

SEQUENCE LISTING

<110> PsiOxus Therapeutics Limited

<120> VIRUS AND METHOD

<130> P000216_WO

<150> GB1708779.2

<151> 2017-06-01

<160> 27

<170> PatentIn version 3.5

<210> 1

<211> 34794

<212> DNA

<213> Artificial Sequence

<220>

<223> NG-350A genome sequence

<400> 1

tctatctata taatataacct tatagatgga atggtgccaa tatgtaaatg aggtgatttt	60
aaaaagtgtg gatcgtgtgg tgattggctg tgggggttaac ggctaaaagg ggcgggtgcga	120
ccgtgggaaa atgacgtttt gtgggggtgg agtttttttg caagttgtcg cgggaaatgt	180
gacgcataaa aaggcttttt tctcacggaa ctacttagtt tccccacggt atttaacagg	240
aaatgaggta gttttgaccg gatgcaagtg aaaattgttg attttcgcgc gaaaactgaa	300
tgaggaagtg tttttctgaa taatgtggta tttatggcag ggtggagtat ttgttcaggg	360
ccaggtagac tttgacctat tacgtggagg tttcgattac cgtgtttttt acctgaattt	420
ccgcgtaccg tgtcaaagtc ttctgttttt acgtagggtg cagctgatcg ctagggtatt	480
tatacctcag ggtttgtgtc aagaggccac tcttgagtgc cagcgagaag agttttctcc	540
tctgcgccgg cagtttaata ataaaaaat gagagatttg cgatttctgc ctcaggaaat	600
aatctctgct gagactggaa atgaaatatt ggagcttgtg gtgcacgccc tgatgggaga	660
cgatccggag ccacctgtgc agctttttga gcctcctacg cttcaggaac tgtatgattt	720
agaggtagag ggatcggagg attctaata ggaagctgta aatggctttt ttaccgattc	780
tatgctttta gctgctaata aagggttaga attagatccg cctttggaca cttttgatac	840
tccaggggta attgtggaaa gcggtacagg tgtaagaaaa ttacctgatt tgagttccgt	900
ggactgtgat ttgcactgct atgaagacgg gtttcctccg agtgatgagg aggaccatga	960
aaaggagcag tccatgcaga ctgcagcggg tgagggagtg aaggctgcca atgttggttt	1020
tcagttggat tgcccggagc ttcctggaca tggctgtaag tcttgtgaat ttcacaggaa	1080
aaatactgga gtaaaggaa tgttatgttc gctttgttat atgagaacgc actgccactt	1140
tatttacagt aagtgtgttt aagttaaaat ttaaaggaat atgctgtttt tcacatgtat	1200

attgagtgtg agttttgtgc ttcttattat aggtcctgtg tctgatgctg atgaatcacc	1260
atctcctgat tctactacct cacctcctga gattcaagca cctgttcctg tggacgtgcg	1320
caagcccatt cctgtgaagc ttaagcctgg gaaacgtcca gcagtggaaa aacttgagga	1380
cttgttacag ggtggggacg gacctttgga cttgagtaca cggaaacgtc caagacaata	1440
agtgttccat atccgtgttt acttaagggtg acgtcaatat ttgtgtgaca gtgcaatgta	1500
ataaaaatat gttaactggt cactggtttt tattgctttt tgggcgggga ctcaggtata	1560
taagtagaag cagacctgtg tggttagctc ataggagctg gctttcatcc atggagggtt	1620
gggccatttt ggaagacctt aggaagacta ggcaactgtt agagaacgct tcggacggag	1680
tctccggttt ttgggagattc tggttcgcta gtgaattagc tagggtagtt tttaggataa	1740
aacaggacta taaacaagaa tttgaaaagt tgttggtaga ttgcccagga ctttttgaag	1800
ctcttaattt gggccatcag gttcacttta aagaaaaagt tttatcagtt ttagactttt	1860
caacccccagg tagaactgct gctgctgtgg cttttcttac ttttatatta gataaatgga	1920
tcccgagac tcatttcagc aggggatacg ttttggttt catagccaca gcattgtgga	1980
gaacatggaa ggttcgcaag atgaggacaa tcttaggtta ctggccagtg cagcctttgg	2040
gtgtagcggg aatcctgagg catccaccgg tcatgccagc ggttctggag gaggaacagc	2100
aagaggacaa cccgagagcc ggcctggacc ctccagtgga ggaggcggag tagctgactt	2160
gtctcctgaa ctgcaacggg tgcttactgg atctacgtcc actggacggg ataggggct	2220
taagagggag agggcatcta gtggtactga tgctagatct gagttggctt taagtttaat	2280
gagtcgcaga cgtcctgaaa ccatttggtg gcatgagggt cagaaagagg gaagggatga	2340
agttttctgta ttgcaggaga aatattcact ggaacagggtg aaaacatgtt ggttggagcc	2400
tgaggatgat tgggagggtg ccattaaaaa ttatgccaa atagctttga ggcctgataa	2460
acagtataag attactagac ggattaatat ccggaatgct tgttacatat ctggaaatgg	2520
ggctgagggtg gtaatagata ctcaagacaa ggcagttatt agatgctgca tgatggatat	2580
gtggcctggg gtagtcggta tggaagcagt aacttttgta aatgttaagt ttaggggaga	2640
tggttataat ggaatagtgt ttatggccaa taccaaactt atattgcatg gttgtagctt	2700
ttttggtttc aacaatacct gtgtagatgc ctggggacag gttagtgtac ggggatgtag	2760
tttctatgcy tgttggattg ccacagctgg cagaaccaag agtcaattgt ctctgaagaa	2820
atgcataattt caaagatgta acctgggcat tctgaatgaa ggcgaagcaa gggccgcca	2880
ctgcgcttct acagatactg gatgttttat tttgattaag ggaaatgcca gcgtaaagca	2940
taacatgatt tgcggtgctt ccgatgagag gccttatcaa atgctcactt gtgctggtgg	3000
gcattgtaat atgctggcta ctgtgcatat tgtttcccat caacgcaaaa aatggcctgt	3060
ttttgatcac aatgtgatga cgaagtgtac catgcatgca ggtgggcgta gaggaatgtt	3120

tatgccttac	cagtgtaca	tgaatcatgt	gaaagtgttg	ttggaaccag	atgccttttc	3180
cagaatgagc	ctaacaggaa	tttttgacat	gaacatgcaa	atctggaaga	tcctgaggta	3240
tgatgatacg	agatcgaggg	tacgcgcatg	cgaatgcgga	ggcaagcatg	ccagggttcca	3300
gccggtgtgt	gtagatgtga	ctgaagatct	cagaccggat	catttggtta	ttgcccgcac	3360
tggagcagag	ttcggatcca	gtggagaaga	aactgactaa	ggtgagtatt	gggaaaactt	3420
tgggggtgga	ttttcagatg	gacagattga	gtaaaaattt	gttttttctg	tcttgacagt	3480
gtcatgagtg	gaaacgcttc	ttttaagggg	ggagtcttca	gcccttatct	gacagggcgt	3540
ctcccatcct	gggcaggagt	tcgtcagaat	gttatgggat	ctactgtgga	tggaagacct	3600
gtccaacccg	ccaattcttc	aacgctgacc	tatgctactt	taagtcttct	acctttggac	3660
gcagctgcag	ctgccgccgc	cgcttctgtt	gccgctaaca	ctgtgcttgg	aatgggttac	3720
tatggaagca	tcattggctaa	ttccacttcc	tctaataacc	cttctaccct	gactcaggac	3780
aagttacttg	tccttttggc	ccagctggag	gctttgacct	aacgtctggg	tgaactttct	3840
cagcaggtgg	tcgagttgcg	agtacaaact	gagtctgctg	tcggcacggc	aaagtctaaa	3900
taaaaaaatc	ccagaatcaa	tgaataaata	aacaagcttg	ttgttgattt	aaaatcaagt	3960
gtttttattt	catttttcgc	gcacggtatg	ccctagacca	ccgatctcta	tcattgagaa	4020
ctcgggtggat	tttttccagg	atcctataga	ggtagggattg	aatgtttaga	tacatgggca	4080
ttaggccgtc	tttggggtgg	agatagctcc	attgaaggga	ttcatgctcc	ggggtagtgt	4140
tgtaaatac	ccagtcataa	caaggctcga	gtgcatggtg	ttgcacaata	tcttttagaa	4200
gtaggctgat	tgccacagat	aagcccttgg	tgtagggtgtt	tacaaaccgg	ttgagctggg	4260
atgggtgcat	tcggggtgaa	attatgtgca	ttttggattg	gattttttaag	ttggcaatat	4320
tgccgccaa	atcccgtctt	gggttcatgt	tatgaaggac	caccaagacg	gtgtatccgg	4380
tacatttagg	aaatttatcg	tgcagcttgg	atggaaaagc	gtggaaaaat	ttggagacac	4440
ccttgtgtcc	tccaagattt	tccatgcact	catccatgat	aatagcaatg	gggccgtggg	4500
cagcggcgcg	ggcaaacacg	ttccgtgggt	ctgacacatc	atagttatgt	tcctgagtta	4560
aatcatcata	agccatttta	atgaatttgg	ggcggagagt	accagattgg	ggtatgaatg	4620
ttccttcggg	ccccggagca	tagttcccct	cacagatttg	catttcccaa	gctttcagtt	4680
ccgaggggtg	aatcatgtcc	acctgggggg	ctatgaaaaa	caccgtttct	ggggcggggg	4740
tgattaattg	tgatgatagc	aaatttctga	gcaattgaga	tttgccacat	ccggtggggc	4800
cataaatgat	tccgattacg	ggttgcaggt	ggtagtttag	ggaacggcaa	ctgccgtctt	4860
ctcgaagcaa	gggggcccac	tcgttcatca	tttcccttac	atgcatattt	tcccgcacca	4920
aatccattag	gaggcgctct	cctcctagt	atagaagttc	ttgtagtgag	gaaaagtttt	4980
tcagcgggtt	cagaccgtca	gccatgggca	ttttggagag	agtttgctgc	aaaagttcta	5040

gtctgttcca cagttcagtg atgtgttcta tggcatctcg atccagcaga cctcctcggt	5100
tcgcggggttt ggacgggtcc tggaataggg tatgagacga tgggcgtcca gcgctgccag	5160
ggttcggtcc ttccagggtc tcagtgttcg agtcagggtt gtttccgtca cagtgaaggg	5220
gtgtgcgctt gcttggggcg ttgccagggt gcgcttcaga ctcatcctgc tggtcgaaaa	5280
cttctgtcgc ttggcgccct gtatgtcggc caagtagcag tttacatga gttcgtagtt	5340
gagcgcctcg gctgcgtggc ctttggcgcg gagcttacct ttggaagttt tcttgcatac	5400
cgggcagtat aggcatttca gcgcatacaa cttggggcgca aggaaaacgg attctgggga	5460
gtatgcatct gcgccgcagg aggcgcaaac agtttcacat tccaccagcc aggttaaadc	5520
cggttcattg gggtcaaaaa caagttttcc gccatatattt ttgatgcgtt tcttaccttt	5580
ggtctccatg agttcgtgtc ctcgttgagt gacaaacagg ctgtccgtgt ccccgtagac	5640
tgattttaca ggcctcttct ccagtggagt gcctcgggtct tcttcgtaca ggaactctga	5700
ccactctgat acaaaggcg gcgtccaggc cagcacaaag gaggctatgt gggaggggta	5760
gcgatcgttg tcaaccaggg ggtccacctt ttccaaagta tgcaaacaca tgtcaccctc	5820
ttcaacatcc aggaatgtga ttggcttgta ggtgtatttc acgtgacctg gggccccgc	5880
tgggggggta taaaaggggg cggttctttg ctcttcctca ctgtcttccg gatcgctgtc	5940
caggaacgtc agctgttggg gtaggtattc cctctcgaag gcgggcatga cctctgcact	6000
caggttgta gtttctaaga acgaggagga tttgatattg acagtgccg ttgagatgcc	6060
tttcatgagg ttttcgtcca tctggtcaga aaacacaatt tttttattgt caagtttggt	6120
ggcaaataat gat ccatacaggg cgttggataa aagtttgga atggatcgca tggtttggtt	6180
cttttccttg tccgcgcgct ctttggcggc gatgttgagt tggacatact cgcgtgccag	6240
gcacttccat tcggggaaga tagttgtaa ttcattctggc acgattctca cttgccaccc	6300
tcgattatgc aaggttaatta aatccacact ggtggccacc tcgcctcgaa ggggttcatt	6360
ggtccaacag agcctacctc ctttcctaga acagaaaggg ggaagtgggt ctagcataag	6420
ttcatcgga gggctcgcac ccatggtaaa gattcccga agtaaatcct tatcaaaata	6480
gctgatggga gtggggctcat ctaaggccat ttgccattct cgagctgcca gtgcgcgctc	6540
atatgggtta aggggactgc cccatggcat gggatgggtg agtgcagagg catacatgcc	6600
acagatgtca tagacgtaga tgggatcctc aaagatgcct atgtaggttg gatagcatcg	6660
ccccctctg atacttgctc gcacatagtc atatagttca tgtgatggcg ctagcagccc	6720
cggacccaag ttggtgcgat tgggtttttc tgttctgtag acgatctggc gaaagatggc	6780
gtgagaattg gaagagatgg tgggtctttg aaaaatgttg aaatgggcat gaggtagacc	6840
tacagagtct ctgacaaagt gggcataaga ttcttgaagc ttggttacca gttcggcggt	6900
gacaagtacg tctagggcg agtagtcaag tgtttcttga atgatgtcat aacctggttg	6960

gtttttcttt	tcccacagtt	cgcggttgag	aaggtattct	tcgcgatcct	tccagtactc	7020
ttctagcgga	aaccctgtctt	tgtctgcacg	gtaagatcct	agcatgtaga	actgattaac	7080
tgccttgtaa	gggcagcagc	ccttctctac	gggtagagag	tatgcttgag	cagcttttcg	7140
tagcgaagcg	tgagtaaggg	caaagggtgc	tctgaccatg	actttgagga	attggtattt	7200
gaagtcgatg	tcgtcacagg	ctccctgttc	ccagagttgg	aagtctaccc	gtttcttgta	7260
ggcgggggtg	ggcaaagcga	aagtaacatc	attgaagaga	atcttgccgg	ccctgggcat	7320
gaaattgcga	gtgatgcgaa	aaggctgtgg	tacttccgct	cggttattga	taacctgggc	7380
agctaggacg	atctcgtcga	aaccgttgat	gttgtgtcct	acgatgtata	attctatgaa	7440
acgcggcgtg	cctctgacgt	gaggtagctt	actgagctca	tcaaaggtta	ggtctgtggg	7500
gtcagataag	gcgtagtggt	cgagagccca	ttcgtgcagg	tgaggattcg	ctttaaggaa	7560
ggaggaccag	aggtccactg	ccagtgtgtg	ttgtaactgg	tcccgttact	gacgaaaatg	7620
ccgtccgact	gccatTTTTT	ctgggggtgac	gcaatagaag	gtttgggggt	cctgccgcca	7680
gcgatcccac	ttgagtttta	tggcgaggtc	ataggcgatg	ttgacgagcc	gctggtctcc	7740
agagagtttc	atgaccagca	tgaaggggat	tagctgcttg	ccaaaggacc	ccatccaggt	7800
gtaggtttcc	acatcgtagg	tgagaaagag	cctttctgtg	cgaggatgag	agccaatcgg	7860
gaagaactgg	atctcctgcc	accagttgga	ggaatggctg	ttgatgtgat	ggaagtagaa	7920
ctccctgcga	cgcgccgagc	attcatgtct	gtgcttgtag	agacggccgc	agtagtcgca	7980
gcgttgacag	ggttgatatct	cgtgaatgag	ttgtacctgg	cttcccttga	cgagaaatTT	8040
cagtgggaag	ccgaggcctg	gcgattgtat	ctcgtgcttt	actatgttgt	ctgcatcggc	8100
ctgttcatct	tctgtctcga	tgggtggcat	gctgacgagc	cctcgcggga	ggcaagtcca	8160
gacctcggcg	cggcaggggc	ggagctcgag	gacgagagcg	cgcaggctgg	agctgtccag	8220
ggtcctgaga	cgctgcggac	tcaggttagt	aggcagtgtc	aggagattaa	cttgcgatgat	8280
cttttgaggg	gcgtgcggga	ggttcagata	gtacttgatc	tcaacgggtc	cgttggtgga	8340
gatgtcgatg	gcttgacagg	ttccgtgtcc	cttgggcgct	accaccgtgc	ccttgTTTTT	8400
cattttggac	ggcgggtggct	ctggttgcttc	ttgcatgttt	agaagcgggtg	tcgagggcgc	8460
gcaccgggcg	gcaggggcgg	ctcgggaccc	ggcggcatgg	ctggcagtg	tacgtcggcg	8520
ccgcgcgcgg	gtaggttctg	gtactgcgcc	ctgagaagac	tcgcatgcgc	gacgacgcgg	8580
cggttgacat	cctggatctg	acgcctctgg	gtgaaagcta	ccggccccgt	gagcttgaac	8640
ctgaaagaga	gttcaacaga	atcaatctcg	gtatcgttga	cggcggcttg	cctaaggatt	8700
tcttgcacgt	caccagagtt	gtcctggtag	gcgatctccg	ccatgaactg	ctcgatctct	8760
tcctcttgaa	gatctccgcg	gcccgcctct	tcgacgggtg	ccgcgaggtc	gttgagatg	8820
cgcccaatga	gttgagagaa	tgcattcatg	cccgcctcgt	tccagacgcg	gctgtagacc	8880

