcgcaaca gcatcggagg agtccagcga gtgaccatta 15060
ctgacgccag acgccgcacc tgcccctacg tttacaaggc cctgggcata gtctcgccgc 15120
gcgtcctatc gagccgcact ttttgagcaa gcatgtccat ccttatatcg cccagcaata 15180
acacaggctg gggcctgcgc ttcccaagca agatgtttgg cggggccaag aagcgctccg 15240
accaacaccc agtgcgcgtg cgcgggcact accgcgcgcc ctggggcgcg cacaaacgcg 15300
gccgcactgg gcgcaccacc gtcgatgacg ccatcgacgc ggtggtggag gaggcgcgca 15360
actacacgcc cacgccgcca ccagtgtcca cagtggacgc ggccattcag accgtggtgc 15420
gcggagcccg gcgctatgct aaaatgaaga gacggcggag gcgcgtagca cgtcgccacc 15480
gccgccgacc cggcactgcc gcccaacgcg cggcggcggc cctgcttaac cgcgcacgtc 15540
gcaccggccg acgggcggcc atgcgggccg ctcgaaggct ggccgcgggt attgtcactg 15600
tgccccccag gtccaggcga cgagcggccg ccgcagcagc cgcggccatt agtgctatga 15660
ctcagggtcg caggggcaac gtgtattggg tgcgcgactc ggttagcggc ctgcgcgtgc 15720
ccgtgcgcac ccgccccccg cgcaactaga ttgcaagaaa aaactactta gactcgtact 15780
gttgtatgta tccagcggcg gcggcgcgca acgaagctat gtccaagcgc aaaatcaaag 15840
aagagatgct ccaggtcatc gcgccggaga tctatggccc cccgaagaag gaagagcagg 15900
attacaagcc ccgaaagcta aagcgggtca aaaagaaaaa gaaagatgat gatgatgaac 15960
ttgacgacga ggtggaactg ctgcacgcta ccgcgcccag gcgacgggta cagtggaaag 16020
gtcgacgcgt aaaacgtgtt ttgcgacccg gcaccaccgt agtctttacg cccggtgagc 16080
gctccacccg cacctacaag cgcgtgtatg atgaggtgta cggcgacgag gacctgcttg 16140
agcaggccaa cgagcgcctc ggggagtttg cctacggaaa gcggcataag gacatgctgg 16200
cgttgccgct ggacgagggc aacccaacac ctagcctaaa gcccgtaaca ctgcagcagg 16260
tgctgcccgc gcttgcaccg tccgaagaaa agcgcggcct aaagcgcgag tctggtgact 16320
tggcacccac cgtgcagctg atggtaccca agcgccagcg actggaagat gtcttggaaa 16380
aaatgaccgt ggaacctggg ctggagcccg aggtccgcgt gcggccaatc aagcaggtgg 16440
cgccgggact gggcgtgcag accgtggacg ttcagatacc cactaccagt agcaccagta 16500
ttgccaccgc cacagagggc atggagacac aaacgtcccc ggttgcctca gcggtggcgg 16560
atgccgcggt gcaggcggtc gctgcggccg cgtccaagac ctctacggag gtgcaaacgg 16620
acccgtggat gtttcgcgtt tcagcccccc ggcgcccgcg ccgttcgagg aagtacggcg 16680

ccgccagcgc gctactgccc gaatatgccc tacatccttc cattgcgcct acccccggct 16740
atcgtggcta cacctaccgc cccagaagac gagcaactac ccgacgccga accaccactg 16800
gaacccgccg ccgccgtcgc cgtcgccagc ccgtgctggc cccgatttcc gtgcgcaggg 16860
tggctcgcga aggaggcagg accctggtgc tgccaacagc gcgctaccac cccagcatcg 16920
tttaaaagcc ggtctttgtg gttcttgcag atatggccct cacctgccgc ctccgtttcc 16980
cggtgccggg attccgagga agaatgcacc gtaggagggg catggccggc cacggcctga 17040
cgggcggcat gcgtcgtgcg caccaccggc ggcggcgcgc gtcgcaccgt cgcatgcgcg 17100
gcggtatcct gcccctcctt attccactga tcgccgcggc gattggcgcc gtgcccggaa 17160
ttgcatccgt ggccttgcag gcgcagagac actgattaaa aacaagttgc atgtggaaaa 17220
atcaaaataa aaagtctgga ctctcacgct cgcttggtcc tgtaactatt ttgtagaatg 17280
gaagacatca actttgcgtc tctggccccg cgacacggct cgcgcccgtt catgggaaac 17340
tggcaagata tcggcaccag caatatgagc ggtggcgcct tcagctgggg ctcgctgtgg 17400
agcggcatta aaaatttcgg ttccaccgtt aagaactatg gcagcaaggc ctggaacagc 17460
agcacaggcc agatgctgag ggataagttg aaagagcaaa atttccaaca aaaggtggta 17520
gatggcctgg cctctggcat tagcggggtg gtggacctgg ccaaccaggc agtgcaaaat 17580
aagattaaca gtaagcttga tccccgccct cccgtagagg agcctccacc ggccgtggag 17640
acagtgtctc cagaggggcg tggcgaaaag cgtccgcgcc ccgacaggga agaaactctg 17700
gtgacgcaaa tagacgagcc tccctcgtac gaggaggcac taaagcaagg cctgcccacc 17760
acccgtccca tcgcgcccat ggctaccgga gtgctgggcc agcacacacc cgtaacgctg 17820
gacctgcctc cccccgccga cacccagcag aaacctgtgc tgccaggccc gaccgccgtt 17880
gttgtaaccc gtcctagccg cgcgtccctg cgccgcgccg ccagcggtcc gcgatcgttg 17940
cggcccgtag ccagtggcaa ctggcaaagc acactgaaca gcatcgtggg tctgggggtg 18000
caatccctga agcgccgacg atgcttctga tagctaacgt gtcgtatgtg tgtcatgtat 18060
gcgtccatgt cgccgccaga ggagctgctg agccgccgcg cgcccgcttt ccaagatggc 18120
taccccttcg atgatgccgc agtggtctta catgcacatc tcgggccagg acgcctcgga 18180
gtacctgagc cccgggctgg tgcagtttgc ccgcgccacc gagacgtact tcagcctgaa 18240
taacaagttt agaaacccca cggtggcgcc tacgcacgac gtgaccacag accggtccca 18300
gcgtttgacg ctgcggttca tccctgtgga ccgtgaggat actgcgtact cgtacaaggc 18360
gcggttcacc ctagctgtgg gtgataaccg tgtgctggac atggcttcca cgtactttga 18420
catccgcggc gtgctggaca ggggccctac ttttaagccc tactctggca ctgcctacaa 18480
cgccctggct cccaagggtg ccccaaatcc ttgcgaatgg gatgaagctg ctactgctct 18540
tgaaataaac ctagaagaag aggacgatga caacgaagac gaagtagacg agcaagctga 18600
gcagcaaaaa actcacgtat ttgggcaggc gccttattct ggtataaata ttacaaagga 18660
gggtattcaa ataggtgtcg aaggtcaaac acctaaatat gccgataaaa catttcaacc 18720

tgaacctcaa ataggagaat ctcagtggta cgaaacagaa attaatcatg cagctgggag 18780
agtcctaaaa aagactaccc caatgaaacc atgttacggt tcatatgcaa aacccacaaa 18840
tgaaaatgga gggcaaggca ttcttgtaaa gcaacaaaat ggaaagctag aaagtcaagt 18900
ggaaatgcaa tttttctcaa ctactgaggc agccgcaggc aatggtgata acttgactcc 18960
taaagtggta ttgtacagtg aagatgtaga tatagaaacc ccagacactc atatttctta 19020
catgcccact attaaggaag gtaactcacg agaactaatg ggccaacaat ctatgcccaa 19080
caggcctaat tacattgctt ttagggacaa ttttattggt ctaatgtatt acaacagcac 19140
gggtaatatg ggtgttctgg cgggccaagc atcgcagttg aatgctgttg tagatttgca 19200
agacagaaac acagagcttt cataccagct tttgcttgat tccattggtg atagaaccag 19260
gtacttttct atgtggaatc aggctgttga cagctatgat ccagatgtta gaattattga 19320
aaatcatgga actgaagatg aacttccaaa ttactgcttt ccactgggag gtgtgattaa 19380
tacagagact cttaccaagg taaaacctaa aacaggtcag gaaaatggat gggaaaaaga 19440
tgctacagaa ttttcagata aaaatgaaat aagagttgga aataattttg ccatggaaat 19500
caatctaaat gccaacctgt ggagaaattt cctgtactcc aacatagcgc tgtatttgcc 19560
cgacaagcta aagtacagtc cttccaacgt aaaaatttct gataacccaa acacctacga 19620
ctacatgaac aagcgagtgg tggctcccgg gctagtggac tgctacatta accttggagc 19680
acgctggtcc cttgactata tggacaacgt caacccattt aaccaccacc gcaatgctgg 19740
cctgcgctac cgctcaatgt tgctgggcaa tggtcgctat gtgcccttcc acatccaggt 19800
gcctcagaag ttctttgcca ttaaaaacct ccttctcctg ccgggctcat acacctacga 19860
gtggaacttc aggaaggatg ttaacatggt tctgcagagc tccctaggaa atgacctaag 19920
ggttgacgga gccagcatta agtttgatag catttgcctt tacgccacct tcttccccat 19980
ggcccacaac accgcctcca cgcttgaggc catgcttaga aacgacacca acgaccagtc 20040
ctttaacgac tatctctccg ccgccaacat gctctaccct atacccgcca acgctaccaa 20100
cgtgcccata tccatcccct cccgcaactg ggcggctttc cgcggctggg ccttcacgcg 20160
ccttaagact aaggaaaccc catcactggg ctcgggctac gacccttatt acacctactc 20220
tggctctata ccctacctag atggaacctt ttacctcaac cacaccttta agaaggtggc 20280
cattaccttt gactcttctg tcagctggcc tggcaatgac cgcctgctta cccccaacga 20340
gtttgaaatt aagcgctcag ttgacgggga gggttacaac gttgcccagt gtaacatgac 20400
caaagactgg ttcctggtac aaatgctagc taactataac attggctacc agggcttcta 20460
tatcccagag agctacaagg accgcatgta ctccttcttt agaaacttcc agcccatgag 20520
ccgtcaggtg gtggatgata ctaaatacaa ggactaccaa caggtgggca tcctacacca 20580
acacaacaac tctggatttg ttggctacct tgcccccacc atgcgcgaag gacaggccta 20640
ccctgctaac ttcccctatc cgcttatagg caagaccgca gttgacagca ttacccagaa 20700
aaagtttctt tgcgatcgca ccctttggcg catcccattc tccagtaact ttatgtccat 20760

gggcgcactc acagacctgg gccaaaacct tctctacgcc aactccgccc acgcgctaga 20820
catgactttt gaggtggatc ccatggacga gcccaccctt ctttatgttt tgtttgaagt 20880
ctttgacgtg gtccgtgtgc accagccgca ccgcggcgtc atcgaaaccg tgtacctgcg 20940
cacgcccttc tcggccggca acgccacaac ataaagaagc aagcaacatc aacaacagct 21000
gccgccatgg gctccagtga gcaggaactg aaagccattg tcaaagatct tggttgtggg 21060
ccatattttt tgggcaccta tgacaagcgc tttccaggct ttgtttctcc acacaagctc 21120
gcctgcgcca tagtcaatac ggccggtcgc gagactgggg gcgtacactg gatggccttt 21180
gcctggaacc cgcactcaaa aacatgctac ctctttgagc cctttggctt ttctgaccag 21240
cgactcaagc aggtttacca gtttgagtac gagtcactcc tgcgccgtag cgccattgct 21300
tcttcccccg accgctgtat aacgctggaa aagtccaccc aaagcgtaca ggggcccaac 21360
tcggccgcct gtggactatt ctgctgcatg tttctccacg cctttgccaa ctggccccaa 21420
actcccatgg atcacaaccc caccatgaac cttattaccg gggtacccaa ctccatgctc 21480
aacagtcccc aggtacagcc caccctgcgt cgcaaccagg aacagctcta cagcttcctg 21540
gagcgccact cgccctactt ccgcagccac agtgcgcaga ttaggagcgc cacttctttt 21600
tgtcacttga aaaacatgta aaaataatgt actagagaca ctttcaataa aggcaaatgc 21660
ttttatttgt acactctcgg gtgattattt acccccaccc ttgccgtctg cgccgtttaa 21720
aaatcaaagg ggttctgccg cgcatcgcta tgcgccactg gcagggacac gttgcgatac 21780
tggtgtttag tgctccactt aaactcaggc acaaccatcc gcggcagctc ggtgaagttt 21840
tcactccaca ggctgcgcac catcaccaac gcgtttagca ggtcgggcgc cgatatcttg 21900
aagtcgcagt tggggcctcc gccctgcgcg cgcgagttgc gatacacagg gttgcagcac 21960
tggaacacta tcagcgccgg gtggtgcacg ctggccagca cgctcttgtc ggagatcaga 22020
tccgcgtcca ggtcctccgc gttgctcagg gcgaacggag tcaactttgg tagctgcctt 22080
cccaaaaagg gcgcgtgccc aggctttgag ttgcactcgc accgtagtgg catcaaaagg 22140
tgaccgtgcc cggtctgggc gttaggatac agcgcctgca taaaagcctt gatctgctta 22200
aaagccacct gagcctttgc gccttcagag aagaacatgc cgcaagactt gccggaaaac 22260
tgattggccg gacaggccgc gtcgtgcacg cagcaccttg cgtcggtgtt ggagatctgc 22320
accacatttc ggccccaccg gttcttcacg atcttggcct tgctagactg ctccttcagc 22380
gcgcgctgcc cgttttcgct cgtcacatcc atttcaatca cgtgctcctt atttatcata 22440
atgcttccgt gtagacactt aagctcgcct tcgatctcag cgcagcggtg cagccacaac 22500
gcgcagcccg tgggctcgtg atgcttgtag gtcacctctg caaacgactg caggtacgcc 22560
tgcaggaatc gccccatcat cgtcacaaag gtcttgttgc tggtgaaggt cagctgcaac 22620
ccgcggtgct cctcgttcag ccaggtcttg catacggccg ccagagcttc cacttggtca 22680
ggcagtagtt tgaagttcgc ctttagatcg ttatccacgt ggtacttgtc catcagcgcg 22740
cgcgcagcct ccatgccctt ctcccacgca gacacgatcg gcacactcag cgggttcatc 22800

accgtaattt cactttccgc ttcgctgggc tcttcctctt cctcttgcgt ccgcatacca 22860
cgcgccactg ggtcgtcttc attcagccgc cgcactgtgc gcttacctcc tttgccatgc 22920
ttgattagca ccggtgggtt gctgaaaccc accatttgta gcgccacatc ttctctttct 22980
tcctcgctgt ccacgattac ctctggtgat ggcgggcgct cgggcttggg agaagggcgc 23040
ttctttttct tcttgggcgc aatggccaaa tccgccgccg aggtcgatgg ccgcgggctg 23100
ggtgtgcgcg gcaccagcgc gtcttgtgat gagtcttcct cgtcctcgga ctcgatacgc 23160
cgcctcatcc gctttttgg gggcgcccgg ggaggcggcg gcgacgggga cggggacgac 23220
acgtcctcca tggttggggg acgtcgcgcc gcaccgcgtc cgcgctcggg ggtggtttcg 23280
cgctgctcct cttcccgact ggccatttcc ttctcctata ggcagaaaaa gatcatggag 23340
tcagtcgaga agaaggacag cctaaccgcc ccctctgagt tcgccaccac cgcctccacc 23400
gatgccgcca acgcgcctac caccttcccc gtcgaggcac ccccgcttga ggaggaggaa 23460
gtgattatcg agcaggaccc aggttttgta agcgaagacg acgaggaccg ctcagtacca 23520
acagaggata aaaagcaaga ccaggacaac gcagaggcaa acgaggaaca agtcgggcgg 23580
ggggacgaaa ggcatggcga ctacctagat gtgggagacg acgtgctgtt gaagcatctg 23640
cagcgccagt gcgccattat ctgcgacgcg ttgcaagagc gcagcgatgt gcccctcgcc 23700
atagcggatg tcagccttgc ctacgaacgc cacctattct caccgcgcgt accccccaaa 23760
cgccaagaaa acggcacatg cgagcccaac ccgcgcctca acttctaccc cgtatttgcc 23820
gtgccagagg tgcttgccac ctatcacatc tttttccaaa actgcaagat acccctatcc 23880
tgccgtgcca accgcagccg agcggacaag cagctggcct tgcggcaggg cgctgtcata 23940
cctgatatcg cctcgctcaa cgaagtgcca aaaatctttg agggtcttgg acgcgacgag 24000
aagcgcgcgg caaacgctct gcaacaggaa aacagcgaaa atgaaagtca ctctggagtg 24060
ttggtggaac tcgagggtga caacgcgcgc ctagccgtac taaaacgcag catcgaggtc 24120
acccactttg cctacccggc acttaaccta ccccccaagg tcatgagcac agtcatgagt 24180
gagctgatcg tgcgccgtgc gcagcccctg gagagggatg caaatttgca agaacaaaca 24240
gaggagggcc tacccgcagt tggcgacgag cagctagcgc gctggcttca aacgcgcgag 24300
cctgccgact tggaggagcg acgcaaacta atgatggccg cagtgctcgt taccgtggag 24360
cttgagtgca tgcagcggtt ctttgctgac ccggagatgc agcgcaagct agaggaaaca 24420
ttgcactaca cctttcgaca gggctacgta cgccaggcct gcaagatctc caacgtggag 24480
ctctgcaacc tggtctccta ccttggaatt ttgcacgaaa accgccttgg gcaaaacgtg 24540
cttcattcca cgctcaaggg cgaggcgcgc cgcgactacg tccgcgactg cgtttactta 24600
tttctatgct acacctggca gacggccatg ggcgtttggc agcagtgctt ggaggagtgc 24660
aacctcaagg agctgcagaa actgctaaag caaaacttga aggacctatg gacggccttc 24720
aacgagcgct ccgtggccgc gcacctggcg gacatcattt tccccgaacg cctgcttaaa 24780
accctgcaac agggtctgcc agacttcacc agtcaaagca tgttgcagaa ctttaggaac 24840

tttatcctag agcgctcagg aatcttgccc gccacctgct gtgcacttcc tagcgacttt 24900
gtgcccatta agtaccgcga atgccctccg ccgctttggg gccactgcta ccttctgcag 24960
ctagccaact accttgccta ccactctgac ataatggaag acgtgagcgg tgacggtcta 25020
ctggagtgtc actgtcgctg caacctatgc accccgcacc gctccctggt ttgcaattcg 25080
cagctgctta acgaaagtca aattatcggt acctttgagc tgcagggtcc ctcgcctgac 25140
gaaaagtccg cggctccggg gttgaaactc actccggggc tgtggacgtc ggcttacctt 25200
cgcaaatttg tacctgagga ctaccacgcc cacgagatta ggttctacga agaccaatcc 25260
cgcccgccta atgcggagct taccgcctgc gtcattaccc agggccacat tcttggccaa 25320
ttgcaagcca tcaacaaagc ccgccaagag tttctgctac gaaagggacg gggggtttac 25380
ttggaccccc agtccggcga ggagctcaac ccaatccccc cgccgccgca gccctatcag 25440
cagcagccgc gggcccttgc ttcccaggat ggcacccaaa aagaagctgc agctgccgcc 25500
gccacccacg gacgaggagg aatactggga cagtcaggca gaggaggttt tggacgagga 25560
ggaggaggac atgatggaag actgggagag cctagacgag gaagcttccg aggtcgaaga 25620
ggtgtcagac gaaacaccgt caccctcggt cgcattcccc tcgccggcgc cccagaaatc 25680
ggcaaccggt tccagcatgg ctacaacctc cgctcctcag gcgccgccgg cactgcccgt 25740
tcgccgaccc aaccgtagat gggacaccac tggaaccagg gccggtaagt ccaagcagcc 25800
gccgccgtta gcccaagagc aacaacagcg ccaaggctac cgctcatggc gcgggcacaa 25860
gaacgccata gttgcttgct tgcaagactg tgggggcaac atctccttcg cccgccgctt 25920
tcttctctac catcacggcg tggccttccc ccgtaacatc ctgcattact accgtcatct 25980
ctacagccca tactgcaccg gcggcagcgg cagcaacagc agcggccaca cagaagcaaa 26040
ggcgaccgga tagcaagact ctgacaaagc ccaagaaatc cacagcggcg gcagcagcag 26100
gaggaggagc gctgcgtctg gcgcccaacg aacccgtatc gacccgcgag cttagaaaca 26160
ggatttttcc cactctgtat gctatatttc aacagagcag gggccaagaa caagagctga 26220
aaataaaaaa caggtctctg cgatccctca cccgcagctg cctgtatcac aaaagcgaag 26280
atcagcttcg gcgcacgctg gaagacgcgg aggctctctt cagtaaatac tgcgcgctga 26340
ctcttaagga ctagtttcgc gccctttctc aaatttaagc gcgaaaacta cgtcatctcc 26400
agcggccaca cccggcgcca gcacctgttg tcagcgccat tatgagcaag gaaattccca 26460
cgccctacat gtggagttac cagccacaaa tgggacttgc ggctggagct gcccaagact 26520
actcaacccg aataaactac atgagcgcgg gaccccacat gatatcccgg gtcaacggaa 26580
tacgcgccca ccgaaaccga attctcctgg aacaggcggc tattaccacc acacctcgta 26640
ataaccttaa tccccgtagt tggcccgctg ccctggtgta ccaggaaagt cccgctccca 26700
ccactgtggt acttcccaga gacgcccagg ccgaagttca gatgactaac tcaggggcgc 26760
agcttgcggg cggctttcgt cacagggtgc ggtcgcccgg gcagggtata actcacctga 26820
caatcagagg gcgaggtatt cagctcaacg acgagtcggt gagctcctcg cttggtctcc 26880