acggccccca	cgggatctct	cgcgcgcatg	accacctggg	cgaggttgag	ctccacgtgg	8940
cgggtgaaga	ccgcatagtt	gcataggcgc	tggaaaaggt	agttgagtgt	ggtggcgatg	9000
tgctcgggtga	cgaagaaata	catgatccat	cgtctcagcg	gcatctcgct	gacatcgccc	9060
agagcttcca	agcgctccat	ggcctcgtag	aagtccacgg	caaaattaaa	aaactgggag	9120
tttcgcgcgg	acacgggtcaa	ctcctcttcc	agaagacgga	taagttcggc	gatggtggtg	9180
cgcacctcgc	gctcgaaagc	ccctgggatt	tcttcctcaa	tctcttcttc	ttccactaac	9240
atctcttcct	cttcaggtgg	ggctgcagga	ggagggggaa	cgcggcgacg	ccggcggcgc	9300
acgggcagac	ggtcgatgaa	tctttcaatg	acctctccgc	ggcggcggcg	catggtttca	9360
gtgacggcgc	ggccgtttctc	gcgcggtcgc	agagtaaaaa	caccgccgcg	catctcctta	9420
aagtggtgac	tgggaggttc	tccgtttggg	agggagaggg	cgttgattat	acattttatt	9480
aattggcccg	tagggactgc	acgcagagat	ctgatcgtgt	caagatccac	gggatctgaa	9540
aacctttcga	cgaagcgtc	taaccagtca	cagtcacaag	gtaggctgag	tacggcttct	9600
tgtgggcggg	ggtggttatg	tgttcggtct	gggtcttctg	tttcttcttc	atctcgggaa	9660
ggtgagacga	tgctgctggt	gatgaaatta	aagtaggcag	ttctaagacg	gcggatggtg	9720
gcgaggagca	ccaggtcttt	gggtccggct	tgctggatac	gcaggcgatt	ggccattccc	9780
caagcattat	cctgacatct	agcaagatct	ttgtagtagt	cttgcatgag	ccgttctacg	9840
ggcacttctt	cctcaccctg	tctgccatgc	atacgtgtga	gtccaaatcc	gcgcattggt	9900
tgtaccagtg	ccaagtcagc	tacgactctt	tcggcgagga	tggcttgctg	tacttgggta	9960
aggggtggctt	gaaagtcatc	aaaatccaca	aagcggtggt	aagctcctgt	attaatggtg	10020
taagcacagt	tggccatgac	tgaccagtta	actgtctggt	gaccagggcg	cacgagctcg	10080
gtgtatttaa	ggcgcgaata	ggcgcgggtg	tcaaagatgt	aatcgttgca	ggtgcgccacc	10140
agatactggt	accctataag	aaaatgcggc	ggtggttggc	ggtagagagg	ccatcgttct	10200
gtagctggag	cgccaggggc	gaggtcttcc	aacataaggc	ggtgatagcc	gtagatgtac	10260
ctggacatcc	aggtgattcc	tgccggcgta	gtagaagccc	gaggaaactc	gcgtacgcgg	10320
ttccaaatgt	tgcgtagcgg	catgaagtag	ttcattgtag	gcacggtttg	accagtgagg	10380
cgcgcgcagt	cattgatgct	ctatagacac	ggagaaaatg	aaagcgttca	gcgactcgac	10440
tccgtagcct	ggaggaacgt	gaacgggttg	ggtcgcggtg	taccccggtt	cgagacttgt	10500
actcgagccg	gccggagccg	cggctaacgt	ggtattggca	ctcccgtctc	gaccagcct	10560
acaaaaatcc	aggatacgga	atcgagtcgt	tttgctggtt	tccgaatggc	agggaagtga	10620
gtcctatttt	ttttttttgc	cgctcagatg	catcccgtgc	tgcgacagat	gcgcccccaa	10680
caacagcccc	cctcgcagca	gcagcagcag	caatcacaaa	aggctgtccc	tgcaactact	10740
gcaactgccg	ccgtgagcgg	tgcgggacag	cccgctatg	atctggactt	ggaagagggc	10800

gaaggactgg	cacgtctagg	tgcgccttca	cccgagcggc	atccgcgagt	tcaactgaaa	10860
aaagattctc	gcgaggcgta	tgtgccccaa	cagaacctat	ttagagacag	aagcggcgag	10920
gagccggagg	agatgcgagc	ttcccgcttt	aacgcgggtc	gtgagctgcg	tcacggtttg	10980
gaccgaagac	gagtgttgcg	ggacgaggat	ttcgaagttg	atgaaatgac	agggatcagt	11040
cctgccaggg	cacacgtggc	tgcagccaac	cttgtatcgg	cttacgagca	gacagtaaag	11100
gaagagcgta	acttccaaaa	gtcttttaat	aatcatgtgc	gaaccctgat	tgcccgcgaa	11160
gaagttaccc	ttggtttgat	gcatttggtg	gatttgatgg	aagctatcat	tcagaacctt	11220
actagcaaac	ctctgaccgc	ccagctgttt	ctggtggtgc	aacacagcag	agacaatgag	11280
gctttcagag	aggcgctgct	gaacatcacc	gaacccgagg	ggagatgggt	gtatgatctt	11340
atcaacattc	tacagagtat	catagtgcag	gagcggagcc	tgggcctggc	cgagaagggtg	11400
gctgccatca	attactcggg	tttgagcttg	ggaaaatatt	acgctcgcaa	aatctacaag	11460
actccatacg	ttcccataga	caaggagggtg	aagatagatg	ggttctacat	gcgcatgacg	11520
ctcaagggtct	tgaccctgag	cgatgatctt	ggggtgtatc	gcaatgacag	aatgcatcgc	11580
gcggttagcg	ccagcaggag	gcgcgagtta	agcgacaggg	aactgatgca	cagtttgcaa	11640
agagctctga	ctggagctgg	aaccgagggt	gagaattact	tcgacatggg	agctgacttg	11700
cagtggcagc	ctagtgcgag	ggctctgagc	gccgcgacgg	caggatgtga	gcttccttac	11760
atagaagagg	cggatgaagg	cgaggaggaa	gagggcgagt	acttggaaga	ctgatggcac	11820
aaccctgtgt	ttttgctaga	tggaacagca	agcaccggat	cccgcaatgc	gggcggcgct	11880
gcagagccag	ccgtccggca	ttaactcctc	ggacgattgg	accagggcca	tgcaacgtat	11940
catggcgttg	acgactcgca	accccgaaagc	ctttagacag	caaccccagg	ccaaccgtct	12000
atcggccatc	atggaagctg	tagtgccttc	ccgctctaata	cccactcatg	agaaggctct	12060
ggccatcgtg	aacgcgttgg	tggagaacaa	agctattcgt	ccagatgagg	ccggactggg	12120
atacaacgct	ctcttagaac	gcgtggctcg	ctacaacagt	agcaatgtgc	aaaccaattt	12180
ggaccgtatg	ataacagatg	tacgcgaagc	cgtgtctcag	cgcgaaagggt	tccagcgtga	12240
tgccaacctg	ggttcgctgg	tggcggttaa	tgctttcttg	agtactcagc	ctgctaattgt	12300
gccgcgtggg	caacaggatt	atactaactt	tttaagtgtc	ttgagactga	tggtatcaga	12360
agtacctcag	agcgaagtgt	atcagtccgg	tcctgattac	ttctttcaga	ctagcagaca	12420
gggcttgtag	acggtaaata	tgagccaagc	ttttaaaaaac	cttaaagggt	tgtggggagt	12480
gcatgccccg	gtaggagaaa	gagcaaccgt	gtctagcttg	ttaactccga	actcccgcct	12540
attattactg	ttggtagctc	ctttcaccga	cagcggtagc	atcgaccgta	attcctattt	12600
gggttaccta	ctaaacctgt	atcgcgaaagc	catagggcaa	agtcagggtg	acgagcagac	12660
ctatcaagaa	attacccaag	tcagtcgcgc	tttgggacag	gaagacactg	gcagtttgga	12720

agccactctg	aacttcttgc	ttaccaatcg	gtctcaaaag	atccctcctc	aatatgctct	12780
tactgcggag	gaggagagga	tccttagata	tgtgcagcag	agcgtgggat	tgtttctgat	12840
gcaagagggg	gcaactccga	ctgcagcact	ggacatgaca	gcgcgaaata	tggagcccag	12900
catgtatgcc	agtaaccgac	ctttcattaa	caaactgctg	gactacttgc	acagagctgc	12960
cgctatgaac	tctgattatt	tcaccaatgc	catcttaaac	ccgcactggc	tgccccacc	13020
tggtttctac	acgggcgaat	atgacatgcc	cgaccctaata	gacggatttc	tgtgggacga	13080
cgtggacagc	gatgtttttt	cacctctttc	tgatcatcgc	acgtggaaaa	aggaaggcgg	13140
cgatagaatg	cattcttctg	catcgctgtc	cggggtcatg	ggtgctaccg	cggctgagcc	13200
cgagtctgca	agtccttttc	ctagtctacc	cttttctcta	cacagtgtac	gtagcagcga	13260
agtgggtaga	ataagtcgcc	cgagtttaat	gggcgaagag	gagtatctaa	acgattcctt	13320
gctcagaccg	gcaagagaaa	aaaatttccc	aaacaatgga	atagaaagtt	tggtggataa	13380
aatgagtaga	tggaagactt	atgctcagga	tcacagagac	gagcctggga	tcatggggat	13440
tacaagtaga	gcgagccgta	gacgccagcg	ccatgacaga	cagaggggtc	ttgtgtggga	13500
cgatgaggat	tcggccgatg	atagcagcgt	gctggacttg	ggtgggagag	gaaggggcaa	13560
cccgtttgct	catttgcgcc	ctcgcttggg	tggtatgttg	taaaaaaaaa	taaaaaaaaa	13620
actcaccaag	gccatggcga	cgagcgtacg	ttcgttcttc	tttattatct	gtgtctagta	13680
taatgaggcg	agtcgtgcta	ggcggagcgg	tggtgtatcc	ggagggtcct	cctccttcgt	13740
acgagagcgt	gatgcagcag	cagcaggcga	cggcggtgat	gcaatcccca	ctggaggctc	13800
cctttgtgcc	tccgcgatac	ctggcaccta	cggagggcag	aaacagcatt	cgttattcgg	13860
aactggcacc	tcagtacgat	accaccaggt	tgtatctggt	ggacaacaag	tcggcggaca	13920
ttgcttctct	gaactatcag	aatgaccaca	gcaacttctt	gaccacggtg	gtgcaaaaca	13980
atgactttac	ccctacggaa	gccagcaccc	agaccattaa	ctttgatgaa	cgatcgcggt	14040
ggggcggtca	gctaaagacc	atcatgcata	ctaacatgcc	aaacgtgaac	gagtatatgt	14100
ttagtaacaa	gttcaaagcg	cgtgtgatgg	tgtccagaaa	acctcccga	ggtgctgcag	14160
ttggggatac	ttatgatcac	aagcaggata	ttttgaaata	tgagtggttc	gagtttactt	14220
tgccagaagg	caacttttca	gttactatga	ctattgattt	gatgaacaat	gccatcatag	14280
ataattactt	gaaagtgggt	agacagaatg	gagtgcctga	aagtgacatt	ggtgttaagt	14340
tcgacaccag	gaacttcaag	ctgggatggg	atcccgaaac	caagttgatc	atgcctggag	14400
tgtatacgta	tgaagccttc	catcctgaca	ttgtcttact	gcctggctgc	ggagtggatt	14460
ttaccgagag	tcgtttgagc	aaccttcttg	gtatcagaaa	aaaacagcca	tttcaagagg	14520
gttttaagat	tttgtatgaa	gatttagaag	gtggtaatat	tccggccctc	ttggatgtag	14580
atgcctatga	gaacagtaag	aaagaacaaa	aagccaaaat	agaagctgct	acagctgctg	14640

cagaagctaa	ggcaaacata	gttgccagcg	actctacaag	ggttgctaac	gctggagagg	14700
tcagaggaga	caatthttg	ccaacacctg	ttccgactgc	agaatcatta	ttggccgatg	14760
tgtctgaagg	aacggacgtg	aaactcacta	ttcaacctgt	agaaaaagat	agtaagaata	14820
gaagctataa	tgtgttgga	gacaaaatca	acacagccta	tcgcagttgg	tatctttcgt	14880
acaattatgg	cgatcccga	aaaggagtgc	gttcctggac	attgctcacc	acctcagatg	14940
tcacctgcgg	agcagagcag	gtctactgg	cgcttccaga	catgatgaag	gatcctgtca	15000
ctttccgctc	cactagacaa	gtcagtaact	accctgtgg	gggtgcagag	cttatgccc	15060
tcttctcaaa	gagcttctac	aacgaacaag	ctgtgtactc	ccagcagctc	cgccagtcca	15120
cctcgcttac	gcacgtcttc	aaccgctttc	ctgagaacca	gatttttaatc	cgccgcggg	15180
cgcccaccat	taccaccgtc	agtgaaaacg	ttcctgctct	cacagatcac	gggaccctgc	15240
cggtgcgcag	cagtatccgg	ggagtccaac	gtgtgaccgt	tactgacgcc	agacgccgca	15300
cctgtcccta	cgtgtacaag	gcactgggca	tagtcgcacc	gcgcgtcctt	tcaagccgca	15360
ctttctaaaa	aaaaaaaaaa	tgtccattct	tatctcgccc	agtaataaca	ccggttgggg	15420
tctgcgcgct	ccaagcaaga	tgtacggagg	cgcacgcaaa	cgttctaccc	aacatcctgt	15480
ccgtgttcgc	ggacatthtc	gcgctccatg	gggcgccttc	aagggccgca	ctcgcgttcg	15540
aaccaccgtc	gatgatgtaa	tcgatcaggt	ggttgccgac	gcccgttaatt	atactcctac	15600
tgcgcctaca	tctactgtgg	atgcagttat	tgacagtgt	gtggctgacg	ctcgcaacta	15660
tgctcgacgt	aagagccggc	gaaggcgcat	tgccagacgc	caccgagcta	ccactgccat	15720
gcgagccgca	agagctctgc	tacgaagagc	tagacgcgtg	gggcgaagag	ccatgcttag	15780
ggcggccaga	cgtgcagctt	cgggcgccag	cgccggcagg	tcccgcaggc	aagcagccgc	15840
tgtcgcagcg	gcgactattg	ccgacatggc	ccaatcgcg	agaggcaatg	tatactgggt	15900
gcgtgacgct	gccaccggtc	aacgtgtacc	cgtgcgcacc	cgtccccctc	gcacttagaa	15960
gatactgagc	agtctccgat	gttgtgtccc	agcggcgagg	atgtccaagc	gcaaatacaa	16020
ggaagaaatg	ctgcaggtta	tcgcacctga	agtctacggc	caaccgttga	aggatgaaaa	16080
aaaaccccg	aaaatcaagc	gggttaaaaa	ggacaaaaaa	gaagaggaag	atggcgatga	16140
tgggctggcg	gagtttgtgc	gcgagtttgc	cccacggcga	cgcgtgcaat	ggcgtggg	16200
caaagttcga	catgtgttga	gacctggaac	ttcgggtggtc	tttacacccg	gcgagcgttc	16260
aagcgctact	tttaagcgtt	cctatgatga	ggtgtacggg	gatgatgata	ttcttgagca	16320
ggcggctgac	cgattaggcg	agtttgctta	tggcaagcgt	agtagaataa	cttccaagga	16380
tgagacagtg	tcgataccct	tggatcatgg	aaatcccacc	cctagtctta	aaccggtcac	16440
tttgcagcaa	gtgttacc	taactccgcg	aacagggtgt	aaacgcgaag	gtgaagattt	16500
gtatcccact	atgcaactga	tggtagccaa	acgccagaag	ttggaggacg	ttttggagaa	16560

agtaaaagtg	gatccagata	ttcaacctga	ggttaaagtg	agacccatta	agcaggtagc	16620
gcctgggtctg	ggggtacaaa	ctgtagacat	taagattccc	actgaaagta	tggaagtgca	16680
aactgaaccc	gcaaagccta	ctgccacctc	cactgaagtg	caaacggatc	catggatgcc	16740
catgcctatt	acaactgacg	ccgccggtcc	cactcgaaga	ccccgacgaa	agtacgggtcc	16800
agcaagtctg	ttgatgcccc	attatgttgt	acacccatct	attattccta	ctcctgggta	16860
ccgaggcact	cgctactatc	gcagccgaaa	cagtacctcc	cgccgtcgcc	gcaagacacc	16920
tgcaaatcgc	agtcgtcgcc	gtagacgcac	aagcaaaccg	actcccggcg	ccctgggtgcg	16980
gcaagtgtac	cgcaatggta	gtgcggaacc	tttgacactg	ccgcgtcgcg	gttaccatcc	17040
gagtatcatc	acttaatcaa	tgttgccgct	gcctccttgc	agatatggcc	ctcacttgtc	17100
gccttcgcgt	tcccatcact	ggttaccgag	gaagaaactc	gcgccgtaga	agagggatgt	17160
tgggacgcgg	aatgcgacgc	tacaggcgac	ggcgtgctat	ccgcaagcaa	ttgcgggggtg	17220
gttttttacc	agccttaatt	ccaattatcg	ctgctgcaat	tggcgcgata	ccaggcatag	17280
cttccgtggc	ggttcaggcc	tgcgaacgac	attgacattg	gaaaaaaacg	tataaataaa	17340
aaaaaaaaaa	tacaatggac	tctgacactc	ctggtcctgt	gactatgttt	tcttagagat	17400
ggaagacatc	aatttttcat	ccttggtctc	gcgacacggc	acgaagccgt	acatgggcac	17460
ctggagcgac	atcggcacga	gccaaactgaa	cggggggcgcc	ttcaattgga	gcagtatctg	17520
gagcggggctt	aaaaattttg	gctcaaccat	aaaaacatac	gggaacaaag	cttggaacag	17580
cagtacagga	caggcgctta	gaaataaaact	taaagaccag	aacttccaac	aaaaagtagt	17640
cgatgggata	gcttccggca	tcaatggagt	ggtagatttg	gctaaccagg	ctgtgcagaa	17700
aaagataaac	agtcgttttg	acccgccgcc	agcaacccca	ggtgaaatgc	aagtggagga	17760
agaaattcct	ccgccagaaa	aacgaggcga	caagcgtccg	cgtcccgtat	tggaagagac	17820
gctgggtgacg	cgcgtagatg	aaccgccttc	ttatgaggaa	gcaacgaagc	ttggaatgcc	17880
caccactaga	ccgatagccc	caatggccac	cgggggtgatg	aaaccttctc	agttgcatcg	17940
acccgtcacc	ttggattttgc	cccccccccc	tgctgctact	gctgtaccgg	cttctaagcc	18000
tgctgctgcc	ccgaaaccag	tcgccgtagc	caggtcacgt	cccggggggcg	ctcctcggtcc	18060
aaatgcgcac	tggcaaaata	ctctgaacag	catcgtgggt	ctaggcgtgc	aaagtgtaaa	18120
acgccgtcgc	tgctttttaat	taaatatgga	gtagcgctta	acttgcctat	ctgtgtatat	18180
gtgtcattac	acgccgtcac	agcagcagag	gaaaaaagga	agaggtcgtg	cgtcgacgct	18240
gagttacttt	caagatggcc	accccatcga	tgctgccccca	atgggcatac	atgcacatcg	18300
ccggacagga	tgcttcggag	tacctgagtc	cgggtctgggt	gcagttcgcc	cgcgccacag	18360
acacctactt	caatctggga	aataagttta	gaaatcccac	cgtagcgccg	accacgatg	18420
tgaccaccga	ccgtagccag	cgggtcatgt	tgcgcttcgt	gcccgttgac	cgggaggaca	18480

atacatactc	ttacaaagtg	cggtacaccc	tggccgtggg	cgacaacaga	gtgctggata	18540
tggccagcac	gttctttgac	attaggggtg	tgttggacag	aggccccagt	ttcaaaccct	18600
attctggtac	ggcttacaac	tccctggctc	ctaaaggcgc	tccaaatata	tctcagtgga	18660
ttgcagaagg	tgtaaaaaat	acaactgggtg	aggaacacgt	aacagaagag	gaaaccaata	18720
ctactactta	cacttttggc	aatgctcctg	taaaagctga	agctgaaatt	acaaaagaag	18780
gactcccagt	aggtttggaa	gtttcagatg	aagaaagtaa	accgatttat	gctgataaaa	18840
catatcagcc	agaacctcag	ctggggagatg	aaacttggac	tgaccttgat	ggaaaaaccg	18900
aaaagtatgg	aggcagggct	ctcaaaccgc	atactaagat	gaaaccatgc	tacgggtcct	18960
ttgccaaaacc	tactaatgtg	aaaggcggtc	aggcaaaaca	aaaaacaacg	gagcagccaa	19020
atcagaaaagt	cgaatatgat	atcgacatgg	agttttttga	tgcggcatcg	cagaaaacaa	19080
acttaagtcc	taaaattgtc	atgtatgcag	aaaatgtaaa	tttggaaact	ccagacactc	19140
atgtagtgta	caaacctgga	acagaagaca	caagttccga	agctaatttg	ggacaacaat	19200
ctatgcccaa	cagacccaac	tacattggct	tcagagataa	ctttattgga	cttatgtact	19260
ataacagtac	tggtaacatg	ggggtgctgg	ctggtcaagc	gtctcagtta	aatgcagtgg	19320
ttgacttgca	ggacagaaac	acagaacttt	cttaccaact	cttgcttgac	tctctgggcg	19380
acagaaccag	atacttttagc	atgtggaatc	aggctgtgga	cagttatgat	cctgatgtac	19440
gtgttattga	aaatcatggt	gtggaagatg	aacttcccaa	ctactgtttt	ccactggacg	19500
gcataggtgt	tccaacaacc	agttacaaat	caatagttcc	aaatggagac	aatg'gccta	19560
attggaagga	acctgaagta	aatggaacaa	gtgagatcgg	acagggtaat	ttgtttgcca	19620
tggaaattaa	ccttcaagcc	aatctatggc	gaagtttcct	ttattccaat	gtggctctat	19680
atctcccaga	ctcgtacaaa	tacaccccg	ccaatgtcac	tcttccagaa	aacaaaaaca	19740
cctacgacta	catgaacggg	cgggtggtgc	cgccatctct	agtagacacc	tatgtgaaca	19800
ttggtgccag	gtggtctctg	gatgccatgg	acaatgtcaa	cccattcaac	caccaccgta	19860
acgctggctt	gcgttaccga	tccatgcttc	tgggtaacgg	acgttatgtg	cctttccaca	19920
tacaagtgcc	tcaaaaattc	ttcgctgtta	aaaacctgct	gcttctccca	ggctcctaca	19980
cttatgagtg	gaacttttagg	aaggatgtga	acatggttct	acagagtcc	ctcggtaacg	20040
acctgcgggt	agatggcgcc	agcatcagtt	tcacgagcat	caacctctat	gctacttttt	20100
tccccatggc	tcacaacacc	gcttccaccc	ttgaagccat	gctgcggaat	gacaccaatg	20160
atcagtcatt	caacgactac	ctatctgcag	ctaacatgct	ctacccatt	cctgccaatg	20220
caaccaatat	tcccatttcc	attccttctc	gcaactgggc	ggctttcaga	ggctggatcat	20280
ttaccagact	gaaaaccaaa	gaaactccct	ctttggggtc	tggatttgac	ccctactttg	20340
tctattctgg	ttctattccc	tacctggatg	gtaccttcta	cctgaaccac	acttttaaga	20400

aggtttccat	catgtttgac	tcttcagtga	gctggcctgg	aatgacagg	ttactatctc	20460
ctaacgaatt	tgaataaaag	cgcactgtgg	atggcgaagg	ctacaacgta	gcccaatgca	20520
acatgaccaa	agactggttc	ttggtacaga	tgctcgccaa	ctacaacatc	ggctatcagg	20580
gcttctacat	tccagaagga	tacaaagatc	gcatgtattc	atttttcaga	aacttccagc	20640
ccatgagcag	gcaggtgggt	gatgaggtca	attacaaaga	cttcaaggcc	gtcgccatac	20700
cctaccaaca	caacaactct	ggctttgtgg	gttacatggc	tccgaccatg	cgccaaggtc	20760
aaccctatcc	cgctaactat	ccctatccac	tcattggaac	aactgccgta	aatagtgtta	20820
cgcagaaaaa	gttcttgtgt	gacagaacca	tgtggcgcat	accgttctcg	agcaacttca	20880
tgtctatggg	ggcccttaca	gacttgggac	agaatatgct	ctatgccaac	tcagctcatg	20940
ctctggacat	gacctttgag	gtggatccca	tggatgagcc	cacctgtctt	tatcttctct	21000
tcgaagtttt	cgacgtggtc	agagtgcac	agccacaccg	cggcacatc	gaggcagtct	21060
acctgcgtac	accgttctcg	gccggtaacg	ctaccacgta	agaagcttct	tgcttcttgc	21120
aaatagcagc	tgcaaccatg	gcctgcggat	cccaaaacgg	ctccagcgag	caagagctca	21180
gagccattgt	ccaagacctg	ggttgcggac	cctatTTTTT	gggaacctac	gataagcgct	21240
tcccgggggt	catggcccc	gataagctcg	cctgtgccat	tgtaaatacg	gccggacgtg	21300
agacgggggg	agagcactgg	ttggctttcg	gttggaaccc	acgttctaac	acctgctacc	21360
tttttgatcc	ttttggattc	tcggatgac	gtctcaaaca	gatttaccag	tttgaatatg	21420
aggggtctcct	gcgccgcagc	gctcttgcta	ccaaggaccg	ctgtattacg	ctggaaaaat	21480
ctaccagac	cgtgcagggt	ccccgttctg	ccgcctgcgg	acttttctgc	tgcatgttcc	21540
ttcacgcctt	tgtgcactgg	cctgaccgtc	ccatggacgg	aaaccccacc	atgaaattgc	21600
taactggagt	gccaaacaac	atgcttcatt	ctcctaaagt	ccagcccacc	ctgtgtgaca	21660
atcaaaaagc	actctaccat	tttcttaata	cccattcgcc	ttattttctg	tcccatcgta	21720
cacacatcga	aagggccact	gcgttcgacc	gtatggatgt	tcaataatga	ctcatgtaaa	21780
caacgtgttc	aataaacatc	actttatttt	tttacatgta	tcaaggctct	gcattactta	21840
tttatTTTaca	agtcgaatgg	gttctgacga	gaatcagaat	gacccgcagg	cagtgatacg	21900
ttgcgggaact	gatacttggg	ttgccacttg	aattcgggaa	tcaccaactt	gggaaccggg	21960
atatcgggca	ggatgtcact	ccacagcttt	ctggtcagct	gcaaagctcc	aagcagggtca	22020
ggagccgaaa	tcttgaaatc	acaattagga	ccagtgtttt	gagcgcgaga	gttgcggtac	22080
accggattgc	agcactgaaa	caccatcagc	gacggatgtc	tcacgcttgc	cagcacgggtg	22140
ggatctgcaa	tcatgcccac	atccagatct	tcagcattgg	caatgctgaa	cggggtcac	22200
ttgcagggtct	gcctacccat	ggcgggcacc	caattaggct	tgtggttgca	atcgcagtg	22260
aggggggatca	gtatcatctt	ggcctgatcc	tgtctgattc	ctggatacac	ggctctcatg	22320

aaagcatcat	attgcttgaa	agcctgctgg	gctttactac	cctcgggtata	aaacatcccg	22380
caggacctgc	tcgaaaactg	gttagctgca	cagccggcat	cattcacaca	gcagcgggcg	22440
tcattgttag	ctatttgcac	cacacttctg	ccccagcggt	tttgggtgat	tttggttcgc	22500
tcgggattct	cctttaaggc	tcgttgctcg	ttctcgtctg	ccacatccat	ctcgataatc	22560
tgctccttct	gaatcataat	attgccatgc	aggcacttca	gcttgccctc	ataatcattg	22620
cagccatgag	gccacaacgc	acagcctgta	cattcccaat	tatggtgggc	gatctgagaa	22680
aaagaatgta	tcattccctg	cagaaatctt	cccatcatcg	tgctcagtgt	cttgtgacta	22740
gtgaaagtta	actggatgcc	tcggtgctcc	tcgtttacgt	actggtgaca	gatgcgcttg	22800
tattgttcgt	gttgctcagg	cattagttta	aaagaggttc	taagttcgtt	atccagcctg	22860
tactttctcca	tcagcagaca	catcacttcc	atgcctttct	cccaagcaga	caccaggggc	22920
aagctaatacg	gattcttaac	agtgcaggca	gcagctcctt	tagccagagg	gtcatcttta	22980
gcgatcttct	caatgcttct	tttgccatcc	ttctcaacga	tgcgcacggg	cgggtagctg	23040
aaaccactg	ctacaagttg	cgcctcttct	ctttcttctt	cgtgtctttg	actgatgtct	23100
tgcatgggga	tatgtttggg	cttccttggc	ttcttttttg	ggggtatcgg	aggaggagga	23160
ctgtcgtctc	gttccggaga	cagggaggat	tgtgacgttt	cgtccaccat	taccaactga	23220
ctgtcggtag	aagaacctga	ccccacacgg	cgacagggtg	ttctcttcgg	gggcagagggt	23280
ggaggcgatt	gcgaagggtc	gcggtccgac	ctggaaggcg	gatgactggc	agaaccctt	23340
ccgcgttcgg	gggtgtgctc	cctgtggcgg	tcgcttaact	gatttccttc	gcggctggcc	23400
attgtgttct	cctaggcaga	gaaacaacag	acatggaaac	tcagccattg	ctgtcaacat	23460
cgccacgagt	gccatcacat	ctcgtcctca	gcgacgagga	aaaggagcag	agcttaagca	23520
ttccaccgcc	cagtcctgcc	accacctcta	ccctagaaga	taaggagggtc	gacgcatctc	23580
atgacatgca	gaataaaaaa	gcgaaagagt	ctgagacaga	catcgagcaa	gacccgggct	23640
atgtgacacc	ggtggaacac	gaggaagagt	tgaaacgctt	tctagagaga	gaggatgaaa	23700
actgccc aaa	acaacgagca	gataactatc	accaagatgc	tggaatatagg	gatcagaaca	23760
ccgactacct	catagggctt	gacgggggag	acgcgctcct	taaacatcta	gcaagacagt	23820
cgtcataggt	caaggatgca	ttattggaca	gaactgaagt	gcccattcagt	gtggaagagc	23880
tcagccgcgc	ctacgagctt	aacctctttt	cacctcgtac	ccccccaaa	cgtcagccaa	23940
acggcacctg	cgagccaaat	cctcgtttaa	acttttatcc	agcttttgct	gtgccagaag	24000
tactggctac	ctatcacatc	ttttttaaaa	atcaaaaaat	tccagtctcc	tgccgcgcta	24060
atcgcacccg	cgccgatgcc	ctactcaatc	tgggacctgg	ttcacgctta	cctgatatag	24120
cttccttgga	agaggttcca	aagatcttcg	agggctctggg	caataatgag	actcggggccg	24180
caaatgctct	gcaaaagggg	gaaaatggca	tggatgagca	tcacagcggt	ctggtggaat	24240

tggaaggcga	taatgccaga	ctcgcagtac	tcaagcgaag	catcgaggtc	acacacttcg	24300
catatcccg	tgtcaacctg	ccccctaaag	tcatgacggc	ggatcatggac	cagttactca	24360
ttaagcgcg	aagtccccctt	tcagaagaca	tgcatagccc	agatgcctgt	gatgagggta	24420
aaccagtgg	cagtgatgag	cagctaaccc	gatggctggg	caccgactct	cccagggatt	24480
tggaagagcg	tcgcaagctt	atgatggccg	tggtgctgg	taccgtagaa	ctagagtgtc	24540
tccgacgtt	ctttaccgat	tcagaaacct	tgcgcaaact	cgaagagaat	ctgcactaca	24600
cttttagaca	cggctttgtg	cggcaggcat	gcaagatatc	taacgtggaa	ctcaccaacc	24660
tggtttccta	catgggtatt	ctgcatgaga	atcgccatag	acaaagcgtg	ctgcacagca	24720
ccctgaagg	ggaagcccg	cgtgattaca	tccgcgattg	tgtctatctg	tacctgtgcc	24780
acacgtggc	aaccggcatg	ggtgtatggc	agcaatgttt	agaagaacag	aacttgaaag	24840
agcttgacaa	gctcttacag	aaatctctta	aggttctgtg	gacagggttc	gacgagcgca	24900
ccgtcgcttc	cgacctggca	gacctcatct	tcccagagcg	tctcagggtt	actttgcgaa	24960
acggattgcc	tgactttatg	agccagagca	tgcttaacaa	ttttcgctct	ttcatcctgg	25020
aacgctccg	tatcctgccc	gccacctgct	gcgcactgcc	ctccgacttt	gtgcctctca	25080
cctaccgcga	gtgccccccg	ccgctatgga	gtcactgcta	cctgttccgt	ctggccaact	25140
atctctccta	ccactcggat	gtgatcgagg	atgtgagcgg	agacggcctt	ctggagtgtc	25200
actgccgctg	caatctgtgc	acgccccacc	ggtccctagc	ttgcaacccc	cagttgatga	25260
gcgaaaccca	gataataggc	acctttgaat	tgcaaggccc	cagcagccaa	ggcgtatggg	25320
cttctcctgg	gcaaagttta	aaactgaccc	cgggactgtg	gacctccgcc	tacttgcgca	25380
agtttgctcc	ggaagattac	cacccttatg	aatcaagtt	ctatgaggac	caatcacagc	25440
ctccaaagg	cgaactttcg	gcctgctca	tcaccagg	ggcaattctg	gccaattgc	25500
aagccatcca	aaaatcccg	caagaatttc	tactgaaaaa	gggtaagggg	gtctaccttg	25560
acccccagac	cggcgaggaa	ctcaacacaa	ggttccctca	ggatgtcca	acgacgagaa	25620
aacaagaagt	tgaagggtgca	gccgccgccc	ccagaagata	tggaggaaga	ttgggacagt	25680
caggcagagg	aggcggagga	ggacagtctg	gaggacagtc	tggaggaaga	cagtttggag	25740
gaggaaaacg	aggaggcaga	ggaggtggaa	gaagtaaccg	ccgacaaaca	gttatcctcg	25800
gctgcggaga	caagcaacag	cgctaccatc	tccgctccga	gtcgagggaac	ccggcggcgt	25860
cccagcagta	gatgggacga	gaccggacgc	ttcccgaacc	caaccagcgc	ttccaagacc	25920
ggtaagaagg	atcggcagg	atacaagtcc	tggcgggggc	ataagaatgc	catcatctcc	25980
tgcttgcatg	agtgcggggg	caacatatcc	ttcacgcggc	gctacttgct	attccaccat	26040
gggggtgaact	ttccgcgcaa	tgttttgcat	tactaccgtc	acctccacag	cccctactat	26100
agccagcaaa	tcccggcagt	ctcgacagat	aaagacagcg	gcggcgacct	ccaacagaaa	26160

accagcagcg	gcagttagaa	aatacacaa	aagtgcagca	acaggaggat	taaagattac	26220
agccaacgag	ccagcgcaaa	cccagagagt	aagaaatcgg	atctttccaa	ccctgtatgc	26280
catcttccag	cagagtcggg	gtcaagagca	ggaactgaaa	ataaaaaacc	gatctctgcg	26340
ttcgctcacc	agaagttggt	tgtatcacia	gagcgaagat	caacttcagc	gcactctcga	26400
ggacgcccag	gctctcttca	acaagtactg	cgcgctgact	cttaaagagt	aggcagcgac	26460
cgcgcttatt	caaaaaaggc	gggaattaca	tcacctcga	catgagtaaa	gaaattccca	26520
cgccttacat	gtggagttat	caacccccaa	tgggattggc	ggcaggcgcc	tcccaggact	26580
actccacccg	catgaattgg	ctcagcgccg	ggccttctat	gatttctcga	gttaatgata	26640
tacgcgccta	ccgaaaccaa	atacttttgg	aacagtcagc	tcttaccacc	acgccccgcc	26700
aacaccttaa	tcccagaaat	tggccccgcc	ccctagtgtg	ccaggaaagt	cccgtccca	26760
ccactgtatt	acttcctcga	gacgcccagg	ccgaagtcca	aatgactaat	gcaggtgcgc	26820
agttagctgg	cggctccacc	ctatgtcgtc	acaggcctcg	gcataatata	aaacgcctga	26880
tgatcagagg	ccgaggtatc	cagctcaacg	acgagtcggg	gagctctccg	cttgggtctac	26940
gaccagacgg	aatctttcag	attgccggct	gcgggagatc	ttccttcacc	cctcgtcagg	27000
ctgttctgac	tttgaaaagt	tcgtcttcgc	aaccccgtc	gggcggaatc	gggaccgttc	27060
aatttgtgga	ggagtttact	ccctctgtct	acttcaaccc	cttctccgga	tctcctgggc	27120
attacccgga	cgagttcata	ccgaacttcg	acgcgattag	cgagtcagtg	gacggctacg	27180
attgatgtct	ggtgacgcgg	ctgagctatc	tcggctgcga	catctagacc	actgccgcgg	27240
ctttcgctgc	tttgcccggg	aactcattga	gttcatctac	ttcgaactcc	ccaaggatca	27300
ccctcaaggt	ccggcccacg	gagtgcggat	ttctatcgaa	ggcaaaatag	actctcgcct	27360
gcaacgaatt	ttctcccagc	ggcccgtgct	gatcgagcga	gaccagggaa	acaccacggt	27420
ttccatctac	tgcatthtga	atcaccccgg	attgcatgaa	agcctttgct	gtcttatgtg	27480
tactgagttt	aataaaaact	gaattaagac	tctcctacgg	actgccgctt	cttcaacccg	27540
gattttacaa	ccagaagaac	gaaacttttc	ctgtcgtcca	ggactctgtt	aacttcacct	27600
ttcctactca	caaactagaa	gctcaacgac	tacaccgctt	ttccagaagc	atthttcccta	27660
ctaatactac	tttcaaaacc	ggaggtgagc	tccaaggtct	tcctacagaa	aacccttggg	27720
tggaagcggg	ccttgtagtg	ctaggaattc	ttgcgggtgg	gcttggtgatt	attctttgct	27780
acctatacac	accttgcttc	actttcttag	tgggtgtgtg	gtattggtht	aaaaaatggg	27840
gcccatacta	gtcttgcttg	ttttactttc	gctthttggaa	ccgggttctg	ccaattacga	27900
tccatgtcta	gacttcgacc	cagaaaactg	cacacttact	tttgcacccg	acacaagccg	27960
catctgtgga	gttcatcgcc	tctcttacga	acttggcccc	caacgacaaa	aatttacctg	28020
catggtggga	atcaacccca	tagttatcac	ccagcaaagt	ggagatacta	agggttgcat	28080