gtccggacgg gacatttcag atcggcggcg ccggccgctc ttcattcacg cctcgtcagg 26940
caatcctaac tctgcagacc tcgtcctctg agccgcgctc tggaggcatt ggaactctgc 27000
aatttattga ggagtttgtg ccatcggtct actttaaccc cttctcggga cctcccggcc 27060
actatccgga tcaatttatt cctaactttg acgcggtaaa ggactcggcg gacggctacg 27120
actgaatgtt aagtggagag gcagagcaac tgcgcctgaa acacctggtc cactgtcgcc 27180
gccacaagtg ctttgcccgc gactccggtg agttttgcta ctttgaattg cccgaggatc 27240
atatcgaggg cccggcgcac ggcgtccggc ttaccgccca gggagagctt gcccgtagcc 27300
tgattcggga gtttacccag cgccccctgc tagttgagcg ggacagggga ccctgtgttc 27360
tcactgtgat ttgcaactgt cctaaccctg gattacatca agatctttgt tgccatctct 27420
gtgctgagta taataaatac agaaattaaa atatactggg gctcctatcg ccatcctgta 27480
aacgccaccg tcttcacccg cccaagcaaa ccaaggcgaa ccttacctgg tacttttaac 27540
atctctccct ctgtgattta caacagtttc aacccagacg gagtgagtct acgagagaac 27600
ctctccgagc tcagctactc catcagaaaa aacaccaccc tccttacctg ccgggaacgt 27660
acgagtgcgt caccggccgc tgcaccacac ctaccgcctg accgtaaacc agactttttc 27720
cggacagacc tcaataactc tgtttaccag aacaggaggt gagcttagaa aacccttagg 27780
gtattaggcc aaaggcgcag ctactgtggg gtttatgaac aattcaagca actctacggg 27840
ctattctaat tcaggtttct ctagaatcgg ggttggggtt attctctgtc ttgtgattct 27900
ctttattctt atactaacgc ttctctgcct aaggctcgcc gcctgctgtg tgcacatttg 27960
catttattgt cagcttttta aacgctgggg tcgccaccca agatgattag gtacataatc 28020
ctaggtttac tcacccttgc gtcagcccac ggtaccaccc aaaaggtgga ttttaaggag 28080
ccagcctgta atgttacatt cgcagctgaa gctaatgagt gcaccactct tataaaatgc 28140
accacagaac atgaaaagct gcttattcgc cacaaaaaca aaattggcaa gtatgctgtt 28200
tatgctattt ggcagccagg tgacactaca gagtataatg ttacagtttt ccagggtaaa 28260
agtcataaaa cttttatgta tacttttcca ttttatgaaa tgtgcgacat taccatgtac 28320
atgagcaaac agtataagtt gtggccccca caaaattgtg tggaaaacac tggcactttc 28380
tgctgcactg ctatgctaat tacagtgctc gctttggtct gtaccctact ctatattaaa 28440
tacaaaagca gacgcagctt tattgaggaa aagaaaatgc cttaatttac taagttacaa 28500
agctaatgtc accactaact gctttactcg ctgcttgcaa aacaaattca aaaagttagc 28560
attataatta gaataggatt taaacccccc ggtcatttcc tgctcaatac cattcccctg 28620
aacaattgac tctatgtggg atatgctcca gcgctacaac cttgaagtca ggcttcctgg 28680
atgtcagcat ctgactttgg ccagcacctg tcccgcggat ttgttccagt ccaactacag 28740
cgacccaccc taacagagat gaccaacaca accaacgcgg ccgccgctac cggacttaca 28800
tctaccacaa atacacccca agtttctgcc tttgtcaata actgggataa cttgggcatg 28860
tggtggttct ccatagcgct tatgtttgta tgccttatta ttatgtggct catctgctgc 28920

ctaaagcgca aacgcgcccg accacccatc tatagtccca tcattgtgct acacccaaac 28980
aatgatggaa tccatagatt ggacggactg aaacacatgt tcttttctct tacagtatga 29040
ttaaatgaga catgattcct cgagttttta tattactgac ccttgttgcg ctttttttgt 29100
gcgtgctcca cattggctgc ggtttctcac atcgaagtag actgcattcc agccttcaca 29160
gtctatttgc tttacggatt tgtcaccctc acgctcatct gcagcctcat cactgtggtc 29220
atcgccttta tccagtgcat tgactgggtc tgtgtgcgct ttgcatatct cagacaccat 29280
ccccagtaca gggacaggac tatagctgag cttcttagaa ttctttaatt atgaaattta 29340
ctgtgacttt tctgctgatt atttgcaccc tatctgcgtt ttgttccccg acctccaagc 29400
ctcaaagaca tatatcatgc agattcactc gtatatggaa tattccaagt tgctacaatg 29460
aaaaaagcga tctttccgaa gcctggttat atgcaatcat ctctgttatg gtgttctgca 29520
gtaccatctt agccctagct atatatccct accttgacat tggctggaac gcaatagatg 29580
ccatgaacca cccaactttc cccgcgcccg ctatgcttcc actgcaacaa gttgttgccg 29640
gcggctttgt cccagccaat cagcctcgcc caccttctcc cacccccact gaaatcagct 29700
actttaatct aacaggagga gatgactgac accctagatc tagaaatgga cggaattatt 29760
acagagcagc gcctgctaga aagacgcagg gcagcggccg agcaacagcg catgaatcaa 29820
gagctccaag acatggttaa cttgcaccag tgcaaaaggg gtatcttttg tctggtaaag 29880
caggccaaag tcacctacga cagtaatacc accggacacc gccttagcta caagttgcca 29940
accaagcgtc agaaattggt ggtcatggtg ggagaaaagc ccattaccat aactcagcac 30000
tcggtagaaa ccgaaggctg cattcactca ccttgtcaag gacctgagga tctctgcacc 30060
cttattaaga ccctgtgcgg tctcaaagat cttattccct ttaactaata aaaaaaaata 30120
ataaagcatc acttacttaa aatcagttag caaatttctg tccagtttat tcagcagcac 30180
ctccttgccc tcctcccagc tctggtattg cagcttcctc ctggctgcaa actttctcca 30240
caatctaaat ggaatgtcag tttcctcctg ttcctgtcca tccgcaccca ctatcttcat 30300
gttgttgcag atgaagcgcg caagaccgtc tgaagatacc ttcaaccccg tgtatccata 30360
tgacacggaa accggtcctc caactgtgcc ttttcttact cctccctttg tatcccccaa 30420
tgggtttcaa gagagtcccc ctggggtact ctctttgcgc ctatccgaac ctctagttac 30480
ctccaatggc atgcttgcgc tcaaaatggg caacggcctc tctctggacg aggccggcaa 30540
ccttacctcc caaaatgtaa ccactgtgag cccacctctc aaaaaaacca agtcaaacat 30600
aaacctggaa atatctgcac ccctcacagt tacctcagaa gccctaactg tggctgccgc 30660
cgcacctcta atggtcgcgg gcaacacact caccatgcaa tcacaggccc cgctaaccgt 30720
gcacgactcc aaacttagca ttgccaccca aggacccctc acagtgtcag aaggaaagct 30780
agccctgcaa acatcaggcc ccctcaccac caccgatagc agtaccctta ctatcactgc 30840
ctcacccccct ctaactactg ccactggtag cttgggcatt gacttgaaag agcccattta 30900
tacacaaaat ggaaaactag gactaaagta cggggctcct ttgcatgtaa cagacgacct 30960

aaacactttg accgtagcaa ctggtccagg tgtgactatt aataatactt ccttgcaaac 31020
taaagttact ggagccttgg gttttgattc acaaggcaat atgcaactta atgtagcagg 31080
aggactaagg attgattctc aaaacagacg ccttatactt gatgttagtt atccgtttga 31140
tgctcaaaac caactaaatc taagactagg acagggccct ctttttataa actcagccca 31200
caacttggat attaactaca acaaaggcct ttacttgttt acagcttcaa acaattccaa 31260
aaagcttgag gttaacctaa gcactgccaa ggggttgatg tttgacgcta cagccatagc 31320
cattaatgca ggagatgggc ttgaatttgg ttcacctaat gcaccaaaca caaatcccct 31380
caaaacaaaa attggccatg gcctagaatt tgattcaaac aaggctatgg ttcctaaact 31440
aggaactggc cttagttttg acagcacagg tgccattaca gtaggaaaca aaaataatga 31500
taagctaact ttgtggacca caccagctcc atctcctaac tgtagactaa atgcagagaa 31560
agatgctaaa ctcactttgg tcttaacaaa atgtggcagt caaatacttg ctacagtttc 31620
agttttggct gttaaaggca gtttggctcc aatatctgga acagttcaaa gtgctcatct 31680
tattataaga tttgacgaaa atggagtgct actaaacaat tccttcctgg acccagaata 31740
ttggaacttt agaaatggag atcttactga aggcacagcc tatacaaacg ctgttggatt 31800
tatgcctaac ctatcagctt atccaaaatc tcacggtaaa actgccaaaa gtaacattgt 31860
cagtcaagtt tacttaaacg gagacaaaac taaacctgta acactaacca ttacactaaa 31920
cggtacacag gaaacaggag acacaactcc aagtgcatac tctatgtcat tttcatggga 31980
ctggtctggc cacaactaca ttaatgaaat atttgccaca tcctcttaca ctttttcata 32040
cattgcccaa gaataaagaa tcgtttgtgt tatgtttcaa cgtgtttatt tttcaattgc 32100
agaaaatttc aagtcatttt tcattcagta gtatagcccc accaccacat agcttataca 32160
gatcaccgta ccttaatcaa actcacagaa ccctagtatt caacctgcca cctccctccc 32220
aacacacaga gtacacagtc ctttctcccc ggctggcctt aaaaagcatc atatcatggg 32280
taacagacat attcttaggt gttatattcc acacggtttc ctgtcgagcc aaacgctcat 32340
cagtgatatt aataaactcc ccgggcagct cacttaagtt catgtcgctg tccagctgct 32400
gagccacagg ctgctgtcca acttgcggtt gcttaacggg cggcgaagga gaagtccacg 32460
cctacatggg ggtagagtca taatcgtgca tcaggatagg gcggtggtgc tgcagcagcg 32520
cgcgaataaa ctgctgccgc cgccgctccg tcctgcagga atacaacatg gcagtggtct 32580
cctcagcgat gattcgcacc gcccgcagca taaggcgcct tgtcctccgg gcacagcagc 32640
gcaccctgat ctcacttaaa tcagcacagt aactgcagca cagcaccaca atattgttca 32700
aaatcccaca gtgcaaggcg ctgtatccaa agctcatggc ggggaccaca gaacccacgt 32760
ggccatcata ccacaagcgc aggtagatta agtggcgacc cctcataaac acgctggaca 32820
taaacattac ctcttttggc atgttgtaat tcaccacctc ccggtaccat ataaacctct 32880
gattaaacat ggcgccatcc accaccatcc taaaccagct ggccaaaacc tgcccgccgg 32940
ctatacactg cagggaaccg ggactggaac aatgacagtg gagagcccag gactcgtaac 33000

catggatcat catgctcgtc atgatatcaa tgttggcaca acacaggcac acgtgcatac 33060
acttcctcag gattacaagc tcctcccgcg ttagaaccat atcccaggga acaacccatt 33120
cctgaatcag cgtaaatccc acactgcagg gaagacctcg cacgtaactc acgttgtgca 33180
ttgtcaaagt gttacattcg ggcagcagcg gatgatcctc cagtatggta gcgcgggttt 33240
ctgtctcaaa aggaggtaga cgatccctac tgtacggagt gcgccgagac aaccgagatc 33300
gtgttggtcg tagtgtcatg ccaaatggaa cgccggacgt agtcatattt cctgaagcaa 33360
aaccaggtgc gggcgtgaca aacagatctg cgtctccggt ctcgccgctt agatcgctct 33420
gtgtagtagt tgtagtatat ccactctctc aaagcatcca ggcgccccct ggcttcgggt 33480
tctatgtaaa ctccttcatg cgccgctgcc ctgataacat ccaccaccgc agaataagcc 33540
acacccagcc aacctacaca ttcgttctgc gagtcacaca cgggaggagc gggaagagct 33600
ggaagaacca tgtttttttt tttattccaa aagattatcc aaaacctcaa aatgaagatc 33660
tattaagtga acgcgctccc ctccggtggc gtggtcaaac tctacagcca aagaacagat 33720
aatggcattt gtaagatgtt gcacaatggc ttccaaaagg caaacggccc tcacgtccaa 33780
gtggacgtaa aggctaaacc cttcagggtg aatctcctct ataaacattc cagcaccttc 33840
aaccatgccc aaataattct catctcgcca ccttctcaat atatctctaa gcaaatcccg 33900
aatattaagt ccggccattg taaaaatctg ctccagagcg ccctccacct tcagcctcaa 33960
gcagcgaatc atgattgcaa aaattcaggt tcctcacaga cctgtataag attcaaaagc 34020
ggaacattaa caaaaatacc gcgatcccgt aggtcccttc gcagggccag ctgaacataa 34080
tcgtgcaggt ctgcacggac cagcgcggcc acttccccgc caggaaccat gacaaaagaa 34140
cccacactga ttatgacacg catactcgga gctatgctaa ccagcgtagc cccgatgtaa 34200
gcttgttgca tgggcggcga tataaaatgc aaggtgctgc tcaaaaaatc aggcaaagcc 34260
tcgcgcaaaa aagaaagcac atcgtagtca tgctcatgca gataaaggca ggtaagctcc 34320
ggaaccacca cagaaaaaga caccattttt ctctcaaaca tgtctgcggg tttctgcata 34380
aacacaaaat aaaataacaa aaaaacattt aaacattaga agcctgtctt acaacaggaa 34440
aaacaaccct tataagcata agacggacta cggccatgcc ggcgtgaccg taaaaaaact 34500
ggtcaccgtg attaaaaagc accaccgaca gctcctcggt catgtccgga gtcataatgt 34560
aagactcggt aaacacatca ggttgattca catcggtcag tgctaaaaag cgaccgaaat 34620
agcccggggg aatacatacc cgcaggcgta gagacaacat tacagccccc ataggaggta 34680
taacaaaatt aataggagag aaaaacacat aaacacctga aaaaccctcc tgcctaggca 34740
aaatagcacc ctcccgctcc agaacaacat acagcgcttc cacagcggca gccataacag 34800
tcagccttac cagtaaaaaa gaaaacctat taaaaaaaca ccactcgaca cggcaccagc 34860
tcaatcagtc acagtgtaaa aaagggccaa gtgcagagcg agtatatata ggactaaaaa 34920
atgacgtaac ggttaaagtc cacaaaaaac acccagaaaa ccgcacgcga acctacgccc 34980
agaaacgaaa gccaaaaaac ccacaacttc ctcaaatcgt cacttccgtt ttcccacgtt 35040

acgtcacttc ccattttaag aaaactacaa ttcccaacac atacaagtta ctccgcccta 35100

aaacctacgt cacccgcccc gttcccacgc cccgcgccac gtcacaaact ccacccccctc 35160

attatcatat tggcttcaat ccaaaataag gtatattatt gatgatg 35207

<210> 20
<211> 35203
<212> DNA
<213> Artificial Sequence

<220>
<223> Construct containing two mismatches with no duplication

<400> 20
catcatcaat aatatacctt attttggatt gaagccaata tgataatgag ggggtggagt 60

ttgtgacgtg gcgcggggcg tgggaacggg gcgggtgacg tagtagtgtg gcggaagtgt 120

gatgttgcaa gtgtggcgga acacatgtaa gcgacggatg tggcaaaagt gacgtttttg 180

gtgtgcgccg gtgtacacag gaagtgacaa ttttcgcgcg gttttaggcg gatgttgtag 240

taaatttggg cgtaaccgag taagatttgg ccattttcgc gggaaaactg aataagagga 300

agtgaaatct gaataatttt gtgttactca tagcgcgtaa tatttgtcta gggccgcggg 360

gactttgacc gtttacgtgg agactcgccc aggtgttttt ctcaggtgtt ttccgcgttc 420

cgggtcaaag ttggcgtttt attattatag tcagtacgta cgtgtacttc tgatcggcga 480

tactagggag ataaggatgt acctgacaaa accacattgt tgttgttatc attattattt 540

agttttcctt ccttgctaac tcctgacgga atctttctca cctcaaatgc gaagtacttt 600

agtttagaaa agacttggtg gaaggggtgg tggtggaaaa gtagggtgat cttccaaact 660

aatctggttc cccgcccgcc ccagtagctg ggattcaaga gcgaagagtg gggatcgtcc 720

ccttgtttga tcagaaagac ataaaaggaa aatcaagtga acaatgatca gccccacctc 780

caccccaccc ccctgcgcgc gcacaataca atctatttaa ttgtacttca tacttttcat 840

tccaatgggg tgactttgct tctggagaaa ctcttgattc ttgaactctg gggctggcag 900

ctagcctcca gaagcaaagt caccccattg gaatgaaaag tatgaagtac aatgaaaagt 960

atgaagtact ggctccagaa gcaaagtcac cctccagaag caaagtcacc ccattggaat 1020

gaaaagtatg aagtacgcta gcaaaagggg aagcgggctg ctgctctctg caggttctgc 1080

agcggtctct gtctagtggg tgttttcttt ttcttagccc tgcccctgga ttgtcagacg 1140

gcgggcgtct gcctctgaag ttagccgtga tttcctctag agccgggtct tatctctggc 1200

tgcacgttgc ctgtgggtga ctaatcacac aataacattg tttagggctg gaataaagtc 1260

agagctgttt acccccactc tatagggggtt caatataaaa aggcggcgga gaactgtccg 1320

agtcagaagc gttcctgcac cggcgctgag agcctgaccc ggtctgctcc gctgtccttg 1380

cgcgctgcct cccggctgcc cgcgacgctt tcgccccagt ggaagggcca cttgctgcgg 1440

ccgctaattc tgcagatcgg gatccggcat gggcctctcc accgtgcctg acctgctgct 1500

gccgctggtg ctcctggagc tgttggtggg aatatacccc tcaggggtta ttggactggt 1560

ccctcaccta ggggacaggg agaagagaga tagtgtgtgt ccccaaggaa aatatatcca 1620
ccctcaaaat aattcgattt gctgtaccaa gtgccacaaa ggaacctact tgtacaatga 1680
ctgtccaggc ccggggcagg atacggactg cagggagtgt gagagcggct ccttcaccgc 1740
ttcagaaaac cacctcagac actgcctcag ctgctccaaa tgccgaaagg aaatgggtca 1800
ggtggagatc tcttcttgca cagtggaccg ggacaccgtg tgtggctgca ggaagaacca 1860
gtaccggcat tattggagtg aaaacctttt ccagtgcttc aattgcagcc tctgcctcaa 1920
tgggaccgtg cacctctcct gccaggagaa acagaacacc gtgtgcacct gccatgcagg 1980
tttctttcta agagaaaacg agtgtgtctc ctgtagtaac tgtaagaaaa gcctggagtg 2040
cacgaagttg tgcctaccaa gcttaggatc cagatctaac ttggggtggc tttgtcttct 2100
tcttttgcca attccactaa ttgtttgggt gaagagaaag gaagtacaga aaacatgcag 2160
aaagcacaga aaggaaaacc aaggttctca tgaatctcca accttaaatc ctgaaacagt 2220
ggcaataaat ttatctgatg ttgacttgag taaatatatc accactattg ctggagtcat 2280
gacactaagt caagttaaag gctttgttcg aaagaatggt gtcaatgaag ccaaaataga 2340
tgagatcaag aatgacaatg tccaagacac agcagaacag aaagttcaac tgcttcgtaa 2400
ttggcatcaa cttcatggaa agaaagaagc gtatgacaca ttgattaaag atctcaaaaa 2460
agccaatctt tgtactcttg cagagaaaat tcagactatc atcctcaagg acattactag 2520
tgactcagaa aattcaaact tcagaaatga aatccaaagc ttggtctagc tcgagcatgc 2580
atctaggcgg ccgcatggca gaaattcgcg aattcgctag cgttaacgga tcctctagac 2640
gagatccgaa cttgtttatt gcagcttata atggttacaa ataaagcaat agcatcacaa 2700
atttcacaaa taaagcattt ttttcactgc attctagttg tggtttgtcc aaactcatca 2760
atgtatctta tcatgtctag atctgtactg aaatgtgtgg gcgtggctta agggtgggaa 2820
agaatatata aggtgggggt cttatgtagt tttgtatctg ttttgcagca gccgccgccg 2880
ccatgagcac caactcgttt gatggaagca ttgtgagctc atatttgaca acgcgcatgc 2940
ccccatgggc cggggtgcgt cagaatgtga tgggctccag cattgatggt cgccccgtcc 3000
tgcccgcaaa ctctactacc ttgacctacg agaccgtgtc tggaacgccg ttggagactg 3060
cagcctccgc cgccgcttca gccgctgcag ccaccgcccg cgggattgtg actgactttg 3120
ctttcctgag cccgcttgca agcagtgcag cttcccgttc atccgcccgc gatgacaagt 3180
tgacggctct tttggcacaa ttggattctt tgacccggga acttaatgtc gtttctcagc 3240
agctgttgga tctgcgccag caggtttctg ccctgaaggc ttcctcccct cccaatgcgg 3300
tttaaaacat aaataaaaaa ccagactctg tttggatttg gatcaagcaa gtgtcttgct 3360
gtctttattt aggggttttg cgcgcgcggt aggcccggga ccagcggtct cggtcgttga 3420
gggtcctgtg tatttttcc aggacgtggt aaaggtgact ctggatgttc agatacatgg 3480
gcataagccc gtctctgggg tggaggtagc accactgcag agcttcatgc tgcggggtgg 3540
tgttgtagat gatccagtcg tagcaggagc gctgggcgtg gtgcctaaaa atgtctttca 3600

gtagcaagct gattgccagg ggcaggccct tggtgtaagt gtttacaaag cggttaagct 3660
gggatgggtg catacgtggg gatatgagat gcatcttgga ctgtattttt aggttggcta 3720
tgttcccagc catatccctc cggggattca tgttgtgcag aaccaccagc acagtgtatc 3780
cggtgcactt gggaaatttg tcatgtagct tagaaggaaa tgcgtggaag aacttggaga 3840
cgcccttgtg acctccaaga ttttccatgc attcgtccat aatgatggca atgggcccac 3900
gggcggcggc ctgggcgaag atatttctgg gatcactaac gtcatagttg tgttccagga 3960
tgagatcgtc ataggccatt tttacaaagc gcgggcggag ggtgccagac tgcggtataa 4020
tggttccatc cggcccaggg gcgtagttac cctcacagat ttgcatttcc cacgctttga 4080
gttcagatgg ggggatcatg tctacctgcg gggcgatgaa gaaaacggtt tccggggtag 4140
gggagatcag ctgggaagaa agcaggttcc tgagcagctg cgacttaccg cagccggtgg 4200
gcccgtaaat cacacctatt accggctgca actggtagtt aagagagctg cagctgccgt 4260
catccctgag cagggggcc acttcgttaa gcatgtccct gactcgcatg ttttccctga 4320
ccaaatccgc cagaaggcgc tcgccgccca gcgatagcag ttcttgcaag gaagcaaagt 4380
ttttcaacgg tttgagaccg tccgccgtag gcatgctttt gagcgtttga ccaagcagtt 4440
ccaggcggtc ccacagctcg gtcacctgct ctacggcatc tcgatccagc atatctcctc 4500
gtttcgcggg ttggggcggc tttcgctgta cggcagtagt cggtgctcgt ccagacgggc 4560
cagggtcatg tctttccacg ggcgcagggt cctcgtcagc gtagtctggg tcacggtgaa 4620
ggggtgcgct ccgggctgcg cgctggccag ggtgcgcttg aggctggtcc tgctggtgct 4680
gaagcgctgc cggtcttcgc cctgcgcgtc ggccaggtag catttgacca tggtgtcata 4740
gtccagcccc tccgcggcgt ggcccttggc gcgcagcttg cccttggagg aggcgccgca 4800
cgaggggcag tgcagacttt tgagggcgta gagcttgggc gcgagaaata ccgattccgg 4860
ggagtaggca tccgcgccgc aggccccgca gacggtctcg cattccacga gccaggtgag 4920
ctctggccgt tcggggtcaa aaaccaggtt tcccccatgc tttttgatgc gtttcttacc 4980
tctggtttcc atgagccggt gtccacgctc ggtgacgaaa aggctgtccg tgtccccgta 5040
tacagacttg agaggcctgt cctcgagcgg tgttccgcgg tcctcctcgt atagaaactc 5100
ggaccactct gagacaaagg ctcgcgtcca ggccagcacg aaggaggcta agtgggaggg 5160
gtagcggtcg ttgtccacta gggggtccac tcgctccagg gtgtgaagac acatgtcgcc 5220
ctcttcggca tcaaggaagg tgattggttt gtaggtgtag gccacgtgac cgggtgttcc 5280
tgaagggggg ctataaaagg gggtgggggc gcgttcgtcc tcactctctt ccgcatcgct 5340
gtctgcgagg gccagctgtt ggggtgagta ctccctctga aaagcgggca tgacttctgc 5400
gctaagattg tcagtttcca aaaacgagga ggatttgata ttcacctggc ccgcggtgat 5460
gcctttgagg gtggccgcat ccatctggtc agaaaagaca atctttttgt tgtcaagctt 5520
ggtggcaaac gacccgtaga gggcgttgga cagcaacttg gcgatggagc gcagggtttg 5580
gtttttgtcg cgatcggcgc gctccttggc cgcgatgttt agctgcacgt attcgcgcgc 5640

aacgcaccgc cattcgggaa agacggtggt gcgctcgtcg ggcaccaggt gcacgcgcca 5700
accgcggttg tgcagggtga caaggtcaac gctggtggct acctctccgc gtaggcgctc 5760
gttggtccag cagaggcggc cgcccttgcg cgagcagaat ggcggtaggg ggtctagctg 5820
cgtctcgtcc ggggggtctg cgtccacggt aaagaccccg ggcagcaggc gcgcgtcgaa 5880
gtagtctatc ttgcatcctt gcaagtctag cgcctgctgc catgcgcggg cggcaagcgc 5940
gcgctcgtat gggttgagtg ggggacccca tggcatgggg tgggtgagcg cggaggcgta 6000
catgccgcaa atgtcgtaaa cgtagagggg ctctctgagt attccaagat atgtagggta 6060
gcatcttcca ccgcggatgc tggcgcgcac gtaatcgtat agttcgtgcg agggagcgag 6120
gaggtcggga ccgaggttgc tacgggcggg ctgctctgct cggaagacta tctgcctgaa 6180
gatggcatgt gagttggatg atatggttgg acgctggaag acgttgaagc tggcgtctgt 6240
gagacctacc gcgtcacgca cgaaggaggc gtaggagtcg cgcagcttgt tgaccagctc 6300
ggcggtgacc tgcacgtcta gggcgcagta gtccagggtt tccttgatga tgtcatactt 6360
atcctgtccc tttttttcc acagctcgcg gttgaggaca aactcttcgc ggtctttcca 6420
gtactcttgg atcggaaacc cgtcggcctc cgaacggtaa gagcctagca tgtagaactg 6480
gttgacggcc tggtaggcgc agcatccctt ttctacgggt agcgcgtatg cctgcgcggc 6540
cttccggagc gaggtgtggg tgagcgcaaa ggtgtccctg accatgactt tgaggtactg 6600
gtatttgaag tcagtgtcgt cgcatccgcc ctgctcccag agcaaaaagt ccgtgcgctt 6660
tttggaacgc ggatttggca gggcgaaggt gacatcgttg aagagtatct ttcccgcgcg 6720
aggcataaag ttgcgtgtga tgcggaaggg tcccggcacc tcggaacggt tgttaattac 6780
ctgggcggcg agcacgatct cgtcaaagcc gttgatgttg tggcccacaa tgtaaagttc 6840
caagaagcgc gggatgccct tgatggaagg caatttttta agttcctcgt aggtgagctc 6900
ttcaggggag ctgagcccgt gctctgaaag ggcccagtct gcaagatgag ggttggaagc 6960
gacgaatgag ctccacaggt cacgggccat tagcatttgc aggtggtcgc gaaaggtcct 7020
aaactggcga cctatggcca ttttttctgg ggtgatgcag tagaaggtaa gcgggtcttg 7080
ttcccagcgg tcccatccaa ggttcgcggc taggtctcgc gcggcagtca ctagaggctc 7140
atctccgccg aacttcatga ccagcatgaa gggcacgagc tgcttcccaa aggcccccat 7200
ccaagtatag gtctctacat cgtaggtgac aaagagacgc tcggtgcgag gatgcgagcc 7260
gatcgggaag aactggatct cccgccacca attggaggag tggctattga tgtggtgaaa 7320
gtagaagtcc ctgcgacggg ccgaacactc gtgctggctt ttgtaaaaac gtgcgcagta 7380
ctggcagcgg tgcacgggct gtacatcctg cacgaggttg acctgacgac cgcgcacaag 7440
gaagcagagt gggaatttga gcccctcgcc tggcgggttt ggctggtggt cttctacttc 7500
ggctgcttgt ccttgaccgt ctggctgctc gaggggagtt acggtggatc ggaccaccac 7560
gccgcgcgag cccaaagtcc agatgtccgc gcgcggcggt cggagcttga tgacaacatc 7620
gcgcagatgg gagctgtcca tggtctggag ctcccgcggc gtcaggtcag gcgggagctc 7680

ctgcaggttt acctcgcata gacgggtcag ggcgcgggct agatccaggt gatacctaat 7740
ttccaggggc tggttggtgg cggcgtcgat ggcttgcaag aggccgcatc cccgcggcgc 7800
gactacggta ccgcgcggcg ggcggtgggc cgcgggggtg tccttggatg atgcatctaa 7860
aagcggtgac gcgggcgagc ccccggaggt agggggggct ccggacccgc cgggagaggg 7920
ggcaggggca cgtcggcgcc gcgcgcgggc aggagctggt gctgcgcgcg taggttgctg 7980
gcgaacgcga cgacgcggcg gttgatctcc tgaatctggc gcctctgcgt gaagacgacg 8040
ggcccggtga gcttgaacct gaaagagagt tcgacagaat caatttcggt gtcgttgacg 8100
gcggcctggc gcaaaatctc ctgcacgtct cctgagttgt cttgataggc gatctcggcc 8160
atgaactgct cgatctcttc ctcctggaga tctccgcgtc cggctcgctc cacggtggcg 8220
gcgaggtcgt tggaaatgcg ggccatgagc tgcgagaagg cgttgaggcc tccctcgttc 8280
cagacgcggc tgtagaccac gcccccttcg gcatcgcggg cgcgcatgac cacctgcgcg 8340
agattgagct ccacgtgccg ggcgaagacg gcgtagtttc gcaggcgctg aaagaggtag 8400
ttgagggtgg tggcggtgtg ttctgccacg aagaagtaca taacccagcg tcgcaacgtg 8460
gattcgttga tatcccccaa ggcctcaagg cgctccatgg cctcgtagaa gtccacggcg 8520
aagttgaaaa actgggagtt gcgcgccgac acggttaact cctcctccag aagacggatg 8580
agctcggcga cagtgtcgcg cacctcgcgc tcaaaggcta caggggcctc ttcttcttct 8640
tcaatctcct cttccataag ggcctcccct tcttcttctt ctggcggcgg tgggggaggg 8700
gggacacggc ggcgacgacg gcgcaccggg aggcggtcga caaagcgctc gatcatctcc 8760
ccgcggcgac ggcgcatggt ctcggtgacg gcgcggccgt tctcgcgggg gcgcagttgg 8820
aagacgccgc ccgtcatgtc ccggttatgg gttggcgggg ggctgccatg cggcagggat 8880
acggcgctaa cgatgcatct caacaattgt tgtgtaggta ctccgccgcc gagggacctg 8940
agcgagtccg catcgaccgg atcggaaaac ctctcgagaa aggcgtctaa ccagtcacag 9000
tcgcaaggta ggctgagcac cgtggcgggc ggcagcgggc ggcggtcggg gttgtttctg 9060
gcggaggtgc tgctgatgat gtaattaaag taggcggtct tgagacggcg gatggtcgac 9120
agaagcacca tgtccttggg tccggcctgc tgaatgcgca ggcggtcggc catgccccag 9180
gcttcgtttt gacatcggcg caggtctttg tagtagtctt gcatgagcct ttctaccggc 9240
acttcttctt ctccttcctc ttgtcctgca tctcttgcat ctatcgctgc ggcggcggcg 9300
gagtttggcc gtaggtggcg ccctcttcct cccatgcgtg tgaccccgaa gcccctcatc 9360
ggctgaagca gggctaggtc ggcgacaacg cgctcggcta atatggcctg ctgcacctgc 9420
gtgagggtag actggaagtc atccatgtcc acaaagcggt ggtatgcgcc cgtgttgatg 9480
gtgtaagtgc agttggccat aacggaccag ttaacggtct ggtgacccgg ctgcgagagc 9540
tcggtgtacc tgagacgcga gtaagccctc gagtcaaata cgtagtcgtt gcaagtccgc 9600
accaggtact ggtatcccac caaaaagtgc ggcggcggct ggcggtagag gggccagcgt 9660
agggtggccg gggctccggg ggcgagatct tccaacataa ggcgatgata tccgtagatg 9720

tacctggaca tccaggtgat gccggcggcg gtggtggagg cgcgcggaaa gtcgcggacg 9780
cggttccaga tgttgcgcag cggcaaaaag tgctccatgg tcgggacgct ctggccggtc 9840
aggcgcgcgc aatcgttgac gctctagacc gtgcaaaagg agagcctgta agcgggcact 9900
cttccgtggt ctggtggata aattcgcaag ggtatcatgg cggacgaccg gggttcgagc 9960
cccgtatccg gccgtccgcc gtgatccatg cggttaccgc ccgcgtgtcg aacccaggtg 10020
tgcgacgtca gacaacgggg gagtgctcct tttggcttcc ttccaggcgc ggcggctgct 10080
gcgctagctt ttttggccac tggccgcgcg cagcgtaagc ggttaggctg gaaagcgaaa 10140
gcattaagtg gctcgctccc tgtagccgga gggttatttt ccaagggttg agtcgcggga 10200
cccccggttc gagtctcgga ccggccggac tgcggcgaac gggggtttgc ctccccgtca 10260
tgcaagaccc cgcttgcaaa ttcctccgga aacagggacg agcccctttt ttgcttttcc 10320
cagatgcatc cggtgctgcg gcagatgcgc ccccctcctc agcagcggca agagcaagag 10380
cagcggcaga catgcagggc accctcccct cctcctaccg cgtcaggagg ggcgacatcc 10440
gcggttgacg cggcagcaga tggtgattac gaacccccgc ggcgccgggc ccggcactac 10500
ctggacttgg aggagggcga gggcctggcg cggctaggag cgccctctcc tgagcggcac 10560
ccaagggtgc agctgaagcg tgatacgcgt gaggcgtacg tgccgcggca gaacctgttt 10620
cgcgaccgcg agggagagga gcccgaggag atgcgggatc gaaagttcca cgcagggcgc 10680
gagctgcggc atggcctgaa tcgcgagcgg ttgctgcgcg aggaggactt tgagcccgac 10740
gcgcgaaccg ggattagtcc cgcgcgcgca cacgtggcgg ccgccgacct ggtaaccgca 10800
tacgagcaga cggtgaacca ggagattaac tttcaaaaaa gctttaacaa ccacgtgcgt 10860
acgcttgtgg cgcgcgagga ggtggctata ggactgatgc atctgtggga ctttgtaagc 10920
gcgctggagc aaaacccaaa tagcaagccg ctcatggcgc agctgttcct tatagtgcag 10980
cacagcaggg acaacgaggc attcagggat gcgctgctaa acatagtaga gcccgagggc 11040
cgctggctgc tcgatttgat aaacatcctg cagagcatag tggtgcagga gcgcagcttg 11100
agcctggctg acaaggtggc cgccatcaac tattccatgc ttagcctggg caagttttac 11160
gcccgcaaga tataccatac cccttacgtt cccatagaca aggaggtaaa gatcgagggg 11220
ttctacatgc gcatggcgct gaaggtgctt accttgagcg acgacctggg cgtttatcgc 11280
aacgagcgca tccacaaggc cgtgagcgtg agccggcggc gcgagctcag cgaccgcgag 11340
ctgatgcaca gcctgcaaag ggccctggct ggcacgggca gcggcgatag agaggccgag 11400
tcctactttg acgcgggcgc tgacctgcgc tgggccccaa gccgacgcgc cctggaggca 11460
gctggggccg gacctgggct ggcggtggca cccgcgcgcg ctggcaacgt cggcggcgtg 11520
gaggaatatg acgaggacga tgagtacgag ccagaggacg gcgagtacta agcggtgatg 11580
tttctgatca gatgatgcaa gacgcaacgg acccggcggt gcgggcggcg ctgcagagcc 11640
agccgtccgg ccttaactcc acggacgact ggcgccaggt catggaccgc atcatgtcgc 11700
tgactgcgcg caatcctgac gcgttccggc agcagccgca ggccaaccgg ctctccgcaa 11760

ttctggaagc ggtggtcccg gcgcgcgcaa accccacgca cgagaaggtg ctggcgatcg 11820
taaacgcgct ggccgaaaac agggccatcc ggcccgacga ggccggcctg gtctacgacg 11880
cgctgcttca gcgcgtggct cgttacaaca gcggcaacgt gcagaccaac ctggaccggc 11940
tggtggggga tgtgcgcgag gccgtggcgc agcgtgagcg cgcgcagcag cagggcaacc 12000
tgggctccat ggttgcacta aacgccttcc tgagtacaca gcccgccaac gtgccgcggg 12060
gacaggagga ctacaccaac tttgtgagcg cactgcggct aatggtgact gagacaccgc 12120
aaagtgaggt gtaccagtct gggccagact atttttcca gaccagtaga caaggcctgc 12180
agaccgtaaa cctgagccag gctttcaaaa acttgcaggg gctgtggggg gtgcgggctc 12240
ccacaggcga ccgcgcgacc gtgtctagct tgctgacgcc caactcgcgc ctgttgctgc 12300
tgctaatagc gcccttcacg gacagtggca gcgtgtcccg ggacacatac ctaggtcact 12360
tgctgacact gtaccgcgag gccataggtc aggcgcatgt ggacgagcat actttccagg 12420
agattacaag tgtcagccgc gcgctggggc aggaggacac gggcagcctg gaggcaaccc 12480
taaactacct gctgaccaac cggcggcaga agatcccctc gttgcacagt ttaaacagcg 12540
aggaggagcg cattttgcgc tacgtgcagc agagcgtgag ccttaacctg atgcgcgacg 12600
gggtaacgcc cagcgtggcg ctggacatga ccgcgcgcaa catggaaccg ggcatgtatg 12660
cctcaaaccg gccgtttatc aaccgcctaa tggactactt gcatcgcgcg gccgccgtga 12720
accccgagta tttcaccaat gccatcttga acccgcactg gctaccgccc cctggtttct 12780
acaccggggg attcgaggtg cccgagggta acgatggatt cctctgggac gacatagacg 12840
acagcgtgtt ttccccgcaa ccgcagaccc tgctagagtt gcaacagcgc gagcaggcag 12900
aggcggcgct gcgaaaggaa agcttccgca ggccaagcag cttgtccgat ctaggcgctg 12960
cggccccgcg gtcagatgct agtagcccat ttccaagctt gatagggtct cttaccagca 13020
ctcgcaccac ccgcccgcgc ctgctgggcg aggaggagta cctaaacaac tcgctgctgc 13080
agccgcagcg cgaaaaaaac ctgcctccgg catttcccaa caacgggata gagagcctag 13140
tggacaagat gagtagatgg aagacgtacg cgcaggagca cagggacgtg ccaggcccgc 13200
gcccgcccac ccgtcgtcaa aggcacgacc gtcagcgggg tctggtgtgg gaggacgatg 13260
actcggcaga cgacagcagc gtcctggatt tgggagggag tggcaacccg tttgcgcacc 13320
ttcgccccag gctggggaga atgttttaaa aaaaaaaaaa gcatgatgca aaataaaaaa 13380
ctcaccaagg ccatggcacc gagcgttggt tttcttgtat tccccttagt atgcggcgcg 13440
cggcgatgta tgaggaaggt cctcctccct cctacgagag tgtggtgagc gcggcgccag 13500
tggcggcggc gctgggttct cccttcgatg ctcccctgga cccgccgttt gtgcctccgc 13560
ggtacctgcg gcctaccggg gggagaaaca gcatccgtta ctctgagttg gcacccctat 13620
tcgacaccac ccgtgtgtac ctggtggaca acaagtcaac ggatgtggca tccctgaact 13680
accagaacga ccacagcaac tttctgacca cggtcattca aaacaatgac tacagcccgg 13740
gggaggcaag cacacagacc atcaatcttg acgaccggtc gcactggggc ggcgacctga 13800