tcactgctcc	tgcgattcca	tcgagtgcac	ctacaccctg	ctgaagaccc	tatgcggcct	28140
aagagacctg	ctaccaatga	attaaaaaat	gattaataaa	aatcactta	cttgaaatca	28200
gcaataaggt	ctctgttgaa	attttctccc	agcagcacct	cacttccctc	ttcccaactc	28260
tggtattcta	aaccccgttc	agcggcatac	tttctccata	ctttaaagg	gatgtcaaat	28320
tttagctcct	ctcctgtacc	cacaatcttc	atgtctttct	tcccagatga	ccaagagagt	28380
ccggctcagt	gactccttca	accctgtcta	cccctatgaa	gatgaaagca	cctcccaaca	28440
cccctttata	aaccaggggt	ttatttcccc	aatggcttc	acacaaagcc	caaacggagt	28500
tcttacttta	aaatgtttaa	ccccactaac	aaccacaggc	ggatctctac	agctaaaagt	28560
gggaggggga	cttacagtgg	atgacaccaa	cggttttttg	aaagaaaaca	taagtgccac	28620
cacaccactc	gttaagactg	gtcactctat	aggttttacca	ctaggagccg	gattgggaac	28680
gaatgaaaat	aaactttgta	tcaaattagg	acaaggactt	acattcaatt	caaacaacat	28740
ttgcattgat	gacaatatta	acaccttatg	gacaggagtc	aacccaccg	aagccaactg	28800
tcaaatacatg	aactccagt	aatctaata	ttgcaaatta	attctaacac	tagttaaaac	28860
tggagcacta	gtcactgcat	ttgtttatgt	tataggagta	tctaacaatt	ttaatatgct	28920
aactacacac	agaaatataa	attttactgc	agagctgttt	ttcgattcta	ctggtaattt	28980
actaactaga	ctctcatccc	tcaaaaactcc	acttaatcat	aatcaggac	aaaacatggc	29040
tactgggtgcc	attactaatg	ctaaagggtt	catgcccagc	acgactgcct	atcctttcaa	29100
tgataattct	agagaaaaag	aaaactacat	ttacggaact	tgttactaca	cagctagtga	29160
tcgcactgct	tttcccattg	acatatctgt	catgcttaac	cgaagagcaa	taaatgacga	29220
gacatcatat	tgtattcgta	taacttggtc	ctggaacaca	ggagatgccc	cagaggtgca	29280
aacctctgct	acaaccctag	tcacctcccc	atttaccttt	tactacatca	gagaagacga	29340
ctgacaaata	aagtttgcca	tcgccaggcc	caccatggac	tggacctggc	gcatcctggt	29400
cttgggtggca	gctgctacgg	gagctcattc	ccagggtgcag	ctgggtgcaat	ccggcgctga	29460
ggtgaagaaa	cccggggctt	cagtcaaagt	cagctgcaag	gctagcggct	acacctttac	29520
tggctattac	atgcactggg	tgaggcaggc	tccgggacag	ggtctggaat	ggatgggatg	29580
gatcaatccg	gacagcggcg	ggaccaatta	cgcacaaaag	ttccaaggcc	gcgtgacgat	29640
gacctgggac	acttcgatct	caaccgccta	catggagctg	aaccgcctga	ggtcgggatga	29700
caccgctgtg	tactactgcg	ctcgcgacca	accctggggg	tactgcacca	acggagtgtg	29760
ttcatacttc	gactactggg	gccaaaggcac	gctggtcact	gtgtcatcgg	cgtccactaa	29820
gggcccgtcg	gtcttcccac	tagctccgtg	ctcgcggctg	acttcggaat	caactgcggc	29880
actcggatgc	cttgtcaagg	actacttccc	agaaccctg	accgtctcgt	ggaactcagg	29940
cgccttgacg	agcgggtgtcc	acactttccc	ggcgggtgctg	cagtcacg	ggctatacag	30000

cctgagcagc	gtggttactg	tgccgtcatc	aaacttcggg	acccagactt	acacttgcaa	30060
tgtggaccac	aagccgtcaa	ataccaaagt	ggacaagact	gtggaacgca	aatgttgcg	30120
ggaatgccct	ccgtgcccgg	cccccccagt	cgctggccca	tccgtgttcc	tcttccctcc	30180
gaagccaaaa	gacactctga	tgatttctgag	aactccggag	gtcacttgcg	tggtggctga	30240
cgtgtcgcac	gaggatccag	aggtgcagtt	caactgggtac	gtggatggag	tggaagggtgca	30300
caatgccaa	accaagccgc	gcgaagaaca	attcaactcc	accttttcggg	tcgtgtccgt	30360
gctgaccgtg	gtacaccaag	actggctgaa	cggaaaggag	tacaaatgca	aggtgagcaa	30420
caaggggctg	ccggctccaa	tcgaaaagac	catctcaaag	actaaggggc	aacctcgcga	30480
gccacaggtg	tataccctgc	ctccaagcag	ggaggaaatg	acaaaaaacc	aggtgagcct	30540
gacctgtctg	gtgaagggct	tttaccctcag	cgacatcgcc	gtcgagtggg	aaagcaacgg	30600
acaacccgag	aacaactaca	agaccactcc	gcccatgctg	gactccgacg	ggtcattttt	30660
cctgtactca	aagctgactg	tggacaagtc	ccggtggcag	caaggtaacg	tgttctcctg	30720
ctcggtgatg	cacgaagctt	tgcacaacca	ctacactcaa	aagtcacttt	ccttgtcacc	30780
gggcaagggg	tcgggcgcca	ctaacttttc	cttgctcaag	caggcgggcg	atgtggagga	30840
gaatccgggc	ccgcgcctcc	cggcgcaact	gctgggcctc	ctcctcctct	ggtttcccgg	30900
ctcccgtgtg	gacatccaga	tgactcagtc	gccagctcc	gtgtccgcat	cgggtggggga	30960
cagagtcacc	atcacctgca	gagcttcaca	agggatctat	tcctggctgg	cgtggtatca	31020
gcagaagcct	ggaaaggccc	ccaacctcct	gatttacacc	gcacgcactc	tccagtcagg	31080
cgtgccatcc	cggttctcag	ggtccggctc	cggaaccgac	ttcactctga	ctatcagctc	31140
cctgcaacca	gaagatttctg	ctacctacta	ctgccagcag	gcaaacatct	ttccgctaac	31200
tttcggcgga	ggcacgaagg	tggagatcaa	gagaaccgtg	gcggcccctt	ccgtcttcat	31260
cttcccaccg	tcagacgaac	aactcaaata	cggatccgcc	tccgtcgtgt	gcctgctcaa	31320
taacttctat	ccacgcgagg	ccaaggtcca	gtggaaagtg	gataacgccc	tgacgtccgg	31380
aaacagccag	gagtcagtga	ccgaacagga	ttccaaggac	agcacttact	cgctctcaag	31440
cacctcacc	ctgtcgaagg	cggattacga	gaagcaca	gtctacgcct	gcgaagtgc	31500
tcatcaagga	ctctcatcac	cggtaactaa	gagcttcaat	cgcggagaat	gctaggctag	31560
cttgactgac	tgagatacag	cgtaccttca	gctcacagac	atgataagat	acattgatga	31620
gtttggacaa	accacaacta	gaatgcagtg	aaaaaaatgc	tttatttgtg	aaatttgtga	31680
tgctattgct	ttatttgtaa	ccattataag	ctgcaataaa	caagttaaca	acaacaattg	31740
cattcatttt	atgtttcagg	ttcaggggga	ggtgtgggag	gttttttaaa	gcaagtaaaa	31800
cctctacaaa	tgtggtcctg	caggaaacttg	tttatttgaa	aatcaattca	caaaatccga	31860
gtagttattt	tgccctcccc	ttcccattta	acagaatata	ccaatctctc	cccacgcaca	31920

gctttaaaca	tttggatacc	attagatata	gacatggttt	tagattccac	attccaaaca	31980
gtttcagagc	gagccaatct	ggggtcagtg	atagataaaa	atccatcggg	atagtctttt	32040
aaagcgcttt	cacagtccaa	ctgctgcgga	tgcgactccg	gagtctggat	cacggtcatc	32100
tggaagaaga	acgatgggaa	tcataatccg	aaaacgggat	cggacgattg	tgtctcatca	32160
aaccacacaag	cagccgctgt	ctgcgtcgct	ccgtgcgact	gctgtttatg	ggatcagggg	32220
ccacagtgtc	ctgaagcatg	attttaatag	cccttaacat	caactttctg	gtgcgatgcg	32280
cgcagcaacg	cattctgatt	tcactcaa	ctttgcagta	ggtacaacac	attattacaa	32340
tattgtttaa	taaaccataa	ttaaaagcgc	tccagccaaa	actcatatct	gatataatcg	32400
cccctgcatg	accatcatac	caaagtttaa	tataaattaa	atgacgttcc	ctcaaaaaca	32460
cactaccac	atacatgatc	tcttttggca	tgtgcatatt	aacaatctgt	ctgtaccatg	32520
gacaacgttg	gttaatcatg	caacccaata	taaccttccg	gaaccacact	gccaacaccg	32580
ctccccagc	catgcattga	agtgaaccct	gctgattaca	atgacaatga	agaacccaat	32640
tctctcgacc	gtgaatcact	tgagaatgaa	aaatatctat	agtggcacia	catagacata	32700
aatgcatgca	tcttctcata	atttttaact	cctcaggatt	tagaaacata	tcccagggaa	32760
taggaagctc	ttgcagaaca	gtaaagctgg	cagaacaagg	aagaccacga	acacaactta	32820
cactatgcat	agtcatagta	tcacaatctg	gcaacagcgg	gtggtcttca	gtcatagaag	32880
ctcgggtttc	attttctca	caacgtggta	actgggctct	ggtgtaaggg	tgatgtctgg	32940
cgcgatgatg	cgagcgtgcg	cgcaaccttg	tcataatgga	gttgcttcct	gacattctcg	33000
tattttgtat	agcaaaacgc	ggccctggca	gaacacactc	ttcttcgcct	tctatcctgc	33060
cgttagcgt	gttccgtgtg	atagttcaag	tacaaccaca	ctcttaagtt	ggtcaaaaga	33120
atgctggctt	cagttgtaat	caaaactcca	tcgcatctaa	tcgttctgag	gaaatcatcc	33180
aagcaatgca	actggattgt	gtttcaagca	ggagaggaga	gggaagagac	ggaagaacca	33240
tgtaattttt	tattccaaac	gatctcgag	tacttcaa	tgtagatcgc	gcagatggca	33300
tctctcgccc	ccactgtgtt	ggtgaaaaag	cacagctaga	tcaaaagaaa	tgcgattttc	33360
aaggtgctca	acgggtggctt	ccagcaaagc	ctccacgcgc	acatccaaga	acaaaagaat	33420
acaaaaagaa	ggagcatttt	ctaactcctc	aatcatcata	ttacattcct	gcaccattcc	33480
cagataattt	tcagctttcc	agccttgaat	tattcgtgtc	agttcttgtg	gtaaatccaa	33540
tccacacatt	acaaacaggt	cccggagggc	gccctccacc	accattctta	aacacaccct	33600
cataatgaca	aaatatcttg	ctcctgtgtc	acctgtagcg	aattgagaat	ggcaacatca	33660
attgacatgc	ccttggctct	aagttcttct	ttaagttcta	gttgtaaaaa	ctctctcata	33720
ttatcaccaa	actgcttagc	cagaagcccc	ccgggaacaa	gagcagggga	cgctacagtg	33780
cagtacaagc	gcagacctcc	ccaattggct	ccagcaaaaa	caagattgga	ataagcatat	33840

tggggaaccgc cagtaatatc atcgaagttg ctggaaatat aatcaggcag agtttcttgt	33900
aaaaattgaa taaaagaaaa atttgccaaa aaaacattca aaacctctgg gatgcaaata	33960
caataggtta ccgcgctgcg ctccaacatt gttagttttg aattagtctg caaaaataaa	34020
aaaaaaaaaca agcgtcatat catagtagcc tgacgaacag atggataaat cagtctttcc	34080
atcacaagac aagccacagg gtctccagct cgaccctcgt aaaacctgtc atcatgatta	34140
aacaacagca ccgaaagttc ctgcggtga ccagcatgaa taattcttga tgaagcatac	34200
aatccagaca tgtagcatc agttaacgag aaaaaacagc caacatagcc tttgggtata	34260
attatgctta atcgtaahta tagcaaagcc acccctcgcg gatataaagt aaaaggcaca	34320
ggagaataaaa aaatataatt atttctctgc tgctgttcag gcaacgtcgc ccccggtccc	34380
tctaaataca catacaaagc ctcatcagcc atggcttacc agacaaagta cagcggggc	34440
acaaagcaca agctctaaag tgactctcca acctctccac aatatatata tacacaagcc	34500
ctaaactgac gtaatgggag taaagtgtaa aaaatcccgc caaacccaac acacacccc	34560
aaactgcgtc accagggaaa agtacagttt cacttccgca atcccaacag gcgtaacttc	34620
ctcttttctca cggtacgtga tatcccacta acttgcaacg tcattttccc acggtcgcac	34680
cgccccctttt agccgttaac cccacagcca atcaccacac gatccacact ttttaaaatc	34740
acctcattta catattggca ccattccatc tataaggtat attatataga taga	34794

<210> 2

<400> 2
000

<210> 3
<211> 19
<212> PRT
<213> Artificial Sequence

<220>
<223> Heavy chain leader sequence

<400> 3

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

Ala His Ser

<210> 4
<211> 126
<212> PRT
<213> Artificial Sequence

<220>
<223> anti-CD40 VH chain amino acid sequence

<400> 4

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

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

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

Gly Trp Ile Asn Pro Asp Ser Gly Gly Thr Asn Tyr Ala Gln Lys Phe
50 55 60

Gln Gly Arg Val Thr Met Thr Arg Asp Thr Ser Ile Ser Thr Ala Tyr
65 70 75 80

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

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

Phe Asp Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser
115 120 125

<210> 5

<211> 326

<212> PRT

<213> Artificial Sequence

<220>

<223> antibody constant heavy chain amino acid sequence

<400> 5

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg
1 5 10 15

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

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Asn Phe Gly Thr Gln Thr
65 70 75 80

Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys
 85 90 95

Thr Val Glu Arg Lys Cys Cys Val Glu Cys Pro Pro Cys Pro Ala Pro
 100 105 110

Pro Val Ala Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp
 115 120 125

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

Val Ser His Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp Gly
 145 150 155 160

Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe Asn
 165 170 175

Ser Thr Phe Arg Val Val Ser Val Leu Thr Val Val His Gln Asp Trp
 180 185 190

Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu Pro
 195 200 205

Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr Lys Gly Gln Pro Arg Glu
 210 215 220

Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn
 225 230 235 240

Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile
 245 250 255

Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr
 260 265 270

Thr Pro Pro Met Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys
 275 280 285

Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys
 290 295 300

Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu
 305 310 315 320

Ser Leu Ser Pro Gly Lys
 325

<210> 6

<400> 6
000

<210> 7

<211> 19

<212> PRT

<213> Artificial Sequence

<220>

<223> Light chain leader sequence

<400> 7

Arg Leu Pro Ala Gln Leu Leu Gly Leu Leu Leu Leu Trp Phe Pro Gly
1 5 10 15

Ser Arg Cys

<210> 8

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> anti-CD40 VL chain amino acid sequence

<400> 8

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

Asp Arg Val Thr Ile Thr Cys Arg Ala Ser Gln Gly Ile Tyr Ser Trp
20 25 30

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

Tyr Thr Ala Ser Thr Leu Gln Ser Gly Val Pro Ser Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Thr Tyr Tyr Cys Gln Gln Ala Asn Ile Phe Pro Leu
85 90 95

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

<210> 9

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> constant light chain amino acid sequence

<400> 9

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

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe
20 25 30

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln
35 40 45

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser
50 55 60

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu
65 70 75 80

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser
85 90 95

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
100 105

<210> 10

<211> 192

<212> DNA

<213> Artificial Sequence

<220>

<223> Poly Adenylation sequence

<400> 10

cagacatgat aagatacatt gatgagtttg gacaaaccac aactagaatg cagtgaaaaa 60

aatgctttat ttgtgaaatt tgtgatgcta ttgctttatt tgtaaccatt ataagctgca 120

ataaacaagt taacaacaac aattgcattc attttatggt tcagggttcag ggggaggtgt 180

gggaggtttt tt 192

<210> 11

<211> 2468

<212> DNA

<213> Artificial Sequence

<220>

<223> NG-350 transgene cassette nucleic acid sequence

<400> 11

gcgatcgcca ggcccacat ggactggacc tggaggatcc ttttcttggt ggcagcagcc 60

acaggagccc	actcccaggt	gcagctggtg	cagtctgggg	ctgaggtgaa	gaagcctggg	120
gcctcagtga	aggtctcctg	caaggcttct	ggatacacct	tcaccggcta	ctatatgcac	180
tgggtgcgac	agggccctgg	acaagggtct	gagtggatgg	gatggatcaa	ccctgacagt	240
ggtggcacia	actatgcaca	gaagtttcag	ggcaggggtca	ccatgaccag	ggacacgtcc	300
atcagcacag	cctacatgga	gctgaacagg	ctgagatctg	acgacacggc	cgtgtattac	360
tgtgcgagag	atcagcccct	aggatattgt	actaatggtg	tatgctccta	ctttgactac	420
tggggccagg	gaaccctggt	caccgtctcc	tcagcctcca	ccaagggccc	atcgggtcttc	480
cccctggcgc	cctgctccag	gagcacctcc	gagagcacag	cggccctggg	ctgcctggtc	540
aaggactact	tccccgaacc	ggtgacggtg	tcgtggaact	caggcgctct	gaccagcggc	600
gtgcacacct	tcccagctgt	cctacagtcc	tcaggactct	actccctcag	cagcgtgggtg	660
accgtgccct	ccagcaactt	cggcacccag	acctacacct	gcaacgtaga	tcacaagccc	720
agcaacacca	aggtggacaa	gacagttgag	cgcaaagtgt	gtgtcgagtg	cccaccgtgc	780
ccagcaccac	ctgtggcagg	accgtcagtc	ttcctcttcc	ccccaaaacc	caaggacacc	840
ctcatgatct	cccggacccc	tgaggtcacg	tgcgtgggtg	tggacgtgag	ccacgaagac	900
cccgaggtcc	agttcaactg	gtacgtggac	ggcgtggagg	tgcataatgc	caagacaaag	960
ccacgggagg	agcagttcaa	cagcacgttc	cgtgtggtca	gcgtcctcac	cgttgtgcac	1020
caggactggc	tgaacggcaa	ggagtacaag	tgcaagggtct	ccaacaaagg	cctcccagcc	1080
cccatcgaga	aaaccatctc	caaaacccaa	gggcagcccc	gagaaccaca	ggtgtacacc	1140
ctgcccccat	cccgggagga	gatgaccaag	aaccagggtca	gcctgacctg	cctgggtcaaa	1200
ggcttctacc	ccagcgacat	cgccgtggag	tgggagagca	atgggcagcc	ggagaacaac	1260
tacaagacca	cacctcccat	gctggactcc	gacggctcct	tcttcctcta	cagcaagctc	1320
accgtggaca	agagcaggtg	gcagcagggg	aacgtcttct	catgctccgt	gatgcatgag	1380
gctctgcaca	accactacac	gcagaagagc	ctctccctgt	ctccgggtaa	aggaagcggg	1440
gctactaact	tcagcctgct	gaagcaggct	ggagacgtgg	aggagaacct	tggacctagg	1500
ctccctgctc	agctcctggg	gctcctgctg	ctctgggttc	cagggtccag	atgcgacatc	1560
cagatgacct	agtctccatc	ttccgtgtct	gcatctgtag	gagacagagt	caccatcact	1620
tgtcggggcg	gtcaggggat	ttacagctgg	ttagcctggg	atcagcagaa	accagggaaa	1680
gcccctaacc	tcctgatcta	tactgcatcc	actttacaaa	gtgggggtccc	atcaagggttc	1740
agcggcagtg	gatctgggac	agatttcact	ctcaccatca	gcagcctgca	acctgaagat	1800
tttgcaactt	actattgtca	acaggctaac	atcttcccgc	tcactttcgg	cggagggacc	1860
aagggtggaga	tcaaacgaac	tgtggctgca	ccatctgtct	tcattctccc	gccatctgat	1920
gagcagttga	aatctggaac	tgccctgtgt	gtgtgcctgc	tgaataactt	ctatcccaga	1980

gaggccaaag tacagtggaa ggtggataac gccctccaat cgggtaactc ccaggagagt	2040
gtcacagagc aggacagcaa ggacagcacc tacagcctca gcagcaccct gacgctgagc	2100
aaagcagact acgagaaaca caaagtctac gcctgcgaag tcacccatca gggcctgagc	2160
tcgcccgtca caaagagctt caacagggga gagtgttagg ctagcttgac tgactgagat	2220
acagcgtacc ttcagctcac agacatgata agatacattg atgagtttgg acaaaccaca	2280
actagaatgc agtgaaaaaa atgctttatt tgtgaaattt gtgatgctat tgctttat	2340
gtaaccatta taagctgcaa taaacaagtt aacaacaaca attgcattca ttttatgttt	2400
caggttcagg gggaggtgtg ggaggttttt taaagcaagt aaaacctcta caaatgtggt	2460
cctgcagg	2468

<210> 12

<211> 2468

<212> DNA

<213> Artificial Sequence

<220>

<223> NG-350A transgene cassette nucleic acid sequence

<400> 12

gcgatcgcca ggcccacat ggactggacc tggcgcatcc tgttcttggt ggcagctgct	60
acgggagctc attcccaggt gcagctgggt caatccggcg ctgaggtgaa gaaacccggg	120
gcttcagtca aagtcagctg caaggctagc ggctacacct ttactggcta ttacatgcac	180
tgggtgaggc aggtccggg acagggctctg gaatggatgg gatggatcaa tccggacagc	240
ggcgggacca attacgcaca aaagttccaa ggccgcgtga cgatgaccgg ggacacttcg	300
atctcaaccg cctacatgga gctgaaccgc ctgaggtcgg atgacaccgc tgtgtactac	360
tgcgctcgcg accaaccctt ggggtactgc accaacggag tgtgttcata cttcgactac	420
tggggccaag gcacgctggt cactgtgtca tcggcgcca ctaagggcc gtcggtcttc	480
ccactagctc cgtgctcgcg gtcgacttcg gaatcaactg cggcactcgg atgccttgtc	540
aaggactact tcccagaacc cgtgaccgtc tcgtggaact caggcgccct gacgagcgg	600
gtccacactt tcccggcggg gctgcagtca tcggggctat acagcctgag cagcgtgggt	660
actgtgccgt catcaactt cgggaccag acttacactt gcaatgtgga ccacaagccg	720
tcaaatacca aagtggacaa gactgtggaa cgcaaatgtt gcgtggaatg ccctccgtgc	780
ccggccccc cagtcgctgg cccatccgtg ttctcttcc ctccgaagcc aaaagacact	840
ctgatgattt cgagaactcc ggaggtcact tgcgtgggtg tcgacgtgtc gcacgaggat	900
ccagaggtgc agttcaactg gtacgtggat ggagtggagg tgcacaatgc caagaccaag	960
ccgcgcgaag aacaattcaa ctccacctt cgggtcgtgt ccgtgctgac cgtggtacac	1020
caagactggc tgaacggaaa ggagtacaaa tgcaaggtga gcaacaaggg gctgccggct	1080

ccaatcgaaa agaccatctc aaagactaag gggcaacctc gcgagccaca ggtgtataacc	1140
ctgcctccaa gcagggagga aatgaccaa aaccaggtga gcctgacctg tctggtgaag	1200
ggctttttacc ccagcgacat cgccgtcgag tgggaaagca acggacaacc cgagaacaac	1260
tacaagacca ctccgcccac gctggactcc gacgggtcat ttttcctgta ctcaaagctg	1320
actgtggaca agtcccgggtg gcagcaaggt aacgtgttct cctgctcggg gatgcacgaa	1380
gctttgcaca accactacac tcaaaagtca ctttccttgt caccgggcaa ggggtcgggc	1440
gccactaact tttccttgct caagcaggcg ggcgatgtgg aggagaatcc gggcccgcgc	1500
ctcccggcgc aactgctggg cctcctcctc ctctggtttc ccggctcccg ctgtgacatc	1560
cagatgactc agtcgcccag ctccgtgtcc gcatcggtgg gggacagagt caccatcacc	1620
tgcagagctt cacaagggat ctattcctgg ctggcggtgg atcagcagaa gcctggaaag	1680
gcccccaacc tcctgattta caccgcatcg actctccagt caggcgtgcc atcccggttc	1740
tcagggtccg gctccggaac cgacttcact ctgactatca gctccctgca accagaagat	1800
ttcgctacct actactgcca gcaggcaaac atctttccgc taactttcgg cggaggcacg	1860
aaggtggaga tcaagagaac cgtggcggcc ccttcctgtc tcatcttccc accgtcagac	1920
gaacaactca aatccggtac cgcctccgtc gtgtgcctgc tcaataactt ctatccacgc	1980
gaggccaagg tccagtggaa agtggataac gccctgcagt ccggaaacag ccaggagtca	2040
gtgaccgaac aggattccaa ggacagcact tactcgctct caagcaccct caccctgtcg	2100
aaggcggatt acgagaagca caaagtctac gcctgcgaag tgactcatca aggactctca	2160
tcaccggtaa ctaagagctt caatcgcgga gaatgctagg ctagcttgac tgactgagat	2220
acagcgtacc ttcagctcac agacatgata agatacattg atgagtttg acaaaccaca	2280
actagaatgc agtgaaaaaa atgctttatt tgtgaaattt gtgatgctat tgctttattt	2340
gtaaccatta taagctgcaa taaacaagtt aacaacaaca attgcattca ttttatgttt	2400
caggttcagg gggagggtgtg ggagggtttt taaagcaagt aaaacctcta caaatgtggt	2460
cctgcagg	2468

<210> 13
 <211> 34794
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> NG-350 Virus Genome

<400> 13	
tctatctata taatatacct tatagatgga atggtgccaa tatgtaaatg aggtgatttt	60
aaaaagtgtg gatcgtgtgg tgattggctg tggggttaac ggctaaaagg ggcggtgcga	120
ccgtgggaaa atgacgtttt gtgggggtgg agtttttttg caagttgtcg cgggaaatgt	180

gacgcataaa aaggcttttt tctcacggaa ctacttagtt ttcccacggt atttaacagg	240
aaatgaggta gttttgaccg gatgcaagtg aaaattgttg attttcgcgc gaaaactgaa	300
tgaggaagtg tttttctgaa taatgtggta tttatggcag ggtggagtat ttgttcaggg	360
ccaggtagac tttgacccat tacgtggagg tttcgattac cgtgtttttt acctgaattt	420
ccgcgtaccg tgtcaaagtc ttctgttttt acgtaggtgt cagctgatcg ctaggggtatt	480
tatacctcag ggtttgtgtc aagaggccac tcttgagtgc cagcgagaag agttttctcc	540
tctgcgccgg cagtttaata ataaaaaat gagagatttg cgattttctgc ctcaggaaat	600
aatctctgct gagactggaa atgaaatatt ggagcttgtg gtgcacgccc tgatgggaga	660
cgatccggag ccacctgtgc agctttttga gcctcctacg cttcaggaaac tgtatgattt	720
agaggtagag ggatcggagg attctaata ggaagctgta aatggctttt ttaccgattc	780
tatgctttta gctgctaata aagggttaga attagatccg cctttggaca cttttgatac	840
tccaggggta attgtggaaa gcggtacagg tgtaagaaaa ttacctgatt tgagttccgt	900
ggactgtgat ttgcactgct atgaagacgg gtttcctccg agtgatgagg aggaccatga	960
aaaggagcag tccatgcaga ctgcagcggg tgagggagtg aaggctgcca atgttggttt	1020
tcagttggat tgcccggagc ttcctggaca tggctgtaag tcttgtgaat ttcacaggaa	1080
aaatactgga gtaaaggaaac tgttatgttc gctttgttat atgagaacgc actgccactt	1140
tatttacagt aagtgtgttt aagttaaaat ttaaaggaat atgctgtttt tcacatgtat	1200
attgagtgtg agttttgtgc ttcttattat aggtcctgtg tctgatgctg atgaatcacc	1260
atctcctgat tctactacct cacctcctga gattcaagca cctgttcctg tggacgtgcg	1320
caagcccatt cctgtgaagc ttaagcctgg gaaacgtcca gcagtggaaa aacttgagga	1380
cttgttacag ggtggggacg gacctttgga cttgagtaca cggaaacgtc caagacaata	1440
agtgttccat atccgtgttt acttaagggtg acgtcaatat ttgtgtgaca gtgcaatgta	1500
ataaaaatat gttaactggt cactggtttt tattgctttt tgggcgggga ctcaggata	1560
taagtagaag cagacctgtg tggttagctc ataggagctg gctttcatcc atggaggttt	1620
gggccatttt ggaagacctt aggaagacta ggcaactgtt agagaacgct tcggacggag	1680
tctccggttt ttggagattc tggttcgcta gtgaattagc tagggtagtt tttaggataa	1740
aacaggacta taaacaagaa tttgaaaagt tgttggtaga ttgccaggga ctttttgaag	1800
ctcttaattt gggccatcag gttcacttta aagaaaaagt tttatcagtt ttagactttt	1860
caaccccagg tagaactgct gctgctgtgg cttttcttac ttttatatta gataaatgga	1920
tcccgcagac tcatttcagc aggggatacg ttttggtttt catagccaca gcattgtgga	1980
gaacatggaa ggttcgcaag atgaggacaa tcttaggtta ctggccagtg cagccttttg	2040
gtgtagcggg aatcctgagg catccaccgg tcatgccagc ggttctggag gaggaacagc	2100

aagaggacaa	cccagagacc	ggcctggacc	ctccagtgga	ggaggcggag	tagctgactt	2160
gtctcctgaa	ctgcaacggg	tgcttactgg	atctacgtcc	actggacggg	ataggggcg	2220
taagagggag	agggcatcta	gtgggtactga	tgctagatct	gagttggctt	taagttta	2280
gagtcgcaga	cgtcctgaaa	ccatttggtg	gcatgaggtt	cagaaagagg	gaagggatga	2340
agtttctgta	ttgcaggaga	aatattcact	ggaacaggtg	aaaacatgtt	ggttggagcc	2400
tgaggatgat	tgggaggtgg	ccattaataa	ttatgccaa	atagctttga	ggcctgataa	2460
acagtataag	attactagac	ggattaatat	ccggaatgct	tgttacatat	ctggaaatgg	2520
ggctgaggtg	gtaatagata	ctcaagacaa	ggcagttatt	agatgctgca	tgatggatat	2580
gtggcctggg	gtagtcggta	tggaagcagt	aacttttgta	aatgttaagt	ttaggggaga	2640
tggttataat	ggaatagtgt	ttatggccaa	taccaaactt	atattgcatg	gttgtagctt	2700
ttttggtttc	aacaatacct	gtgtagatgc	ctggggacag	gttagtgtac	ggggatgtag	2760
tttctatgcy	tgttggattg	ccacagctgg	cagaaccaag	agtcaattgt	ctctgaagaa	2820
atgcatat	caaagatgta	acctgggcat	tctgaatgaa	ggcgaagcaa	gggtccgcca	2880
ctgcgcttct	acagatactg	gatgttttat	tttgattaag	ggaaatgcca	gcgtaaagca	2940
taacatgatt	tgcggtgctt	ccgatgagag	gccttatcaa	atgctcactt	gtgctggtgg	3000
gcattgtaat	atgctggcta	ctgtgcatat	tgtttcccat	caacgcaaaa	aatggcctgt	3060
ttttgatcac	aatgtgatga	cgaagtgtac	catgcatgca	ggtgggcgta	gaggaatgtt	3120
tatgccttac	cagtgttaaca	tgaatcatgt	gaaagtgttg	ttggaaccag	atgccttttc	3180
cagaatgagc	ctaacaggaa	tttttgacat	gaacatgcaa	atctggaaga	tcctgaggta	3240
tgatgatacg	agatcgaggg	tacgcgcatg	cgaatgcgga	ggcaagcatg	ccaggttcca	3300
gccggtgtgt	gtagatgtga	ctgaagatct	cagaccggat	catttggtta	ttgcccgcac	3360
tggagcagag	ttcggatcca	gtggagaaga	aactgactaa	ggtgagtatt	gggaaaactt	3420
tggggtgga	ttttcagatg	gacagattga	gtaaaaat	gttttttctg	tcttgcagct	3480
gtcatgagt	gaaacgcttc	ttttaagggg	ggagtcttca	gcccttatct	gacagggcgt	3540
ctcccatcct	gggcaggagt	tcgtcagaat	gttatgggat	ctactgtgga	tggaagacct	3600
gtccaacccg	ccaattcttc	aacgctgacc	tatgctactt	taagttcttc	acctttggac	3660
gcagctgcag	ctgccgccgc	cgcttctgtt	gccgctaaca	ctgtgcttgg	aatgggttac	3720
tatggaagca	tcatggctaa	ttccacttcc	tctaataacc	cttctaccct	gactcaggac	3780
aagttacttg	tccttttggc	ccagctggag	gctttgacct	aacgtctggg	tgaactttct	3840
cagcaggtgg	tcgagttgcy	agtacaaact	gagtctgctg	tcggcacggc	aaagtctaaa	3900
taaaaaatc	ccagaatcaa	tgaataaata	aacaagcttg	ttgttgattt	aaaatcaagt	3960
gtttttat	catttttcgc	gcacggtatg	ccctagacca	ccgatctcta	tcattgagaa	4020