aaaccatcct gcataccaac atgccaaatg tgaacgagtt catgtttacc aataagttta 13860
aggcgcgggt gatggtgtcg cgcttgccta ctaaggacaa tcaggtggag ctgaaatacg 13920
agtgggtgga gttcacgctg cccgagggca actactccga gaccatgacc atagacctta 13980
tgaacaacgc gatcgtggag cactacttga aagtgggcag acagaacggg gttctggaaa 14040
gcgacatcgg ggtaaagttt gacacccgca acttcagact ggggtttgac cccgtcactg 14100
gtcttgtcat gcctggggta tatacaaacg aagccttcca tccagacatc attttgctgc 14160
caggatgcgg ggtggacttc acccacagcc gcctgagcaa cttgttgggc atccgcaagc 14220
ggcaaccctt ccaggagggc tttaggatca cctacgatga tctggagggt ggtaacattc 14280
ccgcactgtt ggatgtggac gcctaccagg cgagcttgaa agatgacacc gaacagggcg 14340
ggggtggcgc aggcggcagc aacagcagtg gcagcggcgc ggaagagaac tccaacgcgg 14400
cagccgcggc aatgcagccg gtggaggaca tgaacgatca tgccattcgc ggcgacacct 14460
ttgccacacg ggctgaggag aagcgcgctg aggccgaagc agcggccgaa gctgccgccc 14520
ccgctgcgca acccgaggtc gagaagcctc agaagaaacc ggtgatcaaa cccctgacag 14580
aggacagcaa gaaacgcagt tacaacctaa taagcaatga cagcaccttc acccagtacc 14640
gcagctggta ccttgcatac aactacggcg accctcagac cggaatccgc tcatggaccc 14700
tgctttgcac tcctgacgta acctgcggct cggagcaggt ctactggtcg ttgccagaca 14760
tgatgcaaga ccccgtgacc ttccgctcca cgcgccagat cagcaacttt ccggtggtgg 14820
gcgccgagct gttgcccgtg cactccaaga gcttctacaa cgaccaggcc gtctactccc 14880
aactcatccg ccagtttacc tctctgaccc acgtgttcaa tcgctttccc gagaaccaga 14940
ttttggcgcg cccgccagcc cccaccatca ccaccgtcag tgaaaacgtt cctgctctca 15000
cagatcacgg gacgctaccg ctgcgcaaca gcatcggagg agtccagcga gtgaccatta 15060
ctgacgccag acgccgcacc tgcccctacg tttacaaggc cctgggcata gtctcgccgc 15120
gcgtcctatc gagccgcact ttttgagcaa gcatgtccat ccttatatcg cccagcaata 15180
acacaggctg gggcctgcgc ttcccaagca agatgtttgg cggggccaag aagcgctccg 15240
accaacaccc agtgcgcgtg cgcgggcact accgcgcgcc ctggggcgcg cacaaacgcg 15300
gccgcactgg gcgcaccacc gtcgatgacg ccatcgacgc ggtggtggag gaggcgcgca 15360
actacacgcc cacgccgcca ccagtgtcca cagtggacgc ggccattcag accgtggtgc 15420
gcggagcccg gcgctatgct aaaatgaaga gacggcggag gcgcgtagca cgtcgccacc 15480
gccgccgacc cggcactgcc gcccaacgcg cggcggcggc cctgcttaac cgcgcacgtc 15540
gcaccggccg acgggcggcc atgcgggccg ctcgaaggct ggccgcgggt attgtcactg 15600
tgccccccag gtccaggcga cgagcggccg ccgcagcagc cgcggccatt agtgctatga 15660
ctcagggtcg caggggcaac gtgtattggg tgcgcgactc ggttagcggc ctgcgcgtgc 15720
ccgtgcgcac ccgccccccg cgcaactaga ttgcaagaaa aaactactta gactcgtact 15780
gttgtatgta tccagcggcg gcggcgcgca acgaagctat gtccaagcgc aaaatcaaag 15840

aagagatgct ccaggtcatc gcgccggaga tctatggccc cccgaagaag gaagagcagg 15900
attacaagcc ccgaaagcta aagcgggtca aaaagaaaaa gaaagatgat gatgatgaac 15960
ttgacgacga ggtggaactg ctgcacgcta ccgcgcccag gcgacgggta cagtggaaag 16020
gtcgacgcgt aaaacgtgtt ttgcgacccg gcaccaccgt agtctttacg cccggtgagc 16080
gctccacccg cacctacaag cgcgtgtatg atgaggtgta cggcgacgag gacctgcttg 16140
agcaggccaa cgagcgcctc ggggagtttg cctacggaaa gcggcataag gacatgctgg 16200
cgttgccgct ggacgagggc aacccaacac ctagcctaaa gcccgtaaca ctgcagcagg 16260
tgctgcccgc gcttgcaccg tccgaagaaa agcgcggcct aaagcgcgag tctggtgact 16320
tggcacccac cgtgcagctg atggtaccca agcgccagcg actggaagat gtcttggaaa 16380
aaatgaccgt ggaacctggg ctggagcccg aggtccgcgt gcggccaatc aagcaggtgg 16440
cgccgggact gggcgtgcag accgtggacg ttcagatacc cactaccagt agcaccagta 16500
ttgccaccgc cacagagggc atggagacac aaacgtcccc ggttgcctca gcggtggcgg 16560
atgccgcggt gcaggcggtc gctgcggccg cgtccaagac ctctacggag gtgcaaacgg 16620
acccgtggat gtttcgcgtt tcagcccccc ggcgcccgcg ccgttcgagg aagtacggcg 16680
ccgccagcgc gctactgccc gaatatgccc tacatccttc cattgcgcct acccccggct 16740
atcgtggcta cacctaccgc cccagaagac gagcaactac ccgacgccga accaccactg 16800
gaacccgccg ccgccgtcgc cgtcgccagc ccgtgctggc cccgatttcc gtgcgcaggg 16860
tggctcgcga aggaggcagg accctggtgc tgccaacagc gcgctaccac cccagcatcg 16920
tttaaaagcc ggtctttgtg gttcttgcag atatggccct cacctgccgc ctccgtttcc 16980
cggtgccggg attccgagga agaatgcacc gtaggagggg catggccggc cacggcctga 17040
cgggcggcat gcgtcgtgcg caccaccggc ggcggcgcgc gtcgcaccgt cgcatgcgcg 17100
gcggtatcct gcccctcctt attccactga tcgccgcggc gattggcgcc gtgcccggaa 17160
ttgcatccgt ggccttgcag gcgcagagac actgattaaa aacaagttgc atgtggaaaa 17220
atcaaaataa aaagtctgga ctctcacgct cgcttggtcc tgtaactatt ttgtagaatg 17280
gaagacatca actttgcgtc tctggccccg cgacacggct cgcgcccgtt catgggaaac 17340
tggcaagata tcggcaccag caatatgagc ggtggcgcct tcagctgggg ctcgctgtgg 17400
agcggcatta aaaatttcgg ttccaccgtt aagaactatg gcagcaaggc ctggaacagc 17460
agcacaggcc agatgctgag ggataagttg aaagagcaaa atttccaaca aaaggtggta 17520
gatggcctgg cctctggcat tagcggggtg gtggacctgg ccaaccaggc agtgcaaaat 17580
aagattaaca gtaagcttga tccccgccct cccgtagagg agcctccacc ggccgtggag 17640
acagtgtctc cagaggggcg tggcgaaaag cgtccgcgcc ccgacaggga agaaactctg 17700
gtgacgcaaa tagacgagcc tccctcgtac gaggaggcac taaagcaagg cctgcccacc 17760
acccgtccca tcgcgcccat ggctaccgga gtgctgggcc agcacacacc cgtaacgctg 17820
gacctgcctc cccccgccga cacccagcag aaacctgtgc tgccaggccc gaccgccgtt 17880

gttgtaaccc gtcctagccg cgcgtccctg cgccgcgccg ccagcggtcc gcgatcgttg 17940
cggcccgtag ccagtggcaa ctggcaaagc acactgaaca gcatcgtggg tctgggggtg 18000
caatccctga agcgccgacg atgcttctga tagctaacgt gtcgtatgtg tgtcatgtat 18060
gcgtccatgt cgccgccaga ggagctgctg agccgccgcg cgcccgcttt ccaagatggc 18120
taccccttcg atgatgccgc agtggtctta catgcacatc tcgggccagg acgcctcgga 18180
gtacctgagc cccgggctgg tgcagtttgc ccgcgccacc gagacgtact tcagcctgaa 18240
taacaagttt agaaacccca cggtggcgcc tacgcacgac gtgaccacag accggtccca 18300
gcgtttgacg ctgcggttca tccctgtgga ccgtgaggat actgcgtact cgtacaaggc 18360
gcggttcacc ctagctgtgg gtgataaccg tgtgctggac atggcttcca cgtactttga 18420
catccgcggc gtgctggaca ggggccctac ttttaagccc tactctggca ctgcctacaa 18480
cgccctggct cccaagggtg ccccaaatcc ttgcgaatgg gatgaagctg ctactgctct 18540
tgaaataaac ctagaagaag aggacgatga caacgaagac gaagtagacg agcaagctga 18600
gcagcaaaaa actcacgtat ttgggcaggc gccttattct ggtataaata ttacaaagga 18660
gggtattcaa ataggtgtcg aaggtcaaac acctaaatat gccgataaaa catttcaacc 18720
tgaacctcaa ataggagaat ctcagtggta cgaaacagaa attaatcatg cagctgggag 18780
agtcctaaaa aagactaccc caatgaaacc atgttacggt tcatatgcaa aacccacaaa 18840
tgaaaatgga gggcaaggca ttcttgtaaa gcaacaaaat ggaaagctag aaagtcaagt 18900
ggaaatgcaa tttttctcaa ctactgaggc agccgcaggc aatggtgata acttgactcc 18960
taaagtggta ttgtacagtg aagatgtaga tatagaaacc ccagacactc atatttctta 19020
catgcccact attaaggaag gtaactcacg agaactaatg ggccaacaat ctatgcccaa 19080
caggcctaat tacattgctt ttagggacaa ttttattggt ctaatgtatt acaacagcac 19140
gggtaatatg ggtgttctgg cgggccaagc atcgcagttg aatgctgttg tagatttgca 19200
agacagaaac acagagcttt cataccagct tttgcttgat tccattggtg atagaaccag 19260
gtacttttct atgtggaatc aggctgttga cagctatgat ccagatgtta gaattattga 19320
aaatcatgga actgaagatg aacttccaaa ttactgcttt ccactgggag gtgtgattaa 19380
tacagagact cttaccaagg taaaacctaa aacaggtcag gaaaatggat gggaaaaaga 19440
tgctacagaa ttttcagata aaaatgaaat aagagttgga aataattttg ccatggaaat 19500
caatctaaat gccaacctgt ggagaaattt cctgtactcc aacatagcgc tgtatttgcc 19560
cgacaagcta aagtacagtc cttccaacgt aaaaatttct gataacccaa acacctacga 19620
ctacatgaac aagcgagtgg tggctcccgg gctagtggac tgctacatta accttggagc 19680
acgctggtcc cttgactata tggacaacgt caacccattt aaccaccacc gcaatgctgg 19740
cctgcgctac cgctcaatgt tgctgggcaa tggtcgctat gtgcccttcc acatccaggt 19800
gcctcagaag ttctttgcca ttaaaaacct ccttctcctg ccgggctcat acacctacga 19860
gtggaacttc aggaaggatg ttaacatggt tctgcagagc tccctaggaa atgacctaag 19920

ggttgacgga gccagcatta agtttgatag catttgcctt tacgccacct tcttccccat 19980
ggcccacaac accgcctcca cgcttgaggc catgcttaga aacgacacca acgaccagtc 20040
ctttaacgac tatctctccg ccgccaacat gctctaccct atacccgcca acgctaccaa 20100
cgtgcccata tccatcccct cccgcaactg ggcggctttc cgcggctggg ccttcacgcg 20160
ccttaagact aaggaaaccc catcactggg ctcgggctac gacccttatt acacctactc 20220
tggctctata ccctacctag atggaacctt ttacctcaac cacaccttta agaaggtggc 20280
cattaccttt gactcttctg tcagctggcc tggcaatgac cgcctgctta cccccaacga 20340
gtttgaaatt aagcgctcag ttgacgggga gggttacaac gttgcccagt gtaacatgac 20400
caaagactgg ttcctggtac aaatgctagc taactataac attggctacc agggcttcta 20460
tatcccagag agctacaagg accgcatgta ctccttcttt agaaacttcc agcccatgag 20520
ccgtcaggtg gtggatgata ctaaatacaa ggactaccaa caggtgggca tcctacacca 20580
acacaacaac tctggatttg ttggctacct tgcccccacc atgcgcgaag gacaggccta 20640
ccctgctaac ttcccctatc cgcttatagg caagaccgca gttgacagca ttacccagaa 20700
aaagtttctt tgcgatcgca ccctttggcg catcccattc tccagtaact ttatgtccat 20760
gggcgcactc acagacctgg gccaaaacct tctctacgcc aactccgccc acgcgctaga 20820
catgactttt gaggtggatc ccatggacga gcccaccctt ctttatgttt tgtttgaagt 20880
ctttgacgtg gtccgtgtgc accagccgca ccgcggcgtc atcgaaaccg tgtacctgcg 20940
cacgcccttc tcggccggca acgccacaac ataaagaagc aagcaacatc aacaacagct 21000
gccgccatgg gctccagtga gcaggaactg aaagccattg tcaaagatct tggttgtggg 21060
ccatattttt tgggcaccta tgacaagcgc tttccaggct ttgtttctcc acacaagctc 21120
gcctgcgcca tagtcaatac ggccggtcgc gagactgggg gcgtacactg gatggccttt 21180
gcctggaacc cgcactcaaa aacatgctac ctctttgagc cctttggctt ttctgaccag 21240
cgactcaagc aggtttacca gtttgagtac gagtcactcc tgcgccgtag cgccattgct 21300
tcttcccccg accgctgtat aacgctggaa aagtccaccc aaagcgtaca ggggcccaac 21360
tcggccgcct gtggactatt ctgctgcatg tttctccacg cctttgccaa ctggccccaa 21420
actcccatgg atcacaaccc caccatgaac cttattaccg gggtacccaa ctccatgctc 21480
aacagtcccc aggtacagcc caccctgcgt cgcaaccagg aacagctcta cagcttcctg 21540
gagcgccact cgccctactt ccgcagccac agtgcgcaga ttaggagcgc cacttctttt 21600
tgtcacttga aaaacatgta aaaataatgt actagagaca ctttcaataa aggcaaatgc 21660
ttttatttgt acactctcgg gtgattattt acccccaccc ttgccgtctg cgccgtttaa 21720
aaatcaaagg ggttctgccg cgcatcgcta tgcgccactg gcagggacac gttgcgatac 21780
tggtgtttag tgctccactt aaactcaggc acaaccatcc gcggcagctc ggtgaagttt 21840
tcactccaca ggctgcgcac catcaccaac gcgtttagca ggtcgggcgc cgatatcttg 21900
aagtcgcagt tggggcctcc gccctgcgcg cgcgagttgc gatacacagg gttgcagcac 21960

tggaacacta tcagcgccgg gtggtgcacg ctggccagca cgctcttgtc ggagatcaga 22020
tccgcgtcca ggtcctccgc gttgctcagg gcgaacggag tcaactttgg tagctgcctt 22080
cccaaaaagg gcgcgtgccc aggctttgag ttgcactcgc accgtagtgg catcaaaagg 22140
tgaccgtgcc cggtctgggc gttaggatac agcgcctgca taaaagcctt gatctgctta 22200
aaagccacct gagcctttgc gccttcagag aagaacatgc cgcaagactt gccggaaaac 22260
tgattggccg gacaggccgc gtcgtgcacg cagcaccttg cgtcggtgtt ggagatctgc 22320
accacatttc ggccccaccg gttcttcacg atcttggcct tgctagactg ctccttcagc 22380
gcgcgctgcc cgttttcgct cgtcacatcc atttcaatca cgtgctcctt atttatcata 22440
atgcttccgt gtagacactt aagctcgcct tcgatctcag cgcagcggtg cagccacaac 22500
gcgcagcccg tgggctcgtg atgcttgtag gtcacctctg caaacgactg caggtacgcc 22560
tgcaggaatc gccccatcat cgtcacaaag gtcttgttgc tggtgaaggt cagctgcaac 22620
ccgcggtgct cctcgttcag ccaggtcttg catacggccg ccagagcttc cacttggtca 22680
ggcagtagtt tgaagttcgc ctttagatcg ttatccacgt ggtacttgtc catcagcgcg 22740
cgcgcagcct ccatgccctt ctcccacgca gacacgatcg gcacactcag cgggttcatc 22800
accgtaattt cactttccgc ttcgctgggc tcttcctctt cctcttgcgt ccgcatacca 22860
cgcgccactg ggtcgtcttc attcagccgc cgcactgtgc gcttacctcc tttgccatgc 22920
ttgattagca ccggtgggtt gctgaaaccc accatttgta gcgccacatc ttctctttct 22980
tcctcgctgt ccacgattac ctctggtgat ggcgggcgct cgggcttggg agaagggcgc 23040
ttctttttct tcttgggcgc aatggccaaa tccgccgccg aggtcgatgg ccgcgggctg 23100
ggtgtgcgcg gcaccagcgc gtcttgtgat gagtcttcct cgtcctcgga ctcgatacgc 23160
cgcctcatcc gctttttgg gggcgcccgg ggaggcggcg gcgacgggga cggggacgac 23220
acgtcctcca tggttggggg acgtcgcgcc gcaccgcgtc cgcgctcggg ggtggtttcg 23280
cgctgctcct cttcccgact ggccatttcc ttctcctata ggcagaaaaa gatcatggag 23340
tcagtcgaga agaaggacag cctaaccgcc ccctctgagt tcgccaccac cgcctccacc 23400
gatgccgcca acgcgcctac caccttcccc gtcgaggcac ccccgcttga ggaggaggaa 23460
gtgattatcg agcaggaccc aggttttgta agcgaagacg acgaggaccg ctcagtacca 23520
acagaggata aaaagcaaga ccaggacaac gcagaggcaa acgaggaaca agtcgggcgg 23580
ggggacgaaa ggcatggcga ctacctagat gtgggagacg acgtgctgtt gaagcatctg 23640
cagcgccagt gcgccattat ctgcgacgcg ttgcaagagc gcagcgatgt gcccctcgcc 23700
atagcggatg tcagccttgc ctacgaacgc cacctattct caccgcgcgt accccccaaa 23760
cgccaagaaa acggcacatg cgagcccaac ccgcgcctca acttctaccc cgtatttgcc 23820
gtgccagagg tgcttgccac ctatcacatc tttttccaaa actgcaagat acccctatcc 23880
tgccgtgcca accgcagccg agcggacaag cagctggcct tgcggcaggg cgctgtcata 23940
cctgatatcg cctcgctcaa cgaagtgcca aaaatctttg agggtcttgg acgcgacgag 24000

aagcgcgcgg caaacgctct gcaacaggaa aacagcgaaa atgaaagtca ctctggagtg 24060
ttggtggaac tcgagggtga caacgcgcgc ctagccgtac taaaacgcag catcgaggtc 24120
acccactttg cctacccggc acttaaccta ccccccaagg tcatgagcac agtcatgagt 24180
gagctgatcg tgcgccgtgc gcagcccctg gagagggatg caaatttgca agaacaaaca 24240
gaggagggcc tacccgcagt tggcgacgag cagctagcgc gctggcttca aacgcgcgag 24300
cctgccgact tggaggagcg acgcaaacta atgatggccg cagtgctcgt taccgtggag 24360
cttgagtgca tgcagcggtt ctttgctgac ccggagatgc agcgcaagct agaggaaaca 24420
ttgcactaca cctttcgaca gggctacgta cgccaggcct gcaagatctc caacgtggag 24480
ctctgcaacc tggtctccta ccttggaatt ttgcacgaaa accgccttgg gcaaaacgtg 24540
cttcattcca cgctcaaggg cgaggcgcgc cgcgactacg tccgcgactg cgtttactta 24600
tttctatgct acacctggca gacggccatg ggcgtttggc agcagtgctt ggaggagtgc 24660
aacctcaagg agctgcagaa actgctaaag caaaacttga aggacctatg gacggccttc 24720
aacgagcgct ccgtggccgc gcacctggcg gacatcattt tccccgaacg cctgcttaaa 24780
accctgcaac agggtctgcc agacttcacc agtcaaagca tgttgcagaa ctttaggaac 24840
tttatcctag agcgctcagg aatcttgccc gccacctgct gtgcacttcc tagcgacttt 24900
gtgcccatta agtaccgcga atgccctccg ccgctttggg gccactgcta ccttctgcag 24960
ctagccaact accttgccta ccactctgac ataatggaag acgtgagcgg tgacggtcta 25020
ctggagtgtc actgtcgctg caacctatgc accccgcacc gctccctggt ttgcaattcg 25080
cagctgctta acgaaagtca aattatcggt acctttgagc tgcagggtcc ctcgcctgac 25140
gaaaagtccg cggctccggg gttgaaactc actccggggc tgtggacgtc ggcttacctt 25200
cgcaaatttg tacctgagga ctaccacgcc cacgagatta ggttctacga agaccaatcc 25260
cgcccgccta atgcggagct taccgcctgc gtcattaccc agggccacat tcttggccaa 25320
ttgcaagcca tcaacaaagc ccgccaagag tttctgctac gaaagggacg gggggtttac 25380
ttggaccccc agtccggcga ggagctcaac ccaatccccc cgccgccgca gccctatcag 25440
cagcagccgc gggcccttgc ttcccaggat ggcacccaaa aagaagctgc agctgccgcc 25500
gccacccacg gacgaggagg aatactggga cagtcaggca gaggaggttt tggacgagga 25560
ggaggaggac atgatggaag actgggagag cctagacgag gaagcttccg aggtcgaaga 25620
ggtgtcagac gaaacaccgt caccctcggt cgcattcccc tcgccggcgc cccagaaatc 25680
ggcaaccggt tccagcatgg ctacaacctc cgctcctcag gcgccgccgg cactgcccgt 25740
tcgccgaccc aaccgtagat gggacaccac tggaaccagg gccggtaagt ccaagcagcc 25800
gccgccgtta gcccaagagc aacaacagcg ccaaggctac cgctcatggc gcgggcacaa 25860
gaacgccata gttgcttgct tgcaagactg tgggggcaac atctccttcg cccgccgctt 25920
tcttctctac catcacggcg tggccttccc ccgtaacatc ctgcattact accgtcatct 25980
ctacagccca tactgcaccg gcggcagcgg cagcaacagc agcggccaca cagaagcaaa 26040