ctcgggtggat	tttttccagg	atcctataga	ggtgggattg	aatgtttaga	tacatgggca	4080
ttaggccgctc	tttgggggtgg	agatagctcc	attgaaggga	ttcatgctcc	ggggtagtgt	4140
tgtaaatacac	ccagtcataa	caaggctcgca	gtgcatgggtg	ttgcacaata	tctttttagaa	4200
gtaggctgat	tgccacagat	aagcccttgg	tgtagggtgtt	tacaaaccgg	ttgagctggg	4260
atgggtgcat	tcgggggtgaa	attatgtgca	ttttggattg	gattttttaag	ttggcaatat	4320
tgccgccaaag	atcccgtctt	gggttcatgt	tatgaaggac	caccaagacg	gtgtatccgg	4380
tacatttagg	aaatttatcg	tgcagcttgg	atggaaaagc	gtggaaaaat	ttggagacac	4440
ccttgtgtcc	tccaagatth	tccatgcact	catccatgat	aatagcaatg	gggccgtggg	4500
cagcggcgcg	ggcaaacacg	ttccgtgggt	ctgacacatc	atagttagtgt	tcctgagtta	4560
aatcatcata	agccatttta	atgaatttgg	ggcggagagt	accagattgg	ggtatgaatg	4620
ttccttcggg	ccccggagca	tagttcccct	cacagatttg	catttcccaa	gctttcagtt	4680
ccgaggggtg	aatcatgtcc	acctgggggg	ctatgaaaaa	caccgtttct	ggggcggggg	4740
tgattaattg	tgatgatagc	aaatttctga	gcaattgaga	tttgccacat	ccggtggggc	4800
cataaatgat	tccgattacg	ggttgcaggt	ggtagtttag	ggaacggcaa	ctgccgtctt	4860
ctcgaagcaa	ggggggccacc	tcgttcatca	tttcccttac	atgcatattt	tcccgcacca	4920
aatccattag	gaggcgctct	cctcctagt	atagaagttc	ttgtagtgag	gaaaagtttt	4980
tcagcgggtt	cagaccgtca	gccatgggca	ttttggagag	agtttgctgc	aaaagttcta	5040
gtctgttcca	cagttcagtg	atgtgttcta	tggcatctcg	atccagcaga	cctcctcggt	5100
tcgcgggttt	ggacggctcc	tggaaatagg	tatgagacga	tgggcgtcca	gcgctgccag	5160
ggttcgggtc	ttccagggtc	tcagtgttcg	agtcagggtt	gtttccgtca	cagtgaagg	5220
gtgtgcgct	gcttgggcgc	ttgccagggt	gcgcttcaga	ctcatcctgc	tggtcgaaaa	5280
cttctgtcgc	ttggcgccct	gtatgtcggc	caagtagcag	tttaccatga	gttcgtagtt	5340
gagcgcctcg	gctgcgtggc	ctttggcgcg	gagcttacct	ttggaagttt	tcttgcatat	5400
cgggcagtat	aggcatttca	gcgcatacaa	cttgggcgca	aggaaaacgg	attctgggga	5460
gtatgcatct	gcgccgcagg	aggcgcaaac	agtttcacat	tccaccagcc	aggttaaatc	5520
cggttcattg	gggtcaaaaa	caagttttcc	gccatatttt	ttgatgcgtt	tcttaccttt	5580
ggtctccatg	agttcgtgtc	ctcgttgagt	gacaaacagg	ctgtccgtgt	ccccgtagac	5640
tgattttaca	ggcctcttct	ccagtggagt	gcctcgggtc	tcttcgtaca	ggaactctga	5700
ccactctgat	acaaaggcgc	gcgtccaggc	cagcacaaaag	gaggctatgt	gggaggggta	5760
gcgatcgttg	tcaaccagg	ggtccacctt	ttccaaagta	tgcaaacaca	tgtcaccctc	5820
ttcaacatcc	aggaatgtga	ttggcttgta	ggtgtatttc	acgtgacctg	gggtccccgc	5880
tgggggggta	taaaaggggg	cggttctttg	ctcttcctca	ctgtcttccg	gatcgctgtc	5940

caggaacgtc agctgttggg gtaggtattc cctctcgaag gcgggcatga cctctgcaact	6000
caggttgtca gtttctaaga acgaggagga tttgatattg acagtgccgg ttgagatgcc	6060
tttcatgagg ttttcgtcca tctggtcaga aaacacaatt tttttattgt caagtttgggt	6120
ggcaaattgat ccatacaggg cgttggataa aagtttggca atggatcgca tggtttggtt	6180
cttttccttg tccgcgcgct ctttggcggc gatgttgagt tggacatact cgcgtgccag	6240
gcacttccat tcggggaaga tagttgttaa ttcattctggc acgattctca cttgccaccc	6300
tcgattatgc aaghtaatta aatccacact ggtggccacc tcgcctcgaa ggggttcatt	6360
ggtccaacag agcctacctc ctttcctaga acagaaaggg ggaagtgggt ctagcataag	6420
ttcatcgga gggctctgcat ccatggtaaa gattcccga agtaaatcct tatcaaaata	6480
gctgatggga gtggggctcat ctaaggccat ttgccattct cgagctgcca gtgcgcgctc	6540
atatgggtta aggggactgc cccatggcat gggatgggtg agtgcagagg catacatgcc	6600
acagatgtca tagacgtaga tgggatcctc aaagatgcct atgtaggttg gatagcatcg	6660
ccccctctg atacttgctc gcacatagtc atatagttca tgtgatggcg ctagcagccc	6720
cggacccaag ttggtgcgat tgggtttttc tgttctgtag acgatctggc gaaagatggc	6780
gtgagaattg gaagagatgg tgggtctttg aaaaatgttg aaatgggcat gaggtagacc	6840
tacagagtct ctgacaaagt gggcataaga ttcttgaagc ttggttacca gttcggcggt	6900
gacaagtacg tctagggcgc agtagtcaag tgtttcttga atgatgtcat aacctggttg	6960
gtttttcttt tcccacagtt cgcggttgag aaggtattct tcgcgatcct tccagtactc	7020
ttctagcgga aaccctctct tgtctgcacg gtaagatcct agcatgtaga actgattaac	7080
tgccctgtaa gggcagcagc ccttctctac gggtagagag tatgcttgag cagcttttcg	7140
tagcgaagcg tgagtaaggg caaagggtgc tctgaccatg actttgagga attggtattt	7200
gaagtcgatg tcgtcacagg ctccctgttc ccagagttgg aagtctaccc gtttcttgta	7260
ggcgggggtg ggcaaagcga aagtaacatc attgaagaga atcttgccgg ccctgggcat	7320
gaaattgcga gtgatgcga aaggctgtgg tacttccgct cggttattga taacctgggc	7380
agctaggacg atctcgtcga aaccgttgat gttgtgtcct acgatgtata attctatgaa	7440
acgcggcgtg cctctgacgt gaggtagctt actgagctca tcaaaggtta ggtctgtggg	7500
gtcagataag gcgtagtgtt cgagagccca ttcgtgcagg tgaggattcg ctttaaggaa	7560
ggaggaccag aggtccactg ccagtgctgt ttgtaactgg tcccgttact gacgaaaatg	7620
ccgtccgact gccatttttt ctgggggtgac gcaatagaag gtttgggggt cctgccgcca	7680
gcgatccac ttgagtttta tggcgaggtc ataggcgatg ttgacgagcc gctggtctcc	7740
agagagtttc atgaccagca tgaaggggat tagctgcttg ccaaaggacc ccatccaggt	7800
gtaggtttcc acatcgtagg tgagaaagag cctttctgtg cgaggatgag agccaatcg	7860

gaagaactgg	atctcctgcc	accagttgga	ggaatggctg	ttgatgtgat	ggaagtagaa	7920
ctccctgcga	cgcgccgagc	attcatgctt	gtgcttgtac	agacggccgc	agtagtcga	7980
gcgttgcacg	ggttgatatc	cgtgaatgag	ttgtacctgg	cttcccttga	cgagaaattt	8040
cagtgggaag	ccgaggcctg	gcgattgtat	ctcgtgcttt	actatgttgt	ctgcatcggc	8100
ctgttcatct	tctgtctcga	tgggtggcat	gctgacgagc	cctcgcggga	ggcaagtcca	8160
gacctcggcg	cggcaggggc	ggagctcgag	gacgagagcg	cgcaggctgg	agctgtccag	8220
ggtcctgaga	cgtcgcggac	tcaggttagt	aggcagtgtc	aggagattaa	cttgcattgat	8280
cttttgagg	gcgtgcggga	ggttcagata	gtacttgatc	tcaacgggtc	cgttggtgga	8340
gatgtcgatg	gcttgacagg	ttccgtgtcc	cttgggcgct	accaccgtgc	ccttgttttt	8400
cattttggac	ggcgggtggc	ctgttgcttc	ttgcatgttt	agaagcgggt	tcgagggcgc	8460
gcaccgggcg	gcaggggagg	ctcgggaccc	ggcggcatgg	ctggcagtgg	tacgtcggcg	8520
ccgcgcgcgg	gtaggttctg	gtactgcgcc	ctgagaagac	tcgcatgcgc	gacgacgcgg	8580
cggttgacat	cctggatctg	acgcctctgg	gtgaaagcta	ccggccccgt	gagcttgaac	8640
ctgaaagaga	gttcaacaga	atcaatctcg	gtatcgttga	cggcggcttg	cctaaggatt	8700
tcttgacagt	caccagagtt	gtcctggtag	gcgatctccg	ccatgaactg	ctcgatctct	8760
tcctcttgaa	gatctccgcg	gcccgccttc	tcgacgggtg	ccgcgaggtc	gttgagatg	8820
cgcccaatga	gttgagagaa	tgcattcatg	cccgcctcgt	tccagacgcg	gctgtagacc	8880
acggccccca	cgggatctct	cgcgcgcgat	accacctggg	cgaggttgag	ctccacgtgg	8940
cgggtgaaga	ccgcatagtt	gcataggcgc	tggaaaagg	agttgagtgt	ggtggcgatg	9000
tgctcggatg	cgaagaaata	catgatccat	cgtctcagcg	gcattctcgt	gacatcgccc	9060
agagcttcca	agcgtcccat	ggcctcgtag	aagtccacgg	caaaattaaa	aaactgggag	9120
tttcgcgcgg	acacgggtcaa	ctcctcttcc	agaagacgga	taagttcggc	gatggtggtg	9180
cgcacctcgc	gctcgaaagc	ccctgggatt	tcttctctca	tctcttcttc	ttccactaac	9240
atctcttcct	cttcagggtg	ggctgcagga	ggagggggaa	cgcggcgacg	ccggcggcgc	9300
acgggcagac	ggtcgatgaa	tctttcaatg	acctctccgc	ggcggcggcg	catggtttca	9360
gtgacggcgc	ggccgttctc	gcgcggtcgc	agagtaaaaa	caccgcccgc	catctcctta	9420
aagtggatg	tgggaggttc	tccgtttggg	aggagagagg	cgtgatttat	acattttatt	9480
aattggcccc	tagggactgc	acgcagagat	ctgatcgtgt	caagatccac	gggatctgaa	9540
aacctttcga	cgaagcgtc	taaccagtca	cagtcacaag	gtaggctgag	tacggcttct	9600
tgtgggcggg	ggtggttatg	tgttcgggtc	gggtcttctg	tttcttcttc	atctcgggaa	9660
ggtgagacga	tgctgctggg	gatgaaatta	aagtaggcag	ttctaagacg	gcggatgggt	9720
gcgaggagca	ccaggctctt	gggtccggct	tgctggatac	gcaggcgatt	ggccattccc	9780

caagcattat	cctgacatct	agcaagatct	ttgtagtagt	cttgcattgag	ccgttctacg	9840
ggcacttctt	cctcaccgt	tctgccatgc	atacgtgtga	gtccaaatcc	gcgcattggt	9900
tgtaccagt	ccaagtcagc	tacgactctt	tcggcgagga	tggcttgctg	tacttgggta	9960
aggggtggctt	gaaagtcac	aaaatccaca	aagcggtggt	aagctcctgt	attaatgggtg	10020
taagcacagt	tggccatgac	tgaccagtta	actgtctggt	gaccagggcg	cacgagctcg	10080
gtgtatttaa	ggcgcgaata	ggcgcgggtg	tcaaagatgt	aatcgttgca	ggtgcgcaacc	10140
agatactggt	accctataag	aaaatgcggc	ggtggttggc	ggtagagagg	ccatcgttct	10200
gtagctggag	cgccaggggc	gaggtcttcc	aacataaggc	ggtgatagcc	gtagatgtac	10260
ctggacatcc	aggtgattcc	tgcggcggta	gtagaagccc	gaggaaaactc	gcgtacgcgg	10320
ttccaaatgt	tgcgtagcgg	catgaagtag	ttcattgtag	gcacggtttg	accagtgagg	10380
cgcgcgagc	cattgatgct	ctatagacac	ggagaaaatg	aaagcgttca	gcgactcgac	10440
tccgtagcct	ggaggaacgt	gaacgggttg	ggtcgcggtg	taccccggtt	cgagacttgt	10500
actcgagccg	gccggagccg	cggctaacgt	ggtattggca	ctcccgtctc	gaccagcct	10560
acaaaaatcc	aggatacgga	atcgagtcgt	tttgctggtt	tccgaatggc	agggaagtga	10620
gtcctatttt	ttttttttgc	cgctcagatg	catcccgtgc	tgcgacagat	gcgcccccaa	10680
caacagcccc	cctcgcagca	gcagcagcag	caatcacaaa	aggctgtccc	tgcaactact	10740
gcaactgccg	ccgtgagcgg	tgcgggacag	cccgcctatg	atctggactt	ggaagagggc	10800
gaaggactgg	cacgtctagg	tgcgccttca	cccgagcggc	atccgcgagt	tcaactgaaa	10860
aaagattctc	gcgaggcgta	tgtgccccaa	cagaacctat	ttagagacag	aagcggcgag	10920
gagccggagg	agatgcgagc	ttcccgcctt	aacgcgggtc	gtgagctgcg	tcacggtttg	10980
gaccgaagac	gagtgttgcg	ggacgaggat	ttcgaagttg	atgaaatgac	agggatcagt	11040
cctgccaggg	cacacgtggc	tgacgccaac	cttgtatcgg	cttacgagca	gacagtaaag	11100
gaagagcgta	acttccaaaa	gtcttttaat	aatcatgtgc	gaaccctgat	tgcccgcgaa	11160
gaagttaccc	ttggtttgat	gcatttgtgg	gattttagtg	aagctatcat	tcagaacctt	11220
actagcaaac	ctctgaccgc	ccagctgttt	ctggtggtgc	aacacagcag	agacaatgag	11280
gctttcagag	aggcgctgct	gaacatcacc	gaaccgcagg	ggagatgggt	gtatgatctt	11340
atcaacattc	tacagagtat	catagtgcag	gagcggagcc	tgggcctggc	cgagaagggtg	11400
gctgccatca	attactcggg	tttgagcttg	ggaaaatatt	acgctcgcaa	aatctacaag	11460
actccatacg	ttcccataga	caaggagggtg	aagatagatg	ggttctacat	gcgcatgacg	11520
ctcaaggctc	tgaccctgag	cgatgatctt	ggggtgtatc	gcaatgacag	aatgcatcgc	11580
gcggttagcg	ccagcaggag	gcgcgagtta	agcgacaggg	aactgatgca	cagtttgcaa	11640
agagctctga	ctggagctgg	aaccgagggt	gagaattact	tcgacatggg	agctgacttg	11700

cagtggcagc	ctagtcgcag	ggctctgagc	gccgcgacgg	caggatgtga	gcttccttac	11760
atagaagagg	cggatgaagg	cgaggaggaa	gagggcgagt	acttggaaga	ctgatggcac	11820
aaccctgtgt	ttttgctaga	tggaacagca	agcaccggat	cccgcaatgc	gggcggcgct	11880
gcagagccag	ccgtccggca	ttaactcctc	ggacgattgg	accagggcca	tgcaacgtat	11940
catggcgttg	acgactcgca	accccgaaagc	ctttagacag	caaccccagg	ccaaccgtct	12000
atcggccatc	atggaagctg	tagtgccttc	ccgctctaata	cccactcatg	agaaggtoct	12060
ggccatcgtg	aacgcgttgg	tggagaacaa	agctattcgt	ccagatgagg	ccggactggg	12120
atacaacgct	ctcttagaac	gcgtggctcg	ctacaacagt	agcaatgtgc	aaaccaattt	12180
ggaccgtatg	ataacagatg	tacgcgaagc	cgtgtctcag	cgcgaaagggt	tccagcgtga	12240
tgccaacctg	ggttcgctgg	tggcggttaa	tgctttcttg	agtactcagc	ctgctaattg	12300
gccgcgtggg	caacaggatt	ataactaactt	tttaagtgtc	ttgagactga	tggtatcaga	12360
agtacctcag	agcgaagtgt	atcagtccgg	tcctgattac	ttctttcaga	ctagcagaca	12420
gggcttgtag	acggtaaatac	tgagccaagc	ttttaaaaaac	cttaaagggt	tgtggggagt	12480
gcatgccccg	gtaggagaaa	gagcaaccgt	gtctagcttg	ttaactccga	actcccgcct	12540
attattactg	ttggtagctc	ctttcaccga	cagcggtagc	atcgaccgta	attcctattt	12600
gggttaccta	ctaaacctgt	atcgcgaaagc	catagggcaa	agtcagggtg	acgagcagac	12660
ctatcaagaa	attaccaag	tcagtcgcgc	tttgggacag	gaagacactg	gcagtttgga	12720
agccactctg	aacttcttgc	ttaccaatcg	gtctcaaaag	atccctcctc	aatatgtctt	12780
tactgcggag	gaggagagga	tccttagata	tgtgcagcag	agcgtgggat	tgtttctgat	12840
gcaagagggg	gcaactccga	ctgcagcact	ggacatgaca	gcgcgaaata	tggagcccag	12900
catgtatgcc	agtaaccgac	ctttcattaa	caaactgctg	gactacttgc	acagagctgc	12960
cgctatgaac	tctgattatt	tcaccaatgc	catcttaaag	ccgcactggc	tgccccacc	13020
tggtttctac	acgggcgaat	atgacatgcc	cgaccctaata	gacggatttc	tgtgggacga	13080
cgtggacagc	gatgtttttt	cacctcttct	tgatcatcgc	acgtggaaaa	aggaaggcgg	13140
cgatagaatg	cattcttctg	catcgctgtc	cggggctcatg	ggtgctaccg	cggctgagcc	13200
cgagtctgca	agtccttttc	ctagtctacc	cttttctcta	cacagtgtac	gtagcagcga	13260
agtgggtaga	ataagtcgcc	cgagtttaat	gggcgaagag	gagtatctaa	acgattcctt	13320
gctcagaccg	gcaagagaaa	aaaatttccc	aaacaatgga	atagaaagtt	tggtaggataa	13380
aatgagtaga	tggaagactt	atgctcagga	tcacagagac	gagcctggga	tcatggggat	13440
tacaagtaga	gcgagccgta	gacgccagcg	ccatgacaga	cagaggggtc	ttgtgtggga	13500
cgatgaggat	tcggccgatg	atagcagcgt	gctggacttg	ggtgggagag	gaaggggcaa	13560
cccgtttgct	catttgcgcc	ctcgcttggg	tggtaggttg	taaaaaaaaa	taaaaaaaaa	13620

actcaccaag	gccatggcga	cgagcgtacg	ttcgtttcttc	tttattatct	gtgtctagta	13680
taatgaggcg	agtcgtgcta	ggcggagcgg	tgggtgtatcc	ggagggtcct	cctccttcgt	13740
acgagagcgt	gatgcagcag	cagcaggcga	cggcggtgat	gcaatcccca	ctggaggctc	13800
cctttgtgcc	tccgcgatac	ctggcaccta	cggagggcag	aaacagcatt	cgttatttcgg	13860
aactggcacc	tcagtacgat	accaccaggt	tgtatctggt	ggacaacaag	tcggcggaca	13920
ttgctttctct	gaactatcag	aatgaccaca	gcaacttctt	gaccacggtg	gtgcaaaaaca	13980
atgactttac	ccctacggaa	gccagcaccc	agaccattaa	ctttgatgaa	cgatcgcggt	14040
ggggcggtca	gctaaagacc	atcatgcata	ctaacatgcc	aaacgtgaac	gagtatatgt	14100
ttagtaacaa	gttcaaagcg	cgtgtgatgg	tgtccagaaa	acctcccgac	ggtgctgcag	14160
ttgggggatac	ttatgatcac	aagcaggata	ttttgaaata	tgagtggttc	gagtttactt	14220
tgccagaagg	caacttttca	gttactatga	ctattgattt	gatgaacaat	gccatcatag	14280
ataattactt	gaaagtgggt	agacagaatg	gagtgcctga	aagtgacatt	ggtgttaagt	14340
tcgacaccag	gaacttcaag	ctgggatggg	atcccgaaac	caagttgatc	atgcctggag	14400
tgtatacgta	tgaagccttc	catcctgaca	ttgtcttact	gcctggctgc	ggagtggatt	14460
ttaccgagag	tcgtttgagc	aaccttcttg	gtatcagaaa	aaaacagcca	tttcaagagg	14520
gttttaagat	tttgtatgaa	gatttagaag	gtggtaatat	tccggccctc	ttggatgtag	14580
atgcctatga	gaacagtaag	aaagaacaaa	aagccaaaat	agaagctgct	acagctgctg	14640
cagaagctaa	ggcaaacata	gttgccagcg	actctacaag	ggttgctaac	gctggagagg	14700
tcagaggaga	caatthttgcg	ccaacacctg	ttccgactgc	agaatcatta	ttggccgatg	14760
tgtctgaagg	aacggacgtg	aaactcacta	ttcaacctgt	agaaaaagat	agtaagaata	14820
gaagctataa	tgtgttgga	gacaaaatca	acacagccta	tcgcagttgg	tatcttttcgt	14880
acaattatgg	cgatcccgaa	aaaggagtgc	gttcctggac	attgctcacc	acctcagatg	14940
tcacctgcgg	agcagagcag	gtctactggt	cgcttccaga	catgatgaag	gatcctgtca	15000
ctttccgctc	cactagacaa	gtcagtaact	accctgtggt	gggtgcagag	cttatgcccg	15060
tcttctcaaa	gagcttctac	aacgaacaag	ctgtgtactc	ccagcagctc	cgccagtcca	15120
cctcgcttac	gcacgtcttc	aaccgctttc	ctgagaacca	gattttaatc	cgctccgcgg	15180
cgcccaccat	taccaccgtc	agtgaaaacg	ttcctgctct	cacagatcac	gggaccctgc	15240
cgttgcgcag	cagtatccgg	ggagtccaac	gtgtgaccgt	tactgacgcc	agacgccgca	15300
cctgtcccta	cgtgtacaag	gcactgggca	tagtcgcacc	gcgcgtcctt	tcaagccgca	15360
ctttctaaaa	aaaaaaaaaa	tgtccattct	tatctcgccc	agtaataaca	ccggttgggg	15420
tctgcgcgct	ccaagcaaga	tgtacggagg	cgcacgcaaa	cgttctaccc	aacatcctgt	15480
ccgtgttcgc	ggacatthttc	gcgctccatg	gggcgccttc	aagggccgca	ctcgcgttcg	15540

aaccaccgtc	gatgatgtaa	tcgatcaggt	ggttgccgac	gcccgtaatt	atactcctac	15600
tgcgcctaca	tctactgtgg	atgcagttat	tgacagtgta	gtggctgacg	ctcgcaacta	15660
tgctcgacgt	aagagccggc	gaaggcgcat	tgccagacgc	caccgagcta	ccactgccat	15720
gcgagccgca	agagctctgc	tacgaagagc	tagacgcgtg	gggcgaagag	ccatgcttag	15780
ggcggccaga	cgtgcagctt	cgggcgccag	cgccggcagg	tcccgcaggc	aagcagccgc	15840
tgctgcagcg	gcgactattg	ccgacatggc	ccaatcgcg	agaggcaatg	tatactgggt	15900
gcgtgacgct	gccaccggtc	aacgtgtacc	cgtgcgcacc	cgtccccctc	gcacttagaa	15960
gatactgagc	agtctccgat	gttgtgtccc	agcggcgagg	atgtccaagc	gcaaatacaa	16020
ggaagaaatg	ctgcaggtta	tcgcacctga	agtctacggc	caaccgttga	aggatgaaaa	16080
aaaaccccg	aaaatcaagc	gggttaaaaa	ggacaaaaaa	gaagaggaag	atggcgatga	16140
tgggctggcg	gagtttgtgc	gcgagtttgc	cccacggcga	cgcgtgcaat	ggcgtggg	16200
caaagttcga	catgtgttga	gacctggaac	ttcgggtggtc	tttacacccg	gcgagcgttc	16260
aagcgctact	tttaagcggt	cctatgatga	ggtgtacggg	gatgatgata	ttcttgagca	16320
ggcggctgac	cgattaggcg	agtttgctta	tggcaagcgt	agtagaataa	cttccaagga	16380
tgagacagtg	tcgataccct	tggatcatgg	aaatcccacc	cctagtctta	aaccggtcac	16440
tttgacagcaa	gtgttacc	taactccgcg	aacaggtgtt	aaacgcgaag	gtgaagat	16500
gtatcccact	atgcaactga	tggtagccaa	acgccagaag	ttggaggacg	ttttggagaa	16560
agtaaaagtg	gatccagata	ttcaacctga	ggttaaagtg	agaccatta	agcaggtagc	16620
gcctgggtctg	ggggtacaaa	ctgtagacat	taagattccc	actgaaagta	tggaagtgca	16680
aactgaaccc	gcaaagccta	ctgccacctc	cactgaagtg	caaacggatc	catggatgcc	16740
catgcctatt	acaactgacg	ccgccgggtcc	cactcgaaga	tcccgacgaa	agtacgggtcc	16800
agcaagtctg	ttgatgccca	attatgttgt	acacccatct	attattccta	ctcctgggtta	16860
ccgaggcact	cgctactatc	gcagccgaaa	cagtacctcc	cgccgtcgcc	gcaagacacc	16920
tgcaaatacgc	agtcgtcgcc	gtagacgcac	aagcaaaccg	actcccggcg	ccctgggtg	16980
gcaagtgtac	cgcaatggta	gtgcggaacc	tttgacactg	ccgcgtgcgc	gttaccatcc	17040
gagtatcatc	acttaatcaa	tgttgccgct	gcctccttgc	agatatggcc	ctcacttgtc	17100
gccttcgcgt	tcccatcact	ggttaccgag	gaagaaactc	gcgccgtaga	agagggatgt	17160
tgggacgcgg	aatgcgacgc	tacaggcgac	ggcgtgctat	ccgcaagcaa	ttgcgggggtg	17220
gttttttacc	agccttaatt	ccaattatcg	ctgctgcaat	tggcgcgata	ccaggcatag	17280
cttccgtggc	ggttcaggcc	tcgcaacgac	attgacattg	gaaaaaacg	tataaataaa	17340
aaaaaaaaaa	tacaatggac	tctgacactc	ctggtcctgt	gactatgttt	tcttagagat	17400
ggaagacatc	aatttttcat	ccttgggtcc	gcgacacggc	acgaagccgt	acatgggcac	17460

ctggagcgac	atcggcacga	gccaaactgaa	cgggggcgcc	ttcaattgga	gcagtatctg	17520
gagcggggctt	aaaaattttg	gctcaaccat	aaaaacatac	gggaacaaag	cttggaacag	17580
cagtacagga	caggcgctta	gaaataaaact	taaagaccag	aacttccaac	aaaaagtagt	17640
cgatgggata	gcttccggca	tcaatggagt	ggtagatttg	gctaaccagg	ctgtgcagaa	17700
aaagataaac	agtcgttttg	acccgccgcc	agcaacccca	ggtgaaatgc	aagtggagga	17760
agaaattcct	ccgccagaaa	aacgaggcga	caagcgtccg	cgtcccgatt	tggaagagac	17820
gctggtgacg	cgcgtagatg	aaccgccttc	ttatgaggaa	gcaacgaagc	ttggaatgcc	17880
caccactaga	ccgatagccc	caatggccac	cggggtgatg	aaaccttctc	agttgcatcg	17940
acccgtcacc	ttggattttg	ccccctcccc	tgctgctact	gctgtacccg	cttctaagcc	18000
tgctcgtgcc	ccgaaaccag	tcgccgtagc	caggtcacgt	cccggggggc	ctcctcgtcc	18060
aaatgcgcac	tggtcaaaata	ctctgaacag	catcgtgggt	ctaggcgtgc	aaagtgtaaa	18120
acgccgtcgc	tgctttttaat	taaatatgga	gtagcgctta	acttgcctat	ctgtgtatat	18180
gtgtcattac	acgccgtcac	agcagcagag	gaaaaaagga	agaggtcgtg	cgtcgacgct	18240
gagttacttt	caagatggcc	accccatcga	tgctgccccca	atgggcatac	atgcacatcg	18300
ccggacagga	tgcttcggag	tacctgagtc	cgggtctggt	gcagttcgcc	cgcgccacag	18360
acacctactt	caatctggga	aataagttta	gaaatcccac	cgtagcgccg	accacgatg	18420
tgaccaccga	ccgtagccag	cggtcatgt	tgcgcttcgt	gcccgttgac	cgggaggaca	18480
atacatactc	ttacaaagtg	cggtacaccc	tggccgtggg	cgacaacaga	gtgctggata	18540
tggccagcac	gttctttgac	attaggggtg	tgttggacag	aggtcccagt	ttcaaaccct	18600
attctggtac	ggcttacaac	tccctggctc	ctaaaggcgc	tccaaataca	tctcagtgga	18660
ttgcagaagg	tgtaaaaaat	acaactggtg	aggaacacgt	aacagaagag	gaaaccaata	18720
ctactactta	cacttttggc	aatgctcctg	taaaagctga	agctgaaatt	acaaaagaag	18780
gactcccagt	aggtttgga	gtttcagatg	aagaaagtaa	accgatttat	gctgataaaa	18840
catatcagcc	agaacctcag	ctgggagatg	aaacttggac	tgaccttgat	ggaaaaaccg	18900
aaaagtatgg	aggcagggtc	ctcaaaccgg	atactaagat	gaaaccatgc	tacgggtcct	18960
ttgccaaacc	tactaatgtg	aaaggcggtc	aggcaaaaca	aaaaacaacg	gagcagccaa	19020
atcagaaaagt	cgaatatgat	atcgacatgg	agttttttga	tgcggcacgc	cagaaaacaa	19080
acttaagtcc	taaaattgtc	atgtatgcag	aaaatgtaaa	tttggaact	ccagacactc	19140
atgtagtgta	caaacctgga	acagaagaca	caagttccga	agctaatttg	ggacaacaat	19200
ctatgccccaa	cagacccaac	tacattggct	tcagagataa	ctttattgga	cttatgtact	19260
ataacagtac	tggtaacatg	ggggtgctgg	ctggtcaagc	gtctcagtta	aatgcagtgg	19320
ttgacttgca	ggacagaaac	acagaacttt	cttaccaact	cttgcttgac	tctctgggcg	19380

acagaaccag	atacttttagc	atgtggaatc	aggctgtgga	cagttatgat	cctgatgtac	19440
gtgttattga	aatcatggt	gtggaagatg	aacttcccaa	ctactgtttt	ccactggacg	19500
gcataggtgt	tccaacaacc	agttacaaat	caatagttcc	aatggagac	aatg'gcgcta	19560
attggaagga	acctgaagta	aatggaacaa	gtgagatcgg	acagggtaat	ttgtttgcca	19620
tggaaattaa	ccttcaagcc	aatctatggc	gaagtttcct	ttattccaat	gtggctctat	19680
atctcccaga	ctcgtacaaa	tacaccccg	ccaatgtcac	tcttccagaa	aacaaaaaca	19740
cctacgacta	catgaacggg	cgggtggtgc	cgccatctct	agtagacacc	tatgtgaaca	19800
ttggtgccag	gtggtctctg	gatgccatgg	acaatgtcaa	cccattcaac	caccaccgta	19860
acgctggctt	gcgttaccga	tccatgcttc	tgggtaacgg	acgttatgtg	cctttccaca	19920
tacaagtgcc	tcaaaaattc	ttcgtctgta	aaaacctgct	gcttctccca	ggctcctaca	19980
cttatgagtg	gaacttttagg	aaggatgtga	acatggttct	acagagttcc	ctcggtaacg	20040
acctgcgggt	agatggcgcc	agcatcagtt	tcacgagcat	caacctctat	gctacttttt	20100
tcccatggc	tcacaacacc	gcttccaccc	ttgaagccat	gctgcggaat	gacaccaatg	20160
atcagtcatt	caacgactac	ctatctgcag	ctaacatgct	ctacccatt	cctgccaatg	20220
caaccaatat	tcccatttcc	attccttctc	gcaactgggc	ggctttcaga	ggctggatcat	20280
ttaccagact	gaaaacccaa	gaaactccct	ctttggggtc	tggatttgac	ccctactttg	20340
tctattctgg	ttctattccc	tacctggatg	gtaccttcta	cctgaaccac	acttttaaga	20400
aggtttccat	catgtttgac	tcttcagtga	gctggcctgg	aatgacagg	ttactatctc	20460
ctaacgaatt	tgaataaag	cgcactgtgg	atggcgaagg	ctacaacgta	gccaatgca	20520
acatgaccaa	agactggttc	ttggtacaga	tgctcgccaa	ctacaacatc	ggctatcagg	20580
gcttctacat	tccagaagga	tacaaagatc	gcatgtattc	atttttcaga	aacttccagc	20640
ccatgagcag	gcaggtggtt	gatgaggatc	attacaaaga	cttcaaggcc	gtcgccatac	20700
cctaccaaca	caacaactct	ggctttgtgg	gttacatggc	tccgaccatg	cgccaaggtc	20760
aaccttatcc	cgctaactat	ccctatccac	tcattggaac	aactgccgta	aatagtgtta	20820
cgcagaaaaa	gttcttgtgt	gacagaacca	tgtggcgcat	accgttctcg	agcaacttca	20880
tgtctatggg	ggcccttaca	gacttgggac	agaatatgct	ctatgccaac	tcagctcatg	20940
ctctggacat	gacctttgag	gtggatccca	tggatgagcc	cacctgctt	tatcttctct	21000
tcgaagtttt	cgacgtggtc	agagtgcac	agccacaccg	cggcatcatc	gaggcagtct	21060
acctgcgtac	accgttctcg	gccggtaacg	ctaccacgta	agaagcttct	tgcttcttgc	21120
aaatagcagc	tgcaaccatg	gcctgcggat	cccaaacgg	ctccagcgag	caagagctca	21180
gagccattgt	ccaagacctg	ggttgcggac	cctatTTTTT	gggaacctac	gataagcgct	21240
tcccggggtt	catggccccc	gataagctcg	cctgtgccat	tgtaaatacg	gccggacgtg	21300

agacgggggg	agagcactgg	ttggctttcg	gttggaaccc	acgttctaac	acctgctacc	21360
tttttgatcc	ttttggattc	tccgatgatc	gtctcaaaca	gatttaccag	tttgaatatg	21420
aggggtctcct	gcgccgcagc	gctcttgcta	ccaaggaccg	ctgtattacg	ctggaaaaat	21480
ctaccacagac	cgtgcagggg	ccccgttctg	ccgcctgcgg	acttttctgc	tgcatgttcc	21540
ttcacgcctt	tgtgcactgg	cctgaccgtc	ccatggacgg	aaaccccacc	atgaaattgc	21600
taactggagt	gccaaacaac	atgcttcatt	ctcctaaagt	ccagcccacc	ctgtgtgaca	21660
atcaaaaagc	actctaccat	tttcttaata	cccattcgcc	ttattttcgc	tcccatcgta	21720
cacacatcga	aagggccact	gcgttcgacc	gtatggatgt	tcaataatga	ctcatgtaaa	21780
caacgtgttc	aataaacatc	actttatttt	tttacaatga	tcaaggctct	gcattactta	21840
tttattttaca	agtcgaatgg	gttctgacga	gaatcagaat	gacccgcagg	cagtgtatcg	21900
ttgcgggaact	gatacttggg	ttgccacttg	aattcgggaa	tcaccaactt	gggaaccggg	21960
atatcgggca	ggatgtcact	ccacagcttt	ctggtcagct	gcaaagctcc	aagcagggtca	22020
ggagccgaaa	tcttgaaatc	acaattagga	ccagtgtctt	gagcgcgaga	gttgcgggtac	22080
accggattgc	agcactgaaa	caccatcagc	gacggatgtc	tcacgcttgc	cagcacgggtg	22140
ggatctgcaa	tcatgcccac	atccagatct	tcagcattgg	caatgctgaa	cggggtcac	22200
ttgcagggtct	gcctacccat	ggcgggcacc	caattaggct	tgtgggttga	atcgcagtgc	22260
aggggggatca	gtatcatctt	ggcctgatcc	tgtctgattc	ctggatacac	ggctctcatg	22320
aaagcatcat	attgcttgaa	agcctgctgg	gctttactac	cctcgggtata	aaacatccc	22380
caggacctgc	tcgaaaactg	gttagctgca	cagccggcat	cattcacaca	gcagcggg	22440
tcattgttag	ctatttgac	cacacttctg	cccagcggg	tttgggtgat	tttgggttcg	22500
tcgggattct	cctttaaggc	tcgttgctcc	ttctcgtctg	ccacatccat	ctcgataatc	22560
tgctccttct	gaatcataat	attgccatgc	aggcacttca	gcttgccctc	ataatcattg	22620
cagccatgag	gccacaacgc	acagcctgta	cattcccaat	tatgggtggc	gatctgagaa	22680
aaagaatgta	tcattccctg	cagaaatctt	cccatcatcg	tgctcagtgt	cttgtgacta	22740
gtgaaagtta	actggatgcc	tcggtgctcc	tcgtttacgt	actggtgaca	gatgcgcttg	22800
tattgttcgt	gttgctcagg	cattagttaa	aaagaggttc	taagtctggt	atccagcctg	22860
tactttctcca	tcagcagaca	catcacttcc	atgcctttct	cccaagcaga	caccaggggc	22920
aagctaatacg	gattcttaac	agtgcaggca	gcagctcctt	tagccagagg	gtcatcttta	22980
gcgatcttct	caatgcttct	tttgccatcc	ttctcaacga	tgcgcacggg	cgggtagctg	23040
aaacccactg	ctacaagtgt	cgcctcttct	ctttcttctt	cgtgtcttct	actgatgtct	23100
tgcatgggga	tatgtttggg	cttccttggc	ttctttttgg	ggggtatcgg	aggaggagga	23160
ctgtcgtctcc	gttccggaga	caggagggat	tgtgacgttt	cgtccacat	taccaactga	23220