ggcgaccgga tagcaagact ctgacaaagc ccaagaaatc cacagcggcg gcagcagcag 26100
gaggaggagc gctgcgtctg gcgcccaacg aacccgtatc gacccgcgag cttagaaaca 26160
ggatttttcc cactctgtat gctatatttc aacagagcag gggccaagaa caagagctga 26220
aaataaaaaa caggtctctg cgatccctca cccgcagctg cctgtatcac aaaagcgaag 26280
atcagcttcg gcgcacgctg gaagacgcgg aggctctctt cagtaaatac tgcgcgctga 26340
ctcttaagga ctagtttcgc gccctttctc aaatttaagc gcgaaaacta cgtcatctcc 26400
agcggccaca cccggcgcca gcacctgttg tcagcgccat tatgagcaag gaaattccca 26460
cgccctacat gtggagttac cagccacaaa tgggacttgc ggctggagct gcccaagact 26520
actcaacccg aataaactac atgagcgcgg gaccccacat gatatcccgg gtcaacggaa 26580
tacgcgccca ccgaaaccga attctcctgg aacaggcggc tattaccacc acacctcgta 26640
ataaccttaa tccccgtagt tggcccgctg ccctggtgta ccaggaaagt cccgctccca 26700
ccactgtggt acttcccaga gacgcccagg ccgaagttca gatgactaac tcaggggcgc 26760
agcttgcggg cggctttcgt cacagggtgc ggtcgcccgg gcagggtata actcacctga 26820
caatcagagg gcgaggtatt cagctcaacg acgagtcggt gagctcctcg cttggtctcc 26880
gtccggacgg gacatttcag atcggcggcg ccggccgctc ttcattcacg cctcgtcagg 26940
caatcctaac tctgcagacc tcgtcctctg agccgcgctc tggaggcatt ggaactctgc 27000
aatttattga ggagtttgtg ccatcggtct actttaaccc cttctcggga cctcccggcc 27060
actatccgga tcaatttatt cctaactttg acgcggtaaa ggactcggcg gacggctacg 27120
actgaatgtt aagtggagag gcagagcaac tgcgcctgaa acacctggtc cactgtcgcc 27180
gccacaagtg ctttgcccgc gactccggtg agttttgcta ctttgaattg cccgaggatc 27240
atatcgaggg cccggcgcac ggcgtccggc ttaccgccca gggagagctt gcccgtagcc 27300
tgattcggga gtttacccag cgccccctgc tagttgagcg ggacagggga ccctgtgttc 27360
tcactgtgat ttgcaactgt cctaaccctg gattacatca agatctttgt tgccatctct 27420
gtgctgagta taataaatac agaaattaaa atatactggg gctcctatcg ccatcctgta 27480
aacgccaccg tcttcacccg cccaagcaaa ccaaggcgaa ccttacctgg tacttttaac 27540
atctctccct ctgtgattta caacagtttc aacccagacg gagtgagtct acgagagaac 27600
ctctccgagc tcagctactc catcagaaaa aacaccaccc tccttacctg ccgggaacgt 27660
acgagtgcgt caccggccgc tgcaccacac ctaccgcctg accgtaaacc agactttttc 27720
cggacagacc tcaataactc tgtttaccag aacaggaggt gagcttagaa aacccttagg 27780
gtattaggcc aaaggcgcag ctactgtggg gtttatgaac aattcaagca actctacggg 27840
ctattctaat tcaggtttct ctagaatcgg ggttggggtt attctctgtc ttgtgattct 27900
ctttattctt atactaacgc ttctctgcct aaggctcgcc gcctgctgtg tgcacatttg 27960
catttattgt cagcttttta aacgctgggg tcgccaccca agatgattag gtacataatc 28020
ctaggtttac tcacccttgc gtcagcccac ggtaccaccc aaaaggtgga ttttaaggag 28080

ccagcctgta atgttacatt cgcagctgaa gctaatgagt gcaccactct tataaaatgc 28140
accacagaac atgaaaagct gcttattcgc cacaaaaaca aaattggcaa gtatgctgtt 28200
tatgctattt ggcagccagg tgacactaca gagtataatg ttacagtttt ccagggtaaa 28260
agtcataaaa cttttatgta tacttttcca ttttatgaaa tgtgcgacat taccatgtac 28320
atgagcaaac agtataagtt gtggccccca caaaattgtg tggaaaacac tggcactttc 28380
tgctgcactg ctatgctaat tacagtgctc gctttggtct gtaccctact ctatattaaa 28440
tacaaaagca gacgcagctt tattgaggaa aagaaaatgc cttaatttac taagttacaa 28500
agctaatgtc accactaact gctttactcg ctgcttgcaa aacaaattca aaaagttagc 28560
attataatta gaataggatt taaacccccc ggtcatttcc tgctcaatac cattcccctg 28620
aacaattgac tctatgtggg atatgctcca gcgctacaac cttgaagtca ggcttcctgg 28680
atgtcagcat ctgactttgg ccagcacctg tcccgcggat ttgttccagt ccaactacag 28740
cgacccaccc taacagagat gaccaacaca accaacgcgg ccgccgctac cggacttaca 28800
tctaccacaa atacacccca agtttctgcc tttgtcaata actgggataa cttgggcatg 28860
tggtggttct ccatagcgct tatgtttgta tgccttatta ttatgtggct catctgctgc 28920
ctaaagcgca aacgcgcccg accacccatc tatagtccca tcattgtgct acacccaaac 28980
aatgatggaa tccatagatt ggacggactg aaacacatgt tcttttctct tacagtatga 29040
ttaaatgaga catgattcct cgagtttta tattactgac ccttgttgcg ctttttttgt 29100
gcgtgctcca cattggctgc ggtttctcac atcgaagtag actgcattcc agccttcaca 29160
gtctatttgc tttacggatt tgtcaccctc acgctcatct gcagcctcat cactgtggtc 29220
atcgccttta tccagtgcat tgactgggtc tgtgtgcgct ttgcatatct cagacaccat 29280
ccccagtaca gggacaggac tatagctgag cttcttagaa ttctttaatt atgaaattta 29340
ctgtgacttt tctgctgatt atttgcaccc tatctgcgtt ttgttccccg acctccaagc 29400
ctcaaagaca tatatcatgc agattcactc gtatatggaa tattccaagt tgctacaatg 29460
aaaaaagcga tctttccgaa gcctggttat atgcaatcat ctctgttatg gtgttctgca 29520
gtaccatctt agccctagct atatatccct accttgacat tggctggaac gcaatagatg 29580
ccatgaacca cccaactttc cccgcgcccg ctatgcttcc actgcaacaa gttgttgccg 29640
gcggctttgt cccagccaat cagcctcgcc caccttctcc cacccccact gaaatcagct 29700
actttaatct aacaggagga gatgactgac accctagatc tagaaatgga cggaattatt 29760
acagagcagc gcctgctaga aagacgcagg gcagcggccg agcaacagcg catgaatcaa 29820
gagctccaag acatggttaa cttgcaccag tgcaaaaggg gtatcttttg tctggtaaag 29880
caggccaaag tcacctacga cagtaatacc accggacacc gccttagcta caagttgcca 29940
accaagcgtc agaaattggt ggtcatggtg ggagaaaagc ccattaccat aactcagcac 30000
tcggtagaaa ccgaaggctg cattcactca ccttgtcaag gacctgagga tctctgcacc 30060
cttattaaga ccctgtgcgg tctcaaagat cttattccct ttaactaata aaaaaaaata 30120

ataaagcatc acttacttaa aatcagttag caaatttctg tccagtttat tcagcagcac 30180
ctccttgccc tcctcccagc tctggtattg cagcttcctc ctggctgcaa actttctcca 30240
caatctaaat ggaatgtcag tttcctcctg ttcctgtcca tccgcaccca ctatcttcat 30300
gttgttgcag atgaagcgcg caagaccgtc tgaagatacc ttcaaccccg tgtatccata 30360
tgacacggaa accggtcctc caactgtgcc ttttcttact cctccctttg tatcccccaa 30420
tgggtttcaa gagagtcccc ctggggtact ctctttgcgc ctatccgaac ctctagttac 30480
ctccaatggc atgcttgcgc tcaaaatggg caacggcctc tctctggacg aggccggcaa 30540
ccttacctcc caaaatgtaa ccactgtgag cccacctctc aaaaaaacca agtcaaacat 30600
aaacctggaa atatctgcac ccctcacagt tacctcagaa gccctaactg tggctgccgc 30660
cgcacctcta atggtcgcgg gcaacacact caccatgcaa tcacaggccc cgctaaccgt 30720
gcacgactcc aaacttagca ttgccaccca aggacccctc acagtgtcag aaggaaagct 30780
agccctgcaa acatcaggcc ccctcaccac caccgatagc agtaccctta ctatcactgc 30840
ctcacccccct ctaactactg ccactggtag cttgggcatt gacttgaaag agcccattta 30900
tacacaaaat ggaaaactag gactaaagta cggggctcct ttgcatgtaa cagacgacct 30960
aaacactttg accgtagcaa ctggtccagg tgtgactatt aataatactt ccttgcaaac 31020
taaagttact ggagccttgg gttttgattc acaaggcaat atgcaactta atgtagcagg 31080
aggactaagg attgattctc aaaacagacg ccttatactt gatgttagtt atccgtttga 31140
tgctcaaaac caactaaatc taagactagg acagggccct ctttttataa actcagccca 31200
caacttggat attaactaca acaaaggcct ttacttgttt acagcttcaa acaattccaa 31260
aaagcttgag gttaacctaa gcactgccaa ggggttgatg tttgacgcta cagccatagc 31320
cattaatgca ggagatgggc ttgaatttgg ttcacctaat gcaccaaaca caaatcccct 31380
caaaacaaaa attggccatg gcctagaatt tgattcaaac aaggctatgg ttcctaaact 31440
aggaactggc cttagttttg acagcacagg tgccattaca gtaggaaaca aaaataatga 31500
taagctaact ttgtggacca caccagctcc atctcctaac tgtagactaa atgcagagaa 31560
agatgctaaa ctcactttgg tcttaacaaa atgtggcagt caaatacttg ctacagtttc 31620
agttttggct gttaaaggca gtttggctcc aatatctgga acagttcaaa gtgctcatct 31680
tattataaga tttgacgaaa atggagtgct actaaacaat tccttcctgg acccagaata 31740
ttggaacttt agaaatggag atcttactga aggcacagcc tatacaaacg ctgttggatt 31800
tatgcctaac ctatcagctt atccaaaatc tcacggtaaa actgccaaaa gtaacattgt 31860
cagtcaagtt tacttaaacg gagacaaaac taaacctgta acactaacca ttacactaaa 31920
cggtacacag gaaacaggag acacaactcc aagtgcatac tctatgtcat tttcatggga 31980
ctggtctggc cacaactaca ttaatgaaat atttgccaca tcctcttaca ctttttcata 32040
cattgcccaa gaataaagaa tcgtttgtgt tatgtttcaa cgtgtttatt tttcaattgc 32100
agaaaatttc aagtcatttt tcattcagta gtatagcccc accaccacat agcttataca 32160

gatcaccgta ccttaatcaa actcacagaa ccctagtatt caacctgcca cctccctccc 32220
aacacacaga gtacacagtc ctttctcccc ggctggcctt aaaaagcatc atatcatggg 32280
taacagacat attcttaggt gttatattcc acacggtttc ctgtcgagcc aaacgctcat 32340
cagtgatatt aataaactcc ccgggcagct cacttaagtt catgtcgctg tccagctgct 32400
gagccacagg ctgctgtcca acttgcggtt gcttaacggg cggcgaagga gaagtccacg 32460
cctacatggg ggtagagtca taatcgtgca tcaggatagg gcggtggtgc tgcagcagcg 32520
cgcgaataaa ctgctgccgc cgccgctccg tcctgcagga atacaacatg gcagtggtct 32580
cctcagcgat gattcgcacc gcccgcagca taaggcgcct tgtcctccgg gcacagcagc 32640
gcaccctgat ctcacttaaa tcagcacagt aactgcagca cagcaccaca atattgttca 32700
aaatcccaca gtgcaaggcg ctgtatccaa agctcatggc ggggaccaca gaacccacgt 32760
ggccatcata ccacaagcgc aggtagatta agtggcgacc cctcataaac acgctggaca 32820
taaacattac ctcttttggc atgttgtaat tcaccacctc ccggtaccat ataaacctct 32880
gattaaacat ggcgccatcc accaccatcc taaaccagct ggccaaaacc tgcccgccgg 32940
ctatacactg cagggaaccg ggactggaac aatgacagtg gagagcccag gactcgtaac 33000
catggatcat catgctcgtc atgatatcaa tgttggcaca acacaggcac acgtgcatac 33060
acttcctcag gattacaagc tcctcccgcg ttagaaccat atcccaggga acaacccatt 33120
cctgaatcag cgtaaatccc acactgcagg gaagacctcg cacgtaactc acgttgtgca 33180
ttgtcaaagt gttacattcg ggcagcagcg gatgatcctc cagtatggta gcgcgggttt 33240
ctgtctcaaa aggaggtaga cgatccctac tgtacggagt gcgccgagac aaccgagatc 33300
gtgttggtcg tagtgtcatg ccaaatggaa cgccggacgt agtcatattt cctgaagcaa 33360
aaccaggtgc gggcgtgaca aacagatctg cgtctccggt ctcgccgctt agatcgctct 33420
gtgtagtagt tgtagtatat ccactctctc aaagcatcca ggcgcccccct ggcttcgggt 33480
tctatgtaaa ctccttcatg cgccgctgcc ctgataacat ccaccaccgc agaataagcc 33540
acacccagcc aacctacaca ttcgttctgc gagtcacaca cgggaggagc gggaagagct 33600
ggaagaacca tgtttttttt tttattccaa aagattatcc aaaacctcaa aatgaagatc 33660
tattaagtga acgcgctccc ctccggtggc gtggtcaaac tctacagcca aagaacagat 33720
aatggcattt gtaagatgtt gcacaatggc ttccaaaagg caaacggccc tcacgtccaa 33780
gtggacgtaa aggctaaacc cttcagggtg aatctcctct ataaacattc cagcaccttc 33840
aaccatgccc aaataattct catctcgcca ccttctcaat atatctctaa gcaaatcccg 33900
aatattaagt ccggccattg taaaaatctg ctccagagcg ccctccacct tcagcctcaa 33960
gcagcgaatc atgattgcaa aaattcaggt tcctcacaga cctgtataag attcaaaagc 34020
ggaacattaa caaaaatacc gcgatcccgt aggtcccttc gcagggccag ctgaacataa 34080
tcgtgcaggt ctgcacggac cagcgcggcc acttccccgc caggaaccat gacaaaagaa 34140
cccacactga ttatgacacg catactcgga gctatgctaa ccagcgtagc cccgatgtaa 34200

gcttgttgca tgggcggcga tataaaatgc aaggtgctgc tcaaaaaatc aggcaaagcc 34260

tcgcgcaaaa aagaaagcac atcgtagtca tgctcatgca gataaaggca ggtaagctcc 34320

ggaaccacca cagaaaaaga caccattttt ctctcaaaca tgtctgcggg tttctgcata 34380

aacacaaaat aaaataacaa aaaaacattt aaacattaga agcctgtctt acaacaggaa 34440

aaacaaccct tataagcata agacggacta cggccatgcc ggcgtgaccg taaaaaaact 34500

ggtcaccgtg attaaaaagc accaccgaca gctcctcggt catgtccgga gtcataatgt 34560

aagactcggt aaacacatca ggttgattca catcggtcag tgctaaaaag cgaccgaaat 34620

agcccggggg aatacatacc cgcaggcgta gagacaacat tacagccccc ataggaggta 34680

taacaaaatt aataggagag aaaaacacat aaacacctga aaaaccctcc tgcctaggca 34740

aaatagcacc ctcccgctcc agaacaacat acagcgcttc cacagcggca gccataacag 34800

tcagccttac cagtaaaaaa gaaaacctat taaaaaaaca ccactcgaca cggcaccagc 34860

tcaatcagtc acagtgtaaa aaagggccaa gtgcagagcg agtatatata ggactaaaaa 34920

atgacgtaac ggttaaagtc cacaaaaaac acccagaaaa ccgcacgcga acctacgccc 34980

agaaacgaaa gccaaaaaac ccacaacttc ctcaaatcgt cacttccgtt ttcccacgtt 35040

acgtcacttc ccattttaag aaaactacaa ttcccaacac atacaagtta ctccgcccta 35100

aaacctacgt cacccgcccc gttcccacgc cccgcgccac gtcacaaact ccacccccctc 35160

attatcatat tggcttcaat ccaaaataag gtatattatt gat 35203

<210> 21
<211> 36460
<212> DNA
<213> Artificial Sequence

<220>
<223> Contruct containing two mismatches with duplication

<400> 21
catcatcaat aatatacctt attttggatt gaagccaata tgataatgag ggggtggagt 60

ttgtgacgtg gcgcggggcg tgggaacggg gcgggtgacg tagtagtgtg gcggaagtgt 120

gatgttgcaa gtgtggcgga acacatgtaa gcgacggatg tggcaaaagt gacgtttttg 180

gtgtgcgccg gtgtacacag gaagtgacaa ttttcgcgcg gttttaggcg gatgttgtag 240

taaatttggg cgtaaccgag taagatttgg ccattttcgc gggaaaactg aataagagga 300

agtgaaatct gaataatttt gtgttactca tagcgcgtaa tatttgtcta gggccgcggg 360

gactttgacc gtttacgtgg agactcgccc aggtgttttt ctcaggtgtt ttccgcgttc 420

cgggtcaaag ttggcgtttt attattatag tcagtacgta cgtgtacttc tgatcggcga 480

tactagggag ataaggatgt acctgacaaa accacattgt tgttgttatc attattattt 540

agttttcctt ccttgctaac tcctgacgga atctttctca cctcaaatgc gaagtacttt 600

agtttagaaa agacttggtg gaaggggtgg tggtggaaaa gtagggtgat cttccaaact 660

aatctggttc cccgcccgcc ccagtagctg ggattcaaga gcgaagagtg gggatcgtcc 720

ccttgtttga tcagaaagac ataaaaggaa aatcaagtga acaatgatca gccccacctc 780
caccccaccc ccctgcgcgc gcacaataca atctatttaa ttgtacttca tacttttcat 840
tccaatgggg tgactttgct tctggagaaa ctcttgattc ttgaactctg gggctggcag 900
ctagcctcca gaagcaaagt caccccattg gaatgaaaag tatgaagtac aatgaaaagt 960
atgaagtact ggctccagaa gcaaagtcac cctccagaag caaagtcacc ccattggaat 1020
gaaaagtatg aagtacgcta gcaaaagggg aagcgggctg ctgctctctg caggttctgc 1080
agcggtctct gtctagtggg tgttttcttt ttcttagccc tgcccctgga ttgtcagacg 1140
gcgggcgtct gcctctgaag ttagccgtga tttcctctag agccgggtct tatctctggc 1200
tgcacgttgc ctgtgggtga ctaatcacac aataacattg tttagggctg gaataaagtc 1260
agagctgttt acccccactc tatagggggtt caatataaaa aggcggcgga gaactgtccg 1320
agtcagaagc gttcctgcac cggcgctgag agcctgaccc ggtctgctcc gctgtccttg 1380
cgcgctgcct cccggctgcc cgcgacgctt tcgccccagt ggaagggcca cttgctgcgg 1440
ccgctaattc tgcagatcgg gatccggcat gggcctctcc accgtgcctg acctgctgct 1500
gccgctggtg ctcctggagc tgttggtggg aatatacccc tcaggggtta ttggactggt 1560
ccctcaccta ggggacaggg agaagagaga tagtgtgtgt ccccaaggaa aatatatcca 1620
ccctcaaaat aattcgattt gctgtaccaa gtgccacaaa ggaacctact tgtacaatga 1680
ctgtccaggc ccggggcagg atacggactg cagggagtgt gagagcggct ccttcaccgc 1740
ttcagaaaac cacctcagac actgcctcag ctgctccaaa tgccgaaagg aaatgggtca 1800
ggtggagatc tcttcttgca cagtggaccg ggacaccgtg tgtggctgca ggaagaacca 1860
gtaccggcat tattggagtg aaaacctttt ccagtgcttc aattgcagcc tctgcctcaa 1920
tgggaccgtg cacctctcct gccaggagaa acagaacacc gtgtgcacct gccatgcagg 1980
tttctttcta agagaaaacg agtgtgtctc ctgtagtaac tgtaagaaaa gcctggagtg 2040
cacgaagttg tgcctaccaa gcttaggatc cagatctaac ttggggtggc tttgtcttct 2100
tcttttgcca attccactaa ttgtttgggt gaagagaaag gaagtacaga aaacatgcag 2160
aaagcacaga aaggaaaacc aaggttctca tgaatctcca accttaaatc ctgaaacagt 2220
ggcaataaat ttatctgatg ttgacttgag taaatatatc accactattg ctggagtcat 2280
gacactaagt caagttaaag gctttgttcg aaagaatggt gtcaatgaag ccaaaataga 2340
tgagatcaag aatgacaatg tccaagacac agcagaacag aaagttcaac tgcttcgtaa 2400
ttggcatcaa cttcatggaa agaaagaagc gtatgacaca ttgattaaag atctcaaaaa 2460
agccaatctt tgtactcttg cagagaaaat tcagactatc atcctcaagg acattactag 2520
tgactcagaa aattcaaact tcagaaatga aatccaaagc ttggtctagc tcgagcatgc 2580
atctaggcgg ccgcatggca gaaattcgcg aattcgctag cgttaacgga tcctctagac 2640
gagatccgaa cttgtttatt gcagcttata atggttacaa ataaagcaat agcatcacaa 2700
atttcacaaa taaagcattt ttttcactgc attctagttg tggtttgtcc aaactcatca 2760

atgtatctta tcatgtctag atctgtactg aaatgtgtgg gcgtggctta agggtgggaa 2820
agaatatata aggtgggggt cttatgtagt tttgtatctg ttttgcagca gccgccgccg 2880
ccatgagcac caactcgttt gatggaagca ttgtgagctc atatttgaca acgcgcatgc 2940
ccccatgggc cggggtgcgt cagaatgtga tgggctccag cattgatggt cgccccgtcc 3000
tgcccgcaaa ctctactacc ttgacctacg agaccgtgtc tggaacgccg ttggagactg 3060
cagcctccgc cgccgcttca gccgctgcag ccaccgcccg cgggattgtg actgactttg 3120
ctttcctgag cccgcttgca agcagtgcag cttcccgttc atccgcccgc gatgacaagt 3180
tgacggctct tttggcacaa ttggattctt tgacccggga acttaatgtc gtttctcagc 3240
agctgttgga tctgcgccag caggtttctg ccctgaaggc ttcctcccct cccaatgcgg 3300
tttaaaacat aaataaaaaa ccagactctg tttggatttg gatcaagcaa gtgtcttgct 3360
gtctttattt aggggttttg cgcgcgcggt aggcccggga ccagcggtct cggtcgttga 3420
gggtcctgtg tatttttcc aggacgtggt aaaggtgact ctggatgttc agatacatgg 3480
gcataagccc gtctctgggg tggaggtagc accactgcag agcttcatgc tgcggggtgg 3540
tgttgtagat gatccagtcg tagcaggagc gctgggcgtg gtgcctaaaa atgtctttca 3600
gtagcaagct gattgccagg ggcaggccct tggtgtaagt gtttacaaag cggttaagct 3660
gggatgggtg catacgtggg gatatgagat gcatcttgga ctgtattttt aggttggcta 3720
tgttcccagc catatccctc cggggattca tgttgtgcag aaccaccagc acagtgtatc 3780
cggtgcactt gggaaatttg tcatgtagct tagaaggaaa tgcgtggaag aacttggaga 3840
cgcccttgtg acctccaaga ttttccatgc attcgtccat aatgatggca atgggcccac 3900
gggcggcggc ctgggcgaag atatttctgg gatcactaac gtcatagttg tgttccagga 3960
tgagatcgtc ataggccatt tttacaaagc gcgggcggag ggtgccagac tgcggtataa 4020
tggttccatc cggcccaggg gcgtagttac cctcacagat ttaagggtgg gaaagaatat 4080
ataaggtggg ggtcttatgt agttttgtat ctgttttgca gcagccgccg ccgccatgag 4140
caccaactcg tttgatggaa gcattgtgag ctcatatttg acaacgcgca tgcccccatg 4200
ggccggggtg cgtcagaatg tgatgggctc cagcattgat ggtcgccccg tcctgcccgc 4260
aaactctact accttgacct acgagaccgt gtctggaacg ccgttggaga ctgcagcctc 4320
cgccgccgct tcagccgctg cagccaccgc ccgcgggatt gtgactgact ttgctttcct 4380
gagcccgctt gcaagcagtg cagcttcccg ttcatccgcc cgcgatgaca agttgacggc 4440
tcttttggca caattggatt ctttgacccg ggaacttaat gtcgtttctc agcagctgtt 4500
ggatctgcgc cagcaggttt ctgccctgaa ggcttcctcc cctcccaatg cggtttaaaa 4560
cataaataaa aaaccagact ctgtttggat ttggatcaag caagtgtctt gctgtcttta 4620
tttaggggtt ttgcgcgcgc ggtaggcccg ggaccagcgg tctcggtcgt tgagggtcct 4680
gtgtattttt tccaggacgt ggtaaaggtg actctggatg ttcagataca tgggcataag 4740
cccgtctctg gggtggaggt agcaccactg cagagcttca tgctgcgggg tggtgttgta 4800

gatgatccag tcgtagcagg agcgctgggc gtggtgccta aaaatgtctt tcagtagcaa 4860
gctgattgcc aggggcaggc ccttggtgta agtgtttaca aagcggttaa gctgggatgg 4920
gtgcatacgt ggggatatga gatgcatctt ggactgtatt tttaggttgg ctatgttccc 4980
agccatatcc ctccggggat tcatgttgtg cagaaccacc agcacagtgt atccggtgca 5040
cttgggaaat ttgtcatgta gcttagaagg aaatgcgtgg aagaacttgg agacgccctt 5100
gtgacctcca agattttcca tgcattcgtc cataatgatg gcaatgggcc cacgggcggc 5160
ggcctgggcg aagatatttc tgggatcact aacgtcatag ttgtgttcca ggatgagatc 5220
gtcataggcc atttttacaa agcgcgggcg gagggtgcca gactgcggta taatggttcc 5280
atccggccca ggggcgtagt taccctcaca gatttgcatt tcccacgctt tgagttcaga 5340
tgggggatc atgtctacct gcggggcgat gaagaaaacg gtttccgggg taggggagat 5400
cagctgggaa gaaagcaggt tcctgagcag ctgcgactta ccgcagccgg tgggcccgta 5460
aatcacacct attaccggct gcaactggta gttaagagag ctgcagctgc cgtcatccct 5520
gagcaggggg gccacttcgt taagcatgtc cctgactcgc atgttttccc tgaccaaatc 5580
cgccagaagg cgctcgccgc ccagcgatag cagttcttgc aaggaagcaa agtttttcaa 5640
cggtttgaga ccgtccgccg taggcatgct tttgagcgtt tgaccaagca gttccaggcg 5700
gtcccacagc tcggtcacct gctctacggc atctcgatcc agcatatctc ctcgtttcgc 5760
gggttggggc ggctttcgct gtacggcagt agtcggtgct cgtccagacg ggccagggtc 5820
atgtctttcc acgggcgcag ggtcctcgtc agcgtagtct gggtcacggt gaaggggtgc 5880
gctccgggct gcgcgctggc cagggtgcgc ttgaggctgg tcctgctggt gctgaagcgc 5940
tgccggtctt cgccctgcgc gtcggccagg tagcatttga ccatggtgtc atagtccagc 6000
ccctccgcgg cgtggccctt ggcgcgcagc ttgcccttgg aggaggcgcc gcacgagggg 6060
cagtgcagac ttttgagggc gtagagcttg ggcgcgagaa ataccgattc cggggagtag 6120
gcatccgcgc cgcaggcccc gcagacggtc tcgcattcca cgagccaggt gagctctggc 6180
cgttcggggt caaaaaccag gtttccccca tgctttttga tgcgtttctt acctctggtt 6240
tccatgagcc ggtgtccacg ctcggtgacg aaaaggctgt ccgtgtcccc gtatacagac 6300
ttgagaggcc tgtcctcgag cggtgttccg cggtcctcct cgtatagaaa ctcggaccac 6360
tctgagacaa aggctcgcgt ccaggccagc acgaaggagg ctaagtggga ggggtagcgg 6420
tcgttgtcca ctagggggtc cactcgctcc agggtgtgaa gacacatgtc gccctcttcg 6480
gcatcaagga aggtgattgg tttgtaggtg taggccacgt gaccgggtgt tcctgaaggg 6540
gggctataaa agggggtggg ggcgcgttcg tcctcactct cttccgcatc gctgtctgcg 6600
agggccagct gttggggtga gtactccctc tgaaaagcgg gcatgacttc tgcgctaaga 6660
ttgtcagttt ccaaaaacga ggaggatttg atattcacct ggcccgcggt gatgcctttg 6720
agggtggccg catccatctg gtcagaaaag acaatctttt tgttgtcaag cttggtggca 6780
aacgacccgt agagggcgtt ggacagcaac ttggcgatgg agcgcagggt ttggtttttg 6840

tcgcgatcgg cgcgctcctt ggccgcgatg tttagctgca cgtattcgcg cgcaacgcac 6900
cgccattcgg gaaagacggt ggtgcgctcg tcgggcacca ggtgcacgcg ccaaccgcgg 6960
ttgtgcaggg tgacaaggtc aacgctggtg gctacctctc cgcgtaggcg ctcgttggtc 7020
cagcagaggc ggccgccctt gcgcgagcag aatggcggta gggggtctag ctgcgtctcg 7080
tccgggggt ctgcgtccac ggtaaagacc ccgggcagca ggcgcgcgtc gaagtagtct 7140
atcttgcatc cttgcaagtc tagcgcctgc tgccatgcgc gggcggcaag cgcgcgctcg 7200
tatgggttga gtgggggacc ccatggcatg gggtgggtga gcgcggaggc gtacatgccg 7260
caaatgtcgt aaacgtagag gggctctctg agtattccaa gatatgtagg gtagcatctt 7320
ccaccgcgga tgctggcgcg cacgtaatcg tatagttcgt gcgagggagc gaggaggtcg 7380
ggaccgaggt tgctacgggc gggctgctct gctcggaaga ctatctgcct gaagatggca 7440
tgtgagttgg atgatatggt tggacgctgg aagacgttga agctggcgtc tgtgagacct 7500
accgcgtcac gcacgaagga ggcgtaggag tcgcgcagct tgttgaccag ctcggcggtg 7560
acctgcacgt ctagggcgca gtagtccagg gtttccttga tgatgtcata cttatcctgt 7620
cccttttttt tccacagctc gcggttgagg acaaactctt cgcggtcttt ccagtactct 7680
tggatcggaa acccgtcggc ctccgaacgg taagagccta gcatgtagaa ctggttgacg 7740
gcctggtagg cgcagcatcc cttttctacg ggtagcgcgt atgcctgcgc ggccttccgg 7800
agcgaggtgt gggtgagcgc aaaggtgtcc ctgaccatga ctttgaggta ctggtatttg 7860
aagtcagtgt cgtcgcatcc gccctgctcc cagagcaaaa agtccgtgcg ctttttggaa 7920
cgcggatttg gcagggcgaa ggtgacatcg ttgaagagta tctttcccgc gcgaggcata 7980
aagttgcgtg tgatgcggaa gggtcccggc acctcggaac ggttgttaat tacctgggcg 8040
gcgagcacga tctcgtcaaa gccgttgatg ttgtggccca caatgtaaag ttccaagaag 8100
cgcgggatgc ccttgatgga aggcaatttt ttaagttcct cgtaggtgag ctcttcaggg 8160
gagctgagcc cgtgctctga aagggcccag tctgcaagat gagggttgga agcgacgaat 8220
gagctccaca ggtcacgggc cattagcatt tgcaggtggt cgcgaaaggt cctaaactgg 8280
cgacctatgg ccatttttc tggggtgatg cagtagaagg taagcgggtc ttgttcccag 8340
cggtcccatc caaggttcgc ggctaggtct cgcgcggcag tcactagagg ctcatctccg 8400
ccgaacttca tgaccagcat gaagggcacg agctgcttcc caaaggcccc catccaagta 8460
taggtctcta catcgtaggt gacaaagaga cgctcggtgc gaggatgcga gccgatcggg 8520
aagaactgga tctcccgcca ccaattggag gagtggctat tgatgtggtg aaagtagaag 8580
tccctgcgac gggccgaaca ctcgtgctgg cttttgtaaa aacgtgcgca gtactggcag 8640
cggtgcacgg gctgtacatc ctgcacgagg ttgacctgac gaccgcgcac aaggaagcag 8700
agtgggaatt tgagcccctc gcctggcggg tttggctggt ggtcttctac ttcggctgct 8760
tgtccttgac cgtctggctg ctcgagggga gttacggtgg atcggaccac cacgccgcgc 8820
gagcccaaag tccagatgtc cgcgcgcggc ggtcggagct tgatgacaac atcgcgcaga 8880

tgggagctgt ccatggtctg gagctcccgc ggcgtcaggt caggcgggag ctcctgcagg 8940
tttacctcgc atagacgggt cagggcgcgg gctagatcca ggtgatacct aatttccagg 9000
ggctggttgg tggcggcgtc gatggcttgc aagaggccgc atccccgcgg cgcgactacg 9060
gtaccgcgcg gcgggcggtg ggccgcgggg gtgtccttgg atgatgcatc taaaagcggt 9120
gacgcgggcg agcccccgga ggtagggggg gctccggacc cgccgggaga gggggcaggg 9180
gcacgtcggc gccgcgcgcg ggcaggagct ggtgctgcgc gcgtaggttg ctggcgaacg 9240
cgacgacgcg gcggttgatc tcctgaatct ggcgcctctg cgtgaagacg acgggcccgg 9300
tgagcttgaa cctgaaagag agttcgacag aatcaatttc ggtgtcgttg acggcggcct 9360
ggcgcaaaat ctcctgcacg tctcctgagt tgtcttgata ggcgatctcg gccatgaact 9420
gctcgatctc ttcctcctgg agatctccgc gtccggctcg ctccacggtg gcggcgaggt 9480
cgttggaaat gcgggccatg agctgcgaga aggcgttgag gcctccctcg ttccagacgc 9540
ggctgtagac cacgccccct tcggcatcgc gggcgcgcat gaccacctgc gcgagattga 9600
gctccacgtg ccgggcgaag acggcgtagt ttcgcaggcg ctgaaagagg tagttgaggg 9660
tggtggcggt gtgttctgcc acgaagaagt acataaccca gcgtcgcaac gtggattcgt 9720
tgatatcccc caaggcctca aggcgctcca tggcctcgta gaagtccacg gcgaagttga 9780
aaaactggga gttgcgcgcc gacacggtta actcctcctc cagaagacgg atgagctcgg 9840
cgacagtgtc gcgcacctcg cgctcaaagg ctacaggggc ctcttcttct tcttcaatct 9900
cctcttccat aagggcctcc ccttcttctt cttctggcgg cggtggggga ggggggacac 9960
ggcggcgacg acggcgcacc gggaggcggt cgacaaagcg ctcgatcatc tccccgcggc 10020
gacggcgcat ggtctcggtg acggcgcggc cgttctcgcg ggggcgcagt tggaagacgc 10080
cgcccgtcat gtcccggtta tgggttggcg gggggctgcc atgcggcagg gatacggcgc 10140
taacgatgca tctcaacaat tgttgtgtag gtactccgcc gccgagggac ctgagcgagt 10200
ccgcatcgac cggatcggaa aacctctcga gaaaggcgtc taaccagtca cagtcgcaag 10260
gtaggctgag caccgtggcg ggcggcagcg ggcggcggtc ggggttgttt ctggcggagg 10320
tgctgctgat gatgtaatta aagtaggcgg tcttgagacg gcggatggtc gacagaagca 10380
ccatgtcctt gggtccggcc tgctgaatgc gcaggcggtc ggccatgccc caggcttcgt 10440
tttgacatcg gcgcaggtct ttgtagtagt cttgcatgag cctttctacc ggcacttctt 10500
cttctccttc ctcttgtcct gcatctcttg catctatcgc tgcggcggcg gcggagtttg 10560
gccgtaggtg gcgccctctt cctcccatgc gtgtgacccc gaagcccctc atcggctgaa 10620
gcagggctag gtcggcgaca acgcgctcgg ctaatatggc ctgctgcacc tgcgtgaggg 10680
tagactggaa gtcatccatg tccacaaagc ggtggtatgc gcccgtgttg atggtgtaag 10740
tgcagttggc cataacggac cagttaacgg tctggtgacc cggctgcgag agctcggtgt 10800
acctgagacg cgagtaagcc ctcgagtcaa atacgtagtc gttgcaagtc cgcaccaggt 10860
actggtatcc caccaaaaag tgcggcggcg gctggcggta gaggggccag cgtagggtgg 10920

ccggggctcc gggggcgaga tcttccaaca taaggcgatg atatccgtag atgtacctgg 10980
acatccaggt gatgccggcg gcggtggtgg aggcgcgcgg aaagtcgcgg acgcggttcc 11040
agatgttgcg cagcggcaaa aagtgctcca tggtcgggac gctctggccg gtcaggcgcg 11100
cgcaatcgtt gacgctctag accgtgcaaa aggagagcct gtaagcgggc actcttccgt 11160
ggtctggtgg ataaattcgc aagggtatca tggcggacga ccggggttcg agccccgtat 11220
ccggccgtcc gccgtgatcc atgcggttac cgcccgcgtg tcgaacccag gtgtgcgacg 11280
tcagacaacg ggggagtgct ccttttggct tccttccagg cgcggcggct gctgcgctag 11340
ctttttggc cactggccgc gcgcagcgta agcggttagg ctggaaagcg aaagcattaa 11400
gtggctcgct ccctgtagcc ggagggttat tttccaaggg ttgagtcgcg ggacccccgg 11460
ttcgagtctc ggaccggccg gactgcggcg aacgggggtt tgcctccccg tcatgcaaga 11520
ccccgcttgc aaattcctcc ggaaacaggg acgagcccct tttttgcttt tcccagatgc 11580
atccggtgct gcggcagatg cgcccccctc ctcagcagcg gcaagagcaa gagcagcggc 11640
agacatgcag ggcaccctcc cctcctccta ccgcgtcagg aggggcgaca tccgcggttg 11700
acgcggcagc agatggtgat tacgaacccc cgcggcgccg ggcccggcac tacctggact 11760
tggaggaggg cgagggcctg gcgcggctag gagcgccctc tcctgagcgg cacccaaggg 11820
tgcagctgaa gcgtgatacg cgtgaggcgt acgtgccgcg gcagaacctg tttcgcgacc 11880
gcgagggaga ggagcccgag gagatgcggg atcgaaagtt ccacgcaggg cgcgagctgc 11940
ggcatggcct gaatcgcgag cggttgctgc gcgaggagga ctttgagccc gacgcgcgaa 12000
ccgggattag tcccgcgcgc gcacacgtgg cggccgccga cctggtaacc gcatacgagc 12060
agacggtgaa ccaggagatt aactttcaaa aaagctttaa caaccacgtg cgtacgcttg 12120
tggcgcgcga ggaggtggct ataggactga tgcatctgtg ggactttgta agcgcgctgg 12180
agcaaaaccc aaatagcaag ccgctcatgg cgcagctgtt ccttatagtg cagcacagca 12240
gggacaacga ggcattcagg gatgcgctgc taaacatagt agagcccgag ggccgctggc 12300
tgctcgattt gataaacatc ctgcagagca tagtggtgca ggagcgcagc ttgagcctgg 12360
ctgacaaggt ggccgccatc aactattcca tgcttagcct gggcaagttt tacgcccgca 12420
agatatacca taccccttac gttcccatag acaaggaggt aaagatcgag gggttctaca 12480
tgcgcatggc gctgaaggtg cttaccttga gcgacgacct gggcgtttat cgcaacgagc 12540
gcatccacaa ggccgtgagc gtgagccggc ggcgcgagct cagcgaccgc gagctgatgc 12600
acagcctgca aagggccctg gctggcacgg gcagcggcga tagagaggcc gagtcctact 12660
ttgacgcggg cgctgacctg cgctgggccc caagccgacg cgccctggag gcagctgggg 12720
ccggacctgg gctggcggtg gcacccgcgc gcgctggcaa cgtcggcggc gtggaggaat 12780
atgacgagga cgatgagtac gagccagagg acggcgagta ctaagcggtg atgtttctga 12840
tcagatgatg caagacgcaa cggacccggc ggtgcgggcg gcgctgcaga gccagccgtc 12900
cggccttaac tccacggacg actggcgcca ggtcatggac cgcatcatgt cgctgactgc 12960

gcgcaatcct gacgcgttcc ggcagcagcc gcaggccaac cggctctccg caattctgga 13020
agcggtggtc ccggcgcgcg caaaccccac gcacgagaag gtgctggcga tcgtaaacgc 13080
gctggccgaa aacagggcca tccggcccga cgaggccggc ctggtctacg acgcgctgct 13140
tcagcgcgtg gctcgttaca acagcggcaa cgtgcagacc aacctggacc ggctggtggg 13200
ggatgtgcgc gaggccgtgg cgcagcgtga gcgcgcgcag cagcagggca acctgggctc 13260
catggttgca ctaaacgcct tcctgagtac acagcccgcc aacgtgccgc ggggacagga 13320
ggactacacc aactttgtga gcgcactgcg gctaatggtg actgagacac cgcaaagtga 13380
ggtgtaccag tctgggccag actatttttt ccagaccagt agacaaggcc tgcagaccgt 13440
aaacctgagc caggctttca aaaacttgca ggggctgtgg ggggtgcggg ctcccacagg 13500
cgaccgcgcg accgtgtcta gcttgctgac gcccaactcg cgcctgttgc tgctgctaat 13560
agcgcccttc acggacagtg gcagcgtgtc ccgggacaca tacctaggtc acttgctgac 13620
actgtaccgc gaggccatag gtcaggcgca tgtggacgag catactttcc aggagattac 13680
aagtgtcagc cgcgcgctgg ggcaggagga cacgggcagc ctggaggcaa ccctaaacta 13740
cctgctgacc aaccggcggc agaagatccc ctcgttgcac agtttaaaca gcgaggagga 13800
gcgcattttg cgctacgtgc agcagagcgt gagccttaac ctgatgcgcg acggggtaac 13860
gcccagcgtg gcgctggaca tgaccgcgcg caacatggaa ccgggcatgt atgcctcaaa 13920
ccggccgttt atcaaccgcc taatggacta cttgcatcgc gcggccgccg tgaaccccga 13980
gtatttcacc aatgccatct tgaacccgca ctggctaccg ccccctggtt tctacaccgg 14040
gggattcgag gtgcccgagg gtaacgatgg attcctctgg gacgacatag acgacagcgt 14100
gttttccccg caaccgcaga ccctgctaga gttgcaacag cgcgagcagg cagaggcggc 14160
gctgcgaaag gaaagcttcc gcaggccaag cagcttgtcc gatctaggcg ctgcggcccc 14220
gcggtcagat gctagtagcc catttccaag cttgataggg tctcttacca gcactcgcac 14280
cacccgcccg cgcctgctgg gcgaggagga gtacctaaac aactcgctgc tgcagccgca 14340
gcgcgaaaaa aacctgcctc cggcatttcc caacaacggg atagagagcc tagtggacaa 14400
gatgagtaga tggaagacgt acgcgcagga gcacagggac gtgccaggcc cgcgcccgcc 14460
cacccgtcgt caaaggcacg accgtcagcg gggtctggtg tgggaggacg atgactcggc 14520
agacgacagc agcgtcctgg atttgggagg gagtggcaac ccgtttgcgc accttcgccc 14580
caggctgggg agaatgtttt aaaaaaaaaa aaagcatgat gcaaaataaa aaactcacca 14640
aggccatggc accgagcgtt ggttttcttg tattcccctt agtatgcggc gcgcggcgat 14700
gtatgaggaa ggtcctcctc cctcctacga gagtgtggtg agcgcggcgc cagtggcggc 14760
ggcgctgggt tctcccttcg atgctcccct ggacccgccg tttgtgcctc cgcggtacct 14820
gcggcctacc ggggggagaa acagcatccg ttactctgag ttggcacccc tattcgacac 14880
cacccgtgtg tacctggtgg acaacaagtc aacggatgtg gcatccctga actaccagaa 14940
cgaccacagc aactttctga ccacggtcat tcaaaacaat gactacagcc cgggggaggc 15000

aagcacacag accatcaatc ttgacgaccg gtcgcactgg ggcggcgacc tgaaaaccat 15060
cctgcatacc aacatgccaa atgtgaacga gttcatgttt accaataagt ttaaggcgcg 15120
ggtgatggtg tcgcgcttgc ctactaagga caatcaggtg gagctgaaat acgagtgggt 15180
ggagttcacg ctgcccgagg gcaactactc cgagaccatg accatagacc ttatgaacaa 15240
cgcgatcgtg gagcactact tgaaagtggg cagacagaac ggggttctgg aaagcgacat 15300
cggggtaaag tttgacaccc gcaacttcag actggggttt gaccccgtca ctggtcttgt 15360
catgcctggg gtatatacaa acgaagcctt ccatccagac atcattttgc tgccaggatg 15420
cggggtggac ttcacccaca gccgcctgag caacttgttg ggcatccgca agcggcaacc 15480
cttccaggag ggctttagga tcacctacga tgatctggag ggtggtaaca ttcccgcact 15540
gttggatgtg gacgcctacc aggcgagctt gaaagatgac accgaacagg gcgggggtgg 15600
cgcaggcggc agcaacagca gtggcagcgg cgcggaagag aactccaacg cggcagccgc 15660
ggcaatgcag ccggtggagg acatgaacga tcatgccatt cgcggcgaca cctttgccac 15720
acgggctgag gagaagcgcg ctgaggccga agcagcggcc gaagctgccg cccccgctgc 15780
gcaacccgag gtcgagaagc ctcagaagaa accggtgatc aaacccctga cagaggacag 15840
caagaaacgc agttacaacc taataagcaa tgacagcacc ttcacccagt accgcagctg 15900
gtaccttgca tacaactacg gcgaccctca gaccggaatc cgctcatgga ccctgctttg 15960
cactcctgac gtaacctgcg gctcggagca ggtctactgg tcgttgccag acatgatgca 16020
agaccccgtg accttccgct ccacgcgcca gatcagcaac tttccggtgg tgggcgccga 16080
gctgttgccc gtgcactcca agagcttcta caacgaccag gccgtctact cccaactcat 16140
ccgccagttt acctctctga cccacgtgtt caatcgcttt cccgagaacc agattttggc 16200
gcgcccgcca gcccccacca tcaccaccgt cagtgaaaac gttcctgctc tcacagatca 16260
cgggacgcta ccgctgcgca acagcatcgg aggagtccag cgagtgacca ttactgacgc 16320
cagacgccgc acctgcccct acgtttacaa ggccctgggc atagtctcgc cgcgcgtcct 16380
atcgagccgc actttttgag caagcatgtc catccttata tcgcccagca ataacacagg 16440
ctggggcctg cgcttcccaa gcaagatgtt tggcggggcc aagaagcgct ccgaccaaca 16500
cccagtgcgc gtgcgcgggc actaccgcgc gccctggggc gcgcacaaac gcggccgcac 16560
tgggcgcacc accgtcgatg acgccatcga cgcggtggtg gaggaggcgc gcaactacac 16620
gcccacgccg ccaccagtgt ccacagtgga cgcggccatt cagaccgtgg tgcgcggagc 16680
ccggcgctat gctaaaatga agagacggcg gaggcgcgta gcacgtcgcc accgccgccg 16740
acccggcact gccgcccaac gcgcggcggc ggccctgctt aaccgcgcac gtcgcaccgg 16800
ccgacgggcg gccatgcggg ccgctcgaag gctggccgcg ggtattgtca ctgtgccccc 16860
caggtccagg cgacgagcgg ccgccgcagc agccgcggcc attagtgcta tgactcaggg 16920
tcgcaggggc aacgtgtatt gggtgcgcga ctcggttagc ggcctgcgcg tgcccgtgcg 16980
cacccgcccc ccgcgcaact agattgcaag aaaaaactac ttagactcgt actgttgtat 17040

gtatccagcg gcggcggcgc gcaacgaagc tatgtccaag cgcaaaatca aagaagagat 17100
gctccaggtc atcgcgccgg agatctatgg ccccccgaag aaggaagagc aggattacaa 17160
gccccgaaag ctaaagcggg tcaaaaagaa aaagaaagat gatgatgatg aacttgacga 17220
cgaggtggaa ctgctgcacg ctaccgcgcc caggcgacgg gtacagtgga aaggtcgacg 17280
cgtaaaacgt gttttgcgac ccggcaccac cgtagtcttt acgcccggtg agcgctccac 17340
ccgcacctac aagcgcgtgt atgatgaggt gtacggcgac gaggacctgc ttgagcaggc 17400
caacgagcgc ctcggggagt ttgcctacgg aaagcggcat aaggacatgc tggcgttgcc 17460
gctggacgag ggcaacccaa cacctagcct aaagcccgta acactgcagc aggtgctgcc 17520
cgcgcttgca ccgtccgaag aaaagcgcgg cctaaagcgc gagtctggtg acttggcacc 17580
caccgtgcag ctgatggtac ccaagcgcca gcgactggaa gatgtcttgg aaaaaatgac 17640
cgtggaacct gggctggagc ccgaggtccg cgtgcggcca atcaagcagg tggcgccggg 17700
actgggcgtg cagaccgtgg acgttcagat acccactacc agtagcacca gtattgccac 17760
cgccacagag ggcatggaga cacaaacgtc cccggttgcc tcagcggtgg cggatgccgc 17820
ggtgcaggcg gtcgctgcgg ccgcgtccaa gacctctacg gaggtgcaaa cggacccgtg 17880
gatgtttcgc gtttcagccc cccggcgccc gcgccgttcg aggaagtacg gcgccgccag 17940
cgcgctactg cccgaatatg ccctacatcc ttccattgcg cctacccccg gctatcgtgg 18000
ctacacctac cgccccagaa gacgagcaac tacccgacgc cgaaccacca ctggaacccg 18060
ccgccgccgt cgccgtcgcc agcccgtgct ggccccgatt tccgtgcgca gggtggctcg 18120
cgaaggaggc aggaccctgg tgctgccaac agcgcgctac caccccagca tcgtttaaaa 18180
gccggtcttt gtggttcttg cagatatggc cctcacctgc cgcctccgtt tcccggtgcc 18240
gggattccga ggaagaatgc accgtaggag gggcatggcc ggccacggcc tgacgggcgg 18300
catgcgtcgt gcgcaccacc ggcggcggcg cgcgtcgcac cgtcgcatgc gcggcggtat 18360
cctgcccctc cttattccac tgatcgccgc ggcgattggc gccgtgcccg gaattgcatc 18420
cgtggccttg caggcgcaga gacactgatt aaaaacaagt tgcatgtgga aaaatcaaaa 18480
taaaaagtct ggactctcac gctcgcttgg tcctgtaact attttgtaga atggaagaca 18540
tcaactttgc gtctctggcc ccgcgacacg gctcgcgccc gttcatggga aactggcaag 18600
atatcggcac cagcaatatg agcggtggcg ccttcagctg gggctcgctg tggagcggca 18660
ttaaaaattt cggttccacc gttaagaact atggcagcaa ggcctggaac agcagcacag 18720
gccagatgct gagggataag ttgaaagagc aaaatttcca acaaaaggtg gtagatggcc 18780
tggcctctgg cattagcggg gtggtggacc tggccaacca ggcagtgcaa aataagatta 18840
acagtaagct tgatccccgc cctcccgtag aggagcctcc accggccgtg gagacagtgt 18900
ctccagaggg gcgtggcgaa aagcgtccgc gccccgacag ggaagaaact ctggtgacgc 18960
aaatagacga gcctccctcg tacgaggagg cactaaagca aggcctgccc accacccgtc 19020
ccatcgcgcc catggctacc ggagtgctgg gccagcacac acccgtaacg ctggacctgc 19080

ctccccccgc cgacacccag cagaaacctg tgctgccagg cccgaccgcc gttgttgtaa 19140
cccgtcctag ccgcgcgtcc ctgcgccgcg ccgccagcgg tccgcgatcg ttgcggcccg 19200
tagccagtgg caactggcaa agcacactga acagcatcgt gggtctgggg gtgcaatccc 19260
tgaagcgccg acgatgcttc tgatagctaa cgtgtcgtat gtgtgtcatg tatgcgtcca 19320
tgtcgccgcc agaggagctg ctgagccgcc gcgcgcccgc tttccaagat ggctacccct 19380
tcgatgatgc cgcagtggtc ttacatgcac atctcgggcc aggacgcctc ggagtacctg 19440
agccccgggc tggtgcagtt tgcccgcgcc accgagacgt acttcagcct gaataacaag 19500
tttagaaacc ccacggtggc gcctacgcac gacgtgacca cagaccggtc ccagcgtttg 19560
acgctgcggt tcatccctgt ggaccgtgag gatactgcgt actcgtacaa ggcgcggttc 19620
accctagctg tgggtgataa ccgtgtgctg gacatggctt ccacgtactt tgacatccgc 19680
ggcgtgctgg acaggggccc tacttttaag ccctactctg gcactgccta caacgccctg 19740
gctcccaagg gtgccccaaa tccttgcgaa tgggatgaag ctgctactgc tcttgaaata 19800
aacctagaag aagaggacga tgacaacgaa gacgaagtag acgagcaagc tgagcagcaa 19860
aaaactcacg tatttgggca ggcgccttat tctggtataa atattacaaa ggagggtatt 19920
caaataggtg tcgaaggtca aacacctaaa tatgccgata aaacatttca acctgaacct 19980
caaataggag aatctcagtg gtacgaaaca gaaattaatc atgcagctgg gagagtccta 20040
aaaaagacta ccccaatgaa accatgttac ggttcatatg caaaacccac aaatgaaaat 20100
ggagggcaag gcattcttgt aaagcaacaa aatggaaagc tagaaagtca agtggaaatg 20160
caatttttct caactactga ggcagccgca ggcaatggtg ataacttgac tcctaaagtg 20220
gtattgtaca gtgaagatgt agatatagaa accccagaca ctcatatttc ttacatgccc 20280
actattaagg aaggtaactc acgagaacta atgggccaac aatctatgcc caacaggcct 20340
aattacattg cttttaggga caattttatt ggtctaatgt attacaacag cacgggtaat 20400
atgggtgttc tggcgggcca agcatcgcag ttgaatgctg ttgtagattt gcaagacaga 20460
aacacagagc tttcatacca gcttttgctt gattccattg gtgatagaac caggtacttt 20520
tctatgtgga atcaggctgt tgacagctat gatccagatg ttagaattat tgaaaatcat 20580
ggaactgaag atgaacttcc aaattactgc tttccactgg gaggtgtgat taatacagag 20640
actcttacca aggtaaaacc taaaacaggt caggaaaatg gatgggaaaa agatgctaca 20700
gaattttcag ataaaaatga aataagagtt ggaaataatt ttgccatgga aatcaatcta 20760
aatgccaacc tgtggagaaa tttcctgtac tccaacatag cgctgtattt gcccgacaag 20820
ctaaagtaca gtccttccaa cgtaaaaatt tctgataacc caaacaccta cgactacatg 20880
aacaagcgag tggtggctcc cgggctagtg gactgctaca ttaaccttgg agcacgctgg 20940
tcccttgact atatggacaa cgtcaaccca tttaaccacc accgcaatgc tggcctgcgc 21000
taccgctcaa tgttgctggg caatggtcgc tatgtgccct tccacatcca ggtgcctcag 21060
aagttctttg ccattaaaaa cctccttctc ctgccgggct catacaccta cgagtggaac 21120

ttcaggaagg atgttaacat ggttctgcag agctccctag gaaatgacct aagggttgac 21180
ggagccagca ttaagtttga tagcatttgc ctttacgcca ccttcttccc catggcccac 21240
aacaccgcct ccacgcttga ggccatgctt agaaacgaca ccaacgacca gtcctttaac 21300
gactatctct ccgccgccaa catgctctac cctatacccg ccaacgctac caacgtgccc 21360
atatccatcc cctcccgcaa ctgggcggct ttccgcggct gggccttcac gcgccttaag 21420
actaaggaaa ccccatcact gggctcgggc tacgaccctt attacaccta ctctggctct 21480
ataccctacc tagatggaac cttttacctc aaccacacct ttaagaaggt ggccattacc 21540
tttgactctt ctgtcagctg gcctggcaat gaccgcctgc ttacccccaa cgagtttgaa 21600
attaagcgct cagttgacgg ggagggttac aacgttgccc agtgtaacat gaccaaagac 21660
tggttcctgg tacaaatgct agctaactat aacattggct accagggctt ctatatccca 21720
gagagctaca aggaccgcat gtactccttc tttagaaact tccagcccat gagccgtcag 21780
gtggtggatg atactaaata caaggactac caacaggtgg gcatcctaca ccaacacaac 21840
aactctggat ttgttggcta ccttgccccc accatgcgcg aaggacaggc ctaccctgct 21900
aacttcccct atccgcttat aggcaagacc gcagttgaca gcattaccca gaaaaagttt 21960
ctttgcgatc gcacccttg gcgcatccca ttctccagta actttatgtc catgggcgca 22020
ctcacagacc tgggccaaaa ccttctctac gccaactccg cccacgcgct agacatgact 22080
tttgaggtgg atcccatgga cgagcccacc cttctttatg ttttgtttga agtctttgac 22140
gtggtccgtg tgcaccagcc gcaccgcggc gtcatcgaaa ccgtgtacct gcgcacgccc 22200
ttctcggccg gcaacgccac aacataaaga agcaagcaac atcaacaaca gctgccgcca 22260
tgggctccag tgagcaggaa ctgaaagcca ttgtcaaaga tcttggttgt gggccatatt 22320
ttttgggcac ctatgacaag cgctttccag gctttgtttc tccacacaag ctcgcctgcg 22380
ccatagtcaa tacggccggt cgcgagactg ggggcgtaca ctggatggcc tttgcctgga 22440
acccgcactc aaaaacatgc tacctctttg agccctttgg cttttctgac cagcgactca 22500
agcaggttta ccagtttgag tacgagtcac tcctgcgccg tagcgccatt gcttcttccc 22560
ccgaccgctg tataacgctg gaaaagtcca cccaaagcgt acaggggccc aactcggccg 22620
cctgtggact attctgctgc atgtttctcc acgcctttgc caactggccc caaactccca 22680
tggatcacaa ccccaccatg aaccttatta ccggggtacc caactccatg ctcaacagtc 22740
cccaggtaca gcccaccctg cgtcgcaacc aggaacagct ctacagcttc ctggagcgcc 22800
actcgcccta cttccgcagc cacagtgcgc agattaggag cgccacttct ttttgtcact 22860
tgaaaaacat gtaaaaataa tgtactagag acactttcaa taaaggcaaa tgcttttatt 22920
tgtacactct cgggtgatta tttaccccca cccttgccgt ctgcgccgtt taaaaatcaa 22980
aggggttctg ccgcgcatcg ctatgcgcca ctggcaggga cacgttgcga tactggtgtt 23040
tagtgctcca cttaaactca ggcacaacca tccgcggcag ctcggtgaag ttttcactcc 23100
acaggctgcg caccatcacc aacgcgttta gcaggtcggg cgccgatatc ttgaagtcgc 23160

agttggggcc tccgccctgc gcgcgcgagt tgcgatacac agggttgcag cactggaaca 23220
ctatcagcgc cgggtggtgc acgctggcca gcacgctctt gtcggagatc agatccgcgt 23280
ccaggtcctc cgcgttgctc agggcgaacg gagtcaactt tggtagctgc cttcccaaaa 23340
agggcgcgtg cccaggcttt gagttgcact cgcaccgtag tggcatcaaa aggtgaccgt 23400
gcccggtctg ggcgttagga tacagcgcct gcataaaagc cttgatctgc ttaaaagcca 23460
cctgagcctt tgcgccttca gagaagaaca tgccgcaaga cttgccggaa aactgattgg 23520
ccggacaggc cgcgtcgtgc acgcagcacc ttgcgtcggt gttggagatc tgcaccacat 23580
ttcggcccca ccggttcttc acgatcttgg ccttgctaga ctgctccttc agcgcgcgct 23640
gcccgttttc gctcgtcaca tccatttcaa tcacgtgctc cttatttatc ataatgcttc 23700
cgtgtagaca cttaagctcg ccttcgatct cagcgcagcg gtgcagccac aacgcgcagc 23760
ccgtgggctc gtgatgcttg taggtcacct ctgcaaacga ctgcaggtac gcctgcagga 23820
atcgccccat catcgtcaca aaggtcttgt tgctggtgaa ggtcagctgc aacccgcggt 23880
gctcctcgtt cagccaggtc ttgcatacgg ccgccagagc ttccacttgg tcaggcagta 23940
gtttgaagtt cgcctttaga tcgttatcca cgtggtactt gtccatcagc gcgcgcgcag 24000
cctccatgcc cttctcccac gcagacacga tcggcacact cagcgggttc atcaccgtaa 24060
tttcactttc cgcttcgctg ggctcttcct cttcctcttg cgtccgcata ccacgcgcca 24120
ctgggtcgtc ttcattcagc cgccgcactg tgcgcttacc tcctttgcca tgcttgatta 24180
gcaccggtgg gttgctgaaa cccaccattt gtagcgccac atcttctctt tcttcctcgc 24240
tgtccacgat tacctctggt gatggcgggc gctcgggctt gggagaaggg cgcttctttt 24300
tcttcttggg cgcaatggcc aaatccgccg ccgaggtcga tggccgcggg ctgggtgtgc 24360
gcggcaccag cgcgtcttgt gatgagtctt cctcgtcctc ggactcgata cgccgcctca 24420
tccgcttttt tgggggcgcc cggggaggcg gcggcgacgg ggacggggac gacacgtcct 24480
ccatggttgg gggacgtcgc gccgcaccgc gtccgcgctc gggggtggtt tcgcgctgct 24540
cctcttcccg actggccatt tccttctcct ataggcagaa aaagatcatg gagtcagtcg 24600
agaagaagga cagcctaacc gcccccctctg agttcgccac caccgcctcc accgatgccg 24660
ccaacgcgcc taccaccttc cccgtcgagg cacccccgct tgaggaggag gaagtgatta 24720
tcgagcagga cccaggtttt gtaagcgaag acgacgagga ccgctcagta ccaacagagg 24780
ataaaaagca agaccaggac aacgcagagg caaacgagga acaagtcggg cgggggggacg 24840
aaaggcatgg cgactaccta gatgtgggag acgacgtgct gttgaagcat ctgcagcgcc 24900
agtgcgccat tatctgcgac gcgttgcaag agcgcagcga tgtgcccctc gccatagcgg 24960
atgtcagcct tgcctacgaa cgccacctat tctcaccgcg cgtacccccc aaacgccaag 25020
aaaacggcac atgcgagccc aacccgcgcc tcaacttcta ccccgtattt gccgtgccag 25080
aggtgcttgc cacctatcac atctttttcc aaaactgcaa gataccccta tcctgccgtg 25140
ccaaccgcag ccgagcggac aagcagctgg ccttgcggca gggcgctgtc atacctgata 25200

tcgcctcgct caacgaagtg ccaaaaatct ttgagggtct tggacgcgac gagaagcgcg 25260
cggcaaacgc tctgcaacag gaaaacagcg aaaatgaaag tcactctgga gtgttggtgg 25320
aactcgaggg tgacaacgcg cgcctagccg tactaaaacg cagcatcgag gtcacccact 25380
ttgcctaccc ggcacttaac ctacccccca aggtcatgag cacagtcatg agtgagctga 25440
tcgtgcgccg tgcgcagccc ctggagaggg atgcaaattt gcaagaacaa acagaggagg 25500
gcctacccgc agttggcgac gagcagctag cgcgctggct tcaaacgcgc gagcctgccg 25560
acttggagga gcgacgcaaa ctaatgatgg ccgcagtgct cgttaccgtg gagcttgagt 25620
gcatgcagcg gttctttgct gacccggaga tgcagcgcaa gctagaggaa acattgcact 25680
acacctttcg acagggctac gtacgccagg cctgcaagat ctccaacgtg gagctctgca 25740
acctggtctc ctaccttgga attttgcacg aaaaccgcct tgggcaaaac gtgcttcatt 25800
ccacgctcaa gggcgaggcg cgccgcgact acgtccgcga ctgcgtttac ttatttctat 25860
gctacacctg gcagacggcc atgggcgttt ggcagcagtg cttggaggag tgcaacctca 25920
aggagctgca gaaactgcta aagcaaaact tgaaggacct atggacggcc ttcaacgagc 25980
gctccgtggc cgcgcacctg gcggacatca ttttccccga acgcctgctt aaaaccctgc 26040
aacagggtct gccagacttc accagtcaaa gcatgttgca gaactttagg aactttatcc 26100
tagagcgctc aggaatcttg cccgccacct gctgtgcact tcctagcgac tttgtgccca 26160
ttaagtaccg cgaatgccct ccgccgcttt ggggccactg ctaccttctg cagctagcca 26220
actaccttgc ctaccactct gacataatgg aagacgtgag cggtgacggt ctactggagt 26280
gtcactgtcg ctgcaaccta tgcaccccgc accgctccct ggtttgcaat tcgcagctgc 26340
ttaacgaaag tcaaattatc ggtacctttg agctgcaggg tccctcgcct gacgaaaagt 26400
ccgcggctcc ggggttgaaa ctcactccgg ggctgtggac gtcggcttac cttcgcaaat 26460
ttgtacctga ggactaccac gcccacgaga ttaggttcta cgaagaccaa tcccgcccgc 26520
ctaatgcgga gcttaccgcc tgcgtcatta cccagggcca cattcttggc caattgcaag 26580
ccatcaacaa agcccgccaa gagtttctgc tacgaaaggg acgggggggtt tacttggacc 26640
cccagtccgg cgaggagctc aacccaatcc ccccgccgcc gcagccctat cagcagcagc 26700
cgcgggccct tgcttcccag gatggcaccc aaaaagaagc tgcagctgcc gccgccaccc 26760
acggacgagg aggaatactg ggacagtcag gcagaggagg ttttggacga ggaggaggag 26820
gacatgatgg aagactggga gagcctagac gaggaagctt ccgaggtcga agaggtgtca 26880
gacgaaacac cgtcaccctc ggtcgcattc ccctcgccgg cgccccagaa atcggcaacc 26940
ggttccagca tggctacaac ctccgctcct caggcgccgc cggcactgcc cgttcgccga 27000
cccaaccgta gatgggacac cactggaacc agggccggta agtccaagca gccgccgccg 27060
ttagcccaag agcaacaaca gcgccaaggc taccgctcat ggcgcgggca caagaacgcc 27120
atagttgctt gcttgcaaga ctgtgggggc aacatctcct tcgcccgccg ctttcttctc 27180
taccatcacg gcgtggcctt cccccgtaac atcctgcatt actaccgtca tctctacagc 27240

ccatactgca ccggcggcag cggcagcaac agcagcggcc acacagaagc aaaggcgacc 27300
ggatagcaag actctgacaa agcccaagaa atccacagcg gcggcagcag caggaggagg 27360
agcgctgcgt ctggcgccca acgaacccgt atcgacccgc gagcttagaa acaggatttt 27420
tcccactctg tatgctatat ttcaacagag caggggccaa gaacaagagc tgaaaataaa 27480
aaacaggtct ctgcgatccc tcacccgcag ctgcctgtat cacaaaagcg aagatcagct 27540
tcggcgcacg ctggaagacg cggaggctct cttcagtaaa tactgcgcgc tgactcttaa 27600
ggactagttt cgcgcccttt ctcaaattta agcgcgaaaa ctacgtcatc tccagcggcc 27660
acacccggcg ccagcacctg ttgtcagcgc cattatgagc aaggaaattc ccacgcccta 27720
catgtggagt taccagccac aaatgggact tgcggctgga gctgcccaag actactcaac 27780
ccgaataaac tacatgagcg cgggacccca catgatatcc cgggtcaacg gaatacgcgc 27840
ccaccgaaac cgaattctcc tggaacaggc ggctattacc accacacctc gtaataacct 27900
taatccccgt agttggcccg ctgccctggt gtaccaggaa agtcccgctc ccaccactgt 27960
ggtacttccc agagacgccc aggccgaagt tcagatgact aactcagggg cgcagcttgc 28020
gggcggcttt cgtcacaggg tgcggtcgcc cgggcagggt ataactcacc tgacaatcag 28080
agggcgaggt attcagctca acgacgagtc ggtgagctcc tcgcttggtc tccgtccgga 28140
cgggacattt cagatcggcg gcgccggccg ctcttcattc acgcctcgtc aggcaatcct 28200
aactctgcag acctcgtcct ctgagccgcg ctctggaggc attggaactc tgcaatttat 28260
tgaggagttt gtgccatcgg tctactttaa ccccttctcg ggacctcccg gccactatcc 28320
ggatcaattt attcctaact ttgacgcggt aaaggactcg gcggacggct acgactgaat 28380
gttaagtgga gaggcagagc aactgcgcct gaaacacctg gtccactgtc gccgccacaa 28440
gtgctttgcc cgcgactccg gtgagttttg ctactttgaa ttgcccgagg atcatatcga 28500
gggcccggcg cacggcgtcc ggcttaccgc ccagggagag cttgcccgta gcctgattcg 28560
ggagtttacc cagcgccccc tgctagttga gcgggacagg ggaccctgtg ttctcactgt 28620
gatttgcaac tgtcctaacc ctggattaca tcaagatctt tgttgccatc tctgtgctga 28680
gtataataaa tacagaaatt aaaatatact ggggctccta tcgccatcct gtaaacgcca 28740
ccgtcttcac ccgcccaagc aaaccaaggc gaaccttacc tggtactttt aacatctctc 28800
cctctgtgat ttacaacagt ttcaacccag acggagtgag tctacgagag aacctctccg 28860
agctcagcta ctccatcaga aaaaacacca ccctccttac ctgccgggaa cgtacgagtg 28920
cgtcaccggc cgctgcacca cacctaccgc ctgaccgtaa accagacttt ttccggacag 28980
acctcaataa ctctgtttac cagaacagga ggtgagctta gaaaaccctt agggtattag 29040
gccaaaggcg cagctactgt ggggtttatg aacaattcaa gcaactctac gggctattct 29100
aattcaggtt tctctagaat cggggttggg gttattctct gtcttgtgat tctctttatt 29160
cttatactaa cgcttctctg cctaaggctc gccgcctgct gtgtgcacat ttgcatttat 29220
tgtcagcttt ttaaacgctg gggtcgccac ccaagatgat taggtacata atcctaggtt 29280

tactcaccct tgcgtcagcc cacggtacca cccaaaaggt ggattttaag gagccagcct 29340
gtaatgttac attcgcagct gaagctaatg agtgcaccac tcttataaaa tgcaccacag 29400
aacatgaaaa gctgcttatt cgccacaaaa acaaaattgg caagtatgct gtttatgcta 29460
tttggcagcc aggtgacact acagagtata atgttacagt tttccagggt aaaagtcata 29520
aaacttttat gtatactttt ccattttatg aaatgtgcga cattaccatg tacatgagca 29580
aacagtataa gttgtggccc ccacaaaatt gtgtggaaaa cactggcact ttctgctgca 29640
ctgctatgct aattacagtg ctcgctttgg tctgtaccct actctatatt aaatacaaaa 29700
gcagacgcag ctttattgag gaaaagaaaa tgccttaatt tactaagtta caaagctaat 29760
gtcaccacta actgctttac tcgctgcttg caaaacaaat tcaaaaagtt agcattataa 29820
ttagaatagg atttaaaccc cccggtcatt tcctgctcaa taccattccc ctgaacaatt 29880
gactctatgt gggatatgct ccagcgctac aaccttgaag tcaggcttcc tggatgtcag 29940
catctgactt tggccagcac ctgtcccgcg gatttgttcc agtccaacta cagcgaccca 30000
ccctaacaga gatgaccaac acaaccaacg cggccgccgc taccggactt acatctacca 30060
caaatacacc ccaagtttct gcctttgtca ataactggga taacttgggc atgtggtggt 30120
tctccatagc gcttatgttt gtatgcctta ttattatgtg gctcatctgc tgcctaaagc 30180
gcaaacgcgc ccgaccaccc atctatagtc ccatcattgt gctacaccca aacaatgatg 30240
gaatccatag attggacgga ctgaaacaca tgttcttttc tcttacagta tgattaaatg 30300
agacatgatt cctcgagttt ttatattact gacccttgtt gcgctttttt tgtgcgtgct 30360
ccacattggc tgcggtttct cacatcgaag tagactgcat tccagccttc acagtctatt 30420
tgctttacgg atttgtcacc ctcacgctca tctgcagcct catcactgtg gtcatcgcct 30480
ttatccagtg cattgactgg gtctgtgtgc gctttgcata tctcagacac catccccagt 30540
acagggacag gactatagct gagcttctta gaattcttta attatgaaat ttactgtgac 30600
ttttctgctg attatttgca ccctatctgc gttttgttcc ccgacctcca agcctcaaag 30660
acatatatca tgcagattca ctcgtatatg gaatattcca agttgctaca atgaaaaaag 30720
cgatctttcc gaagcctggt tatatgcaat catctctgtt atggtgttct gcagtaccat 30780
cttagcccta gctatatatc cctaccttga cattggctgg aacgcaatag atgccatgaa 30840
ccacccaact ttccccgcgc ccgctatgct tccactgcaa caagttgttg ccggcggctt 30900
tgtcccagcc aatcagcctc gcccaccttc tcccaccccc actgaaatca gctactttaa 30960
tctaacagga ggagatgact gacaccctag atctagaaat ggacggaatt attacagagc 31020
agcgcctgct agaaagacgc agggcagcgg ccgagcaaca gcgcatgaat caagagctcc 31080
aagacatggt taacttgcac cagtgcaaaa ggggtatctt ttgtctggta aagcaggcca 31140
aagtcaccta cgacagtaat accaccggac accgccttag ctacaagttg ccaaccaagc 31200
gtcagaaatt ggtggtcatg gtgggagaaa agcccattac cataactcag cactcggtag 31260
aaaccgaagg ctgcattcac tcaccttgtc aaggacctga ggatctctgc acccttatta 31320

agaccctgtg cggtctcaaa gatcttattc cctttaacta ataaaaaaaa ataataaagc 31380
atcacttact taaaatcagt tagcaaattt ctgtccagtt tattcagcag cacctccttg 31440
ccctcctccc agctctggta ttgcagcttc ctcctggctg caaactttct ccacaatcta 31500
aatggaatgt cagtttcctc ctgttcctgt ccatccgcac ccactatctt catgttgttg 31560
cagatgaagc gcgcaagacc gtctgaagat accttcaacc ccgtgtatcc atatgacacg 31620
gaaaccggtc ctccaactgt gccttttctt actcctccct ttgtatcccc caatgggttt 31680
caagagagtc cccctggggt actctctttg cgcctatccg aacctctagt tacctccaat 31740
ggcatgcttg cgctcaaaat gggcaacggc ctctctctgg acgaggccgg caaccttacc 31800
tcccaaaatg taaccactgt gagcccacct ctcaaaaaaa ccaagtcaaa cataaacctg 31860
gaaatatctg cacccctcac agttacctca gaagccctaa ctgtggctgc cgccgcacct 31920
ctaatggtcg cgggcaacac actcaccatg caatcacagg ccccgctaac cgtgcacgac 31980
tccaaactta gcattgccac ccaaggaccc ctcacagtgt cagaaggaaa gctagccctg 32040
caaacatcag gccccctcac caccaccgat agcagtaccc ttactatcac tgcctcaccc 32100
cctctaacta ctgccactgg tagcttgggc attgacttga aagagcccat ttatacacaa 32160
aatggaaaac taggactaaa gtacggggct cctttgcatg taacagacga cctaaacact 32220
ttgaccgtag caactggtcc aggtgtgact attaataata cttccttgca aactaaagtt 32280
actggagcct tgggttttga ttcacaaggc aatatgcaac ttaatgtagc aggaggacta 32340
aggattgatt ctcaaaacag acgccttata cttgatgtta gttatccgtt tgatgctcaa 32400
aaccaactaa atctaagact aggacagggc cctcttttta taaactcagc ccacaacttg 32460
gatattaact acaacaaagg cctttacttg tttacagctt caaacaattc caaaaagctt 32520
gaggttaacc taagcactgc caaggggttg atgtttgacg ctacagccat agccattaat 32580
gcaggagatg ggcttgaatt tggttcacct aatgcaccaa acacaaatcc cctcaaaaca 32640
aaaattggcc atggcctaga atttgattca aacaaggcta tggttcctaa actaggaact 32700
ggccttagtt ttgacagcac aggtgccatt acagtaggaa acaaaaataa tgataagcta 32760
actttgtgga ccacaccagc tccatctcct aactgtagac taaatgcaga gaaagatgct 32820
aaactcactt tggtcttaac aaaatgtggc agtcaaatac ttgctacagt ttcagttttg 32880
gctgttaaag gcagtttggc tccaatatct ggaacagttc aaagtgctca tcttattata 32940
agatttgacg aaaatggagt gctactaaac aattccttcc tggacccaga atattggaac 33000
tttagaaatg gagatcttac tgaaggcaca gcctatacaa acgctgttgg atttatgcct 33060
aacctatcag cttatccaaa atctcacggt aaaactgcca aaagtaacat tgtcagtcaa 33120
gtttacttaa acggagacaa aactaaacct gtaacactaa ccattacact aaacggtaca 33180
caggaaacag gagacacaac tccaagtgca tactctatgt cattttcatg ggactggtct 33240
ggccacaact acattaatga aatatttgcc acatcctctt acactttttc atacattgcc 33300
caagaataaa gaatcgtttg tgttatgttt caacgtgttt atttttcaat tgcagaaaat 33360

ttcaagtcat ttttcattca gtagtatagc cccaccacca catagcttat acagatcacc 33420
gtaccttaat caaactcaca gaaccctagt attcaacctg ccacctccct cccaacacac 33480
agagtacaca gtcctttctc cccggctggc cttaaaaagc atcatatcat gggtaacaga 33540
catattctta ggtgttatat tccacacggt ttcctgtcga gccaaacgct catcagtgat 33600
attaataaac tccccgggca gctcacttaa gttcatgtcg ctgtccagct gctgagccac 33660
aggctgctgt ccaacttgcg gttgcttaac gggcggcgaa ggagaagtcc acgcctacat 33720
gggggtagag tcataatcgt gcatcaggat agggcggtgg tgctgcagca gcgcgcgaat 33780
aaactgctgc cgccgccgct ccgtcctgca ggaatacaac atggcagtgg tctcctcagc 33840
gatgattcgc accgcccgca gcataaggcg ccttgtcctc cgggcacagc agcgcaccct 33900
gatctcactt aaatcagcac agtaactgca gcacagcacc acaatattgt tcaaaatccc 33960
acagtgcaag gcgctgtatc caaagctcat ggcggggacc acagaaccca cgtggccatc 34020
ataccacaag cgcaggtaga ttaagtggcg acccctcata aacacgctgg acataaacat 34080
tacctctttt ggcatgttgt aattcaccac ctcccggtac catataaacc tctgattaaa 34140
catggcgcca tccaccacca tcctaaacca gctggccaaa acctgcccgc cggctataca 34200
ctgcagggaa ccgggactgg aacaatgaca gtggagagcc caggactcgt aaccatggat 34260
catcatgctc gtcatgatat caatgttggc acaacacagg cacacgtgca tacacttcct 34320
caggattaca agctcctccc gcgttagaac catatcccag ggaacaaccc attcctgaat 34380
cagcgtaaat cccacactgc agggaagacc tcgcacgtaa ctcacgttgt gcattgtcaa 34440
agtgttacat tcgggcagca gcggatgatc ctccagtatg gtagcgcggg tttctgtctc 34500
aaaaggaggt agacgatccc tactgtacgg agtgcgccga gacaaccgag atcgtgttgg 34560
tcgtagtgtc atgccaaatg gaacgccgga cgtagtcata tttcctgaag caaaaccagg 34620
tgcgggcgtg acaaacagat ctgcgtctcc ggtctcgccg cttagatcgc tctgtgtagt 34680
agttgtagta tatccactct ctcaaagcat ccaggcgccc cctggcttcg ggttctatgt 34740
aaactccttc atgcgccgct gccctgataa catccaccac cgcagaataa gccacaccca 34800
gccaacctac acattcgttc tgcgagtcac acacgggagg agcgggaaga gctggaagaa 34860
ccatgttttt ttttttattc caaaagatta tccaaaacct caaaatgaag atctattaag 34920
tgaacgcgct cccctccggt ggcgtggtca aactctacag ccaaagaaca gataatggca 34980
tttgtaagat gttgcacaat ggcttccaaa aggcaaacgg ccctcacgtc caagtggacg 35040
taaaggctaa acccttcagg gtgaatctcc tctataaaca ttccagcacc ttcaaccatg 35100
cccaaataat tctcatctcg ccaccttctc aatatatctc taagcaaatc ccgaatatta 35160
agtccggcca ttgtaaaaat ctgctccaga gcgccctcca ccttcagcct caagcagcga 35220
atcatgattg caaaaattca ggttcctcac agacctgtat aagattcaaa agcggaacat 35280
taacaaaaat accgcgatcc cgtaggtccc ttcgcagggc cagctgaaca taatcgtgca 35340
ggtctgcacg gaccagcgcg gccacttccc cgccaggaac catgacaaaa gaacccacac 35400

tgattatgac acgcatactc ggagctatgc taaccagcgt agccccgatg taagcttgtt 35460

gcatgggcgg cgatataaaa tgcaaggtgc tgctcaaaaa atcaggcaaa gcctcgcgca 35520

aaaaagaaag cacatcgtag tcatgctcat gcagataaag gcaggtaagc tccggaacca 35580

ccacagaaaa agacaccatt tttctctcaa acatgtctgc gggtttctgc ataaacacaa 35640

aataaaataa caaaaaaaca tttaaacatt agaagcctgt cttacaacag gaaaaacaac 35700

ccttataagc ataagacgga ctacggccat gccggcgtga ccgtaaaaaa actggtcacc 35760

gtgattaaaa agcaccaccg acagctcctc ggtcatgtcc ggagtcataa tgtaagactc 35820

ggtaaacaca tcaggttgat tcacatcggt cagtgctaaa aagcgaccga aatagcccgg 35880

gggaatacat acccgcaggc gtagagacaa cattacagcc cccataggag gtataacaaa 35940

attaatagga gagaaaaaca cataaacacc tgaaaaaccc tcctgcctag gcaaaatagc 36000

accctcccgc tccagaacaa catacagcgc ttccacagcg gcagccataa cagtcagcct 36060

taccagtaaa aaagaaaacc tattaaaaaa acaccactcg acacggcacc agctcaatca 36120

gtcacagtgt aaaaaagggc caagtgcaga gcgagtatat ataggactaa aaaatgacgt 36180

aacggttaaa gtccacaaaa aacacccaga aaaccgcacg cgaacctacg cccagaaacg 36240

aaagccaaaa aacccacaac ttcctcaaat cgtcacttcc gttttcccac gttacgtcac 36300

ttcccatttt aagaaaacta caattcccaa cacatacaag ttactccgcc ctaaaaccta 36360

cgtcacccgc cccgttccca cgccccgcgc cacgtcacaa actccacccc ctcattatca 36420

tattggcttc aatccaaaat aaggtatatt attgatgatg 36460

<210> 22
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Endothelial Cell-Specific Enhancer Element

<400> 22
ggtgactttg cttctggag 19

<210> 23
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Endothelial Cell-Specific Enhancer Element

<400> 23
ctccagaagc aaagtcacc 19

<210> 24
<211> 19
<212> DNA
<213> Artificial Sequence

<220>

<223> Endothelial Cell-Specific Enhancer Element

<400> 24
gtacttcata cttttcatt 19

<210> 25
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Endothelial Cell-Specific Enhancer Element

<400> 25
aatgaaaagt atgaagtac 19

<210> 26
<211> 6
<212> DNA
<213> Artificial Sequence

<220>
<223> Hypoxia Response element

<400> 26
gcacgt 6

<210> 27
<211> 40
<212> PRT
<213> Artificial Sequence

<220>
<223> peptide linker

<400> 27

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

Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser
20 25 30

Gly Gly Gly Ser Gly Gly Gly Ser
35 40