ctgtcggtag	aagaacctga	ccccacacgg	cgacaggtgt	ttctcttcgg	gggcagaggt	23280
ggaggcgatt	gcgaagggct	gcggtccgac	ctggaaggcg	gatgactggc	agaaccctt	23340
ccgcgttcgg	gggtgtgctc	cctgtggcgg	tcgcttaact	gatttccttc	gcggctggcc	23400
attgtgttct	cctaggcaga	gaaacaacag	acatggaaac	tcagccattg	ctgtcaacat	23460
cgccacgagt	gccatcacat	ctcgtcctca	gcgacgagga	aaaggagcag	agcttaagca	23520
ttccaccgcc	cagtcctgcc	accacctcta	ccctagaaga	taaggaggtc	gacgcatctc	23580
atgacatgca	gaataaaaaa	gcgaaagagt	ctgagacaga	catcgagcaa	gacccgggct	23640
atgtgacacc	ggtggaacac	gaggaagagt	tgaaacgctt	tctagagaga	gaggatgaaa	23700
actgccccaa	acaacgagca	gataactatc	accaagatgc	tggaatatag	gatcagaaca	23760
ccgactacct	catagggctt	gacggggaag	acgcgctcct	taaacatcta	gcaagacagt	23820
cgctcatagt	caaggatgca	ttattggaca	gaactgaagt	gcccacagc	gtggaagagc	23880
tcagccgcgc	ctacgagctt	aacctctttt	cacctcgtac	ttcccccaa	cgtcagccaa	23940
acggcacctg	cgagccaaat	cctcgcttaa	acttttatcc	agcttttgct	gtgccagaag	24000
tactggctac	ctatcacatc	ttttttaaaa	atcaaaaaat	tccagtctcc	tgccgcgcta	24060
atcgcacccg	cgccgatgcc	ctactcaatc	tgggacctgg	ttcacgctta	cctgatatag	24120
cttccttgga	agaggttcca	aagatcttcg	agggctctggg	caataatgag	actcgggccc	24180
caaatgctct	gcaaaaggga	gaaaatggca	tggaatgagca	tcacagcgct	ctggtggaat	24240
tggaaggcga	taatgccaga	ctcgcagtac	tcaagcgaag	catcgaggtc	acacacttcg	24300
catatcccg	tgtcaacctg	ccccctaaag	tcatgacggc	ggtcatggac	cagttactca	24360
ttaagcgcg	aagtcccctt	tcagaagaca	tgcatgaccc	agatgcctgt	gatgagggtg	24420
aaccagtgg	cagtgatgag	cagctaacct	gatggctggg	caccgactct	cccagggatt	24480
tggaagagcg	tcgcaagctt	atgatggccg	tggtgctgg	taccgtagaa	ctagagtgtc	24540
tccgacgttt	ctttaccgat	tcagaaacct	tgcgcaaact	cgaagagaat	ctgcactaca	24600
cttttagaca	cggctttgtg	cggcaggcat	gcaagatatc	taacgtggaa	ctcaccaacc	24660
tggtttccta	catgggtatt	ctgcatgaga	atcgcttagg	acaaagcgtg	ctgcacagca	24720
ccctgaagg	ggaagcccg	cgtgattaca	tccgcgattg	tgtctatctg	tacctgtgcc	24780
acacgtggca	aaccggcatg	ggtgtatggc	agcaatgttt	agaagaacag	aacttgaaag	24840
agcttgacaa	gctcttacag	aaatctctta	aggttctgtg	gacagggttc	gacgagcgca	24900
ccgtcgcttc	cgacctggca	gacctcatct	tcccagagcg	tctcagggtt	actttgcgaa	24960
acggattgcc	tgactttatg	agccagagca	tgcttaacaa	ttttcgctct	ttcatcctgg	25020
aacgctccgg	tatcctgccc	gccacctgct	gcgcactgcc	ctccgacttt	gtgcctctca	25080
cctaccgcga	gtgccccccg	ccgctatgga	gtcactgcta	cctgttccgt	ctggccaact	25140

atctctccta	ccactcggat	gtgatcgagg	atgtgagcgg	agacggcttg	ctggagtgtc	25200
actgccgctg	caatctgtgc	acgccccacc	ggtccctagc	ttgcaacccc	cagttgatga	25260
gcgaaaccca	gataataggc	acctttgaat	tgcaaggccc	cagcagccaa	ggcgatgggt	25320
cttctcctgg	gcaaagttta	aaactgaccc	cgggactgtg	gacctccgcc	tacttgcgca	25380
agtttgctcc	ggaagattac	cacccctatg	aatcaagtt	ctatgaggac	caatcacagc	25440
ctccaaaggc	cgaactttcg	gcctgctca	tcaccagg	ggcaattctg	gccaattgc	25500
aagccatcca	aaaatcccgc	caagaatttc	tactgaaaaa	gggtaagggg	gtctaccttg	25560
acccccagac	cggcgaggaa	ctcaacacaa	ggttccctca	ggatgtcca	acgacgagaa	25620
aacaagaagt	tgaagggtgca	gccgccgccc	ccagaagata	tggaggaaga	ttgggacagt	25680
caggcagagg	aggcgaggga	ggacagtctg	gaggacagtc	tggaggaaga	cagtttgag	25740
gaggaaaacg	aggaggcaga	ggagggtgaa	gaagtaaccg	ccgacaaaca	gttatcctcg	25800
gctgcggaga	caagcaacag	cgctaccatc	tccgctccga	gtcgaggaac	ccggcggcgt	25860
cccagcagta	gatgggacga	gaccggacgc	ttcccgaacc	caaccagcgc	ttccaagacc	25920
ggtaagaagg	atcggcaggg	atacaagtcc	tggcgggggc	ataagaatgc	catcatctcc	25980
tgcttgcatg	agtgcggggg	caacatatcc	ttcacgcggc	gctacttgct	attccaccat	26040
gggggtgaact	ttccgcgcaa	tgttttgcat	tactaccgtc	acctccacag	cccctactat	26100
agccagcaaa	tcccggcagt	ctcgacagat	aaagacagcg	gcggcgacct	ccaacagaaa	26160
accagcagcg	gcagttagaa	aatacacaac	aagtgcagca	acaggaggat	taaagattac	26220
agccaacgag	ccagcgcaaa	cccagagagt	aagaaatcgg	atctttccaa	ccctgtatgc	26280
catcttccag	cagagtcggg	gtcaagagca	ggaactgaaa	ataaaaaacc	gatctctgcg	26340
ttcgctcacc	agaagttggt	tgtatcacia	gagcgaagat	caacttcagc	gcactctcga	26400
ggacgccgag	gctctcttca	acaagtactg	cgcgctgact	cttaaagagt	aggcagcgac	26460
cgcgcttatt	caaaaaaggc	gggaattaca	tcacctcga	catgagtaaa	gaaattccca	26520
cgccttacat	gtggagttat	caaccccaaa	tgggattggc	ggcaggcgcc	tcccaggact	26580
actccacccg	catgaattgg	ctcagcgccg	ggccttctat	gatttctcga	gttaatgata	26640
tacgcgccta	ccgaaaccaa	atacttttgg	aacagtcagc	tcttaccacc	acgccccgcc	26700
aacaccttaa	tcccagaaat	tggccccgcc	ccctagtgtg	ccaggaaagt	cccgtccca	26760
ccactgtatt	acttcctcga	gacgcccagg	ccgaagtcca	aatgactaat	gcagggtgcg	26820
agttagctgg	cggctccacc	ctatgtcgtc	acaggcctcg	gcataatata	aaacgcctga	26880
tgatcagagg	ccgaggatc	cagctcaacg	acgagtcggg	gagctctccg	cttgggtctac	26940
gaccagacgg	aatctttcag	attgccgggt	gcgggagatc	ttccttcacc	cctcgtcagg	27000
ctgttctgac	tttggaaggt	tcgtcttcgc	aaccccgctc	gggcggaatc	gggaccgttc	27060

aatttgtgga	ggagtttact	ccctctgtct	acttcaaccc	cttctccgga	tctcctgggc	27120
attacccgga	cgagttcata	ccgaacttcg	acgcgattag	cgagtcagtg	gacggctacg	27180
attgatgtct	ggtgacgcgg	ctgagctatc	tcggctgcga	catctagacc	actgccgcgg	27240
ctttcgctgc	tttgcccggg	aactcattga	gttcatctac	ttcgaactcc	ccaaggatca	27300
ccctcaaggt	ccggcccacg	gagtgcggat	ttctatcgaa	ggcaaaaatag	actctcgcct	27360
gcaacgaatt	ttctcccagc	ggcccggtgt	gatcgagcga	gaccagggaa	acaccacggt	27420
ttccatctac	tgcatttgta	atcaccccg	attgcatgaa	agcctttgct	gtcttatgtg	27480
tactgagttt	aataaaaact	gaattaagac	tctcctacgg	actgccgctt	cttcaaccgg	27540
gattttacaa	ccagaagaac	gaaacttttc	ctgtcgtcca	ggactctgtt	aacttcacct	27600
ttcctactca	caaactagaa	gctcaacgac	tacaccgctt	ttccagaagc	attttcccta	27660
ctaatactac	tttcaaaacc	ggagggtgagc	tccaaggtct	tcctacagaa	aacccttggg	27720
tggaagcggg	ccttgtagtg	ctaggaattc	ttgcgggtgg	gcttggtgatt	attccttgcct	27780
acctatacac	accttgcttc	actttcttag	tggtgttggtg	gtattggttt	aaaaaatggg	27840
gcccatacta	gtcttgcttg	ttttactttc	gcttttgga	ccgggttctg	ccaattacga	27900
tccatgtcta	gacttcgacc	cagaaaactg	cacacttact	tttgcacccg	acacaagccg	27960
catctgtgga	gttcatcgcc	tctcttacga	acttggtccc	caacgacaaa	aattttacctg	28020
catggtggga	atcaacccca	tagttatcac	ccagcaaagt	ggagatacta	agggttgcat	28080
tcactgctcc	tgcgattcca	tcgagtgcac	ctacaccctg	ctgaagaccc	tatgcggcct	28140
aagagacctg	ctaccaatga	attaaaaaat	gattaataaa	aatcactta	cttgaaatca	28200
gcaataaggt	ctctgttgaa	attttctccc	agcagcacct	cacttccctc	ttcccaactc	28260
tggtattcta	aaccccgttc	agcggcatac	tttctccata	ctttaaagg	gatgtcaa	28320
tttagctcct	ctcctgtacc	cacaatcttc	atgtctttct	tcccagatga	ccaagagagt	28380
ccggctcagt	gactccttca	accctgtcta	cccctatgaa	gatgaaagca	cctcccaaca	28440
cccctttata	aaccagggt	ttatttcccc	aatggcttc	acacaaagcc	caaacggagt	28500
tcttacttta	aaatgtttaa	ccccactaac	aaccacaggc	ggatctctac	agctaaaagt	28560
gggaggggga	cttacagtgg	atgacaccaa	cggttttttg	aaagaaaaca	taagtgccac	28620
cacaccactc	gttaagactg	gtcactctat	aggtttacca	ctaggagccg	gattgggaac	28680
gaatgaaaat	aaactttgta	tcaaattagg	acaaggactt	acattcaatt	caaacaacat	28740
ttgcattgat	gacaatatta	acaccttatg	gacaggagtc	aacccaccg	aagccaactg	28800
tcaaatcatg	aactccagtg	aatctaata	ttgcaaatta	attctaacac	tagttaaaac	28860
tgagagcacta	gtcactgcat	ttgtttatgt	tataggagta	tctaacaatt	ttaatatgct	28920
aactacacac	agaaatataa	attttactgc	agagctgttt	ttcgattcta	ctggtaattt	28980

actaactaga	ctctcatccc	tcaaaactcc	acttaatcat	aatcaggac	aaaacatggc	29040
tactggtgcc	attactaatg	ctaaagggtt	catgcccagc	acgactgcct	atcctttcaa	29100
tgataattct	agagaaaaag	aaaactacat	ttacggaact	tgttactaca	cagctagtga	29160
tcgcactgct	tttcccattg	acatatctgt	catgcttaac	cgaagagcaa	taaatgacga	29220
gacatcatat	tgtattcgta	taacttggtc	ctggaacaca	ggagatgccc	cagagggtga	29280
aacctctgct	acaaccctag	tcacctcccc	atttaccttt	tactacatca	gagaagacga	29340
ctgacaaata	aagtttgcca	tcgccaggcc	caccatggac	tggacctgga	ggatcctctt	29400
cttggtggca	gcagccacag	gagcccactc	ccagggtgcag	ctggtgcagt	ctggggctga	29460
ggtgaagaag	cctggggcct	cagtgaaggt	ctcctgcaag	gcttctggat	acaccttcac	29520
cggctactat	atgcactggg	tgcgacaggc	ccctggacaa	gggcttgagt	ggatgggatg	29580
gatcaaccct	gacagtgggt	gcacaaacta	tgcacagaag	tttcagggca	gggtcaccat	29640
gaccagggac	acgtccatca	gcacagccta	catggagctg	aacaggctga	gatctgacga	29700
cacggccgtg	tattactgtg	cgagagatca	gccctagga	tattgtacta	atggtgtatg	29760
ctcctacttt	gactactggg	gccagggaac	cctggtcacc	gtctcctcag	cctccaccaa	29820
gggcccacg	gtcttcccc	tggcgccctg	ctccaggagc	acctccgaga	gcacagcggc	29880
cctgggctgc	ctggtcaagg	actacttccc	cgaaccggtg	acggtgtcgt	ggaactcagg	29940
cgtcttgacc	agcggcgtgc	acaccttccc	agctgtccta	cagtcctcag	gactctactc	30000
cctcagcagc	gtggtgaccg	tgccctccag	caacttcggc	accagacct	acacctgcaa	30060
cgtagatcac	aagcccagca	acaccaaggt	ggacaagaca	gttgagcgca	aatgttgtgt	30120
cgagtgccca	ccgtgcccag	caccacctgt	ggcaggaccg	tcagtcttcc	tcttcccccc	30180
aaaacccaag	gacaccctca	tgatctcccg	gaccctgag	gtcacgtgcg	tggtggtgga	30240
cgtgagccac	gaagaccccg	aggtccagtt	caactggtac	gtggacggcg	tggagggtga	30300
taatgccaag	aaaagccac	gggaggagca	gttcaacagc	acgttccgtg	tggtcagcgt	30360
cctcaccgtt	gtgcaccagg	actggctgaa	cggcaaggag	tacaagtga	aggtctccaa	30420
caaaggcctc	ccagccccc	tcgagaaaac	catctccaaa	accaaagggc	agccccgaga	30480
accacagggt	tacaccctgc	ccccatccc	ggaggagatg	accaagaacc	aggtcagcct	30540
gacctgcctg	gtcaaaggct	tctaccccag	cgacatcgcc	gtggagtggg	agagcaatgg	30600
gcagccggag	aacaactaca	agaccacacc	tcccatgctg	gactccgacg	gctccttctt	30660
cctctacagc	aagctcaccg	tggacaagag	caggtggcag	caggggaacg	tcttctcatg	30720
ctccgtgatg	catgaggctc	tgcacaacca	ctacacgcag	aagagcctct	ccctgtctcc	30780
gggtaaagga	agcggagcta	ctaacttcag	cctgctgaag	caggctggag	acgtggagga	30840
gaaccctgga	cctaggctcc	ctgctcagct	cctggggctc	ctgctgctct	ggttcccagg	30900

ttccagatgc	gacatccaga	tgacccagtc	tccatcttcc	gtgtctgcat	ctgtaggaga	30960
cagagtcacc	atcacttgtc	gggcgagtca	gggtatttac	agctggttag	cctgggtatca	31020
gcagaaacca	gggaaagccc	ctaacctcct	gatctatact	gcattccactt	tacaaagtgg	31080
gggtcccatca	aggttcagcg	gcagtggatc	tgggacagat	ttcactctca	ccatcagcag	31140
cctgcaacct	gaagattttg	caacttacta	ttgtcaacag	gctaacattt	tcccgtcac	31200
tttcggcgga	gggaccaagg	tggagatcaa	acgaactgtg	gctgcaccat	ctgtcttcat	31260
cttcccgcga	tctgatgagc	agttgaaatc	tggaaactgcc	tctgttgtgt	gcctgctgaa	31320
taacttctat	cccagagagg	ccaaagtaca	gtggaagggtg	gataacgccc	tccaatcggg	31380
taactcccag	gagagtgtca	cagagcagga	cagcaaggac	agcacctaca	gcctcagcag	31440
caccttgacg	ctgagcaaag	cagactacga	gaaacacaaa	gtctacgcct	gcgaagtcac	31500
ccatcagggc	ctgagctcgc	ccgtcacaaa	gagcttcaac	aggggagagt	gttaggctag	31560
cttgactgac	tgagatacag	cgtaccttca	gctcacagac	atgataagat	acattgatga	31620
gtttggacaa	accacaacta	gaatgcagtg	aaaaaaatgc	tttatttgtg	aaatttgtga	31680
tgctattgct	ttatttgtaa	ccattataag	ctgcaataaa	caagttaaca	acaacaattg	31740
cattcatttt	atgtttcagg	ttcaggggga	gggtgtgggag	gttttttaaa	gcaagtaaaa	31800
cctctacaaa	tgtggtcctg	caggaacttg	tttatttgaa	aatcaattca	caaaatccga	31860
gtagtatttt	tgctccccc	ttcccattta	acagaataca	ccaatctctc	cccacgcaca	31920
gctttaaaca	tttgataacc	attagatata	gacatggttt	tagattccac	attccaaaca	31980
gtttcagagc	gagccaatct	ggggtcagtg	atagataaaa	atccatcggg	atagtctttt	32040
aaagcgcttt	cacagtccaa	ctgctgcgga	tgcgactccg	gagtctggat	cacggtcatc	32100
tggaagaaga	acgatgggaa	tcataatccg	aaaacggtat	cggacgattg	tgtctcatca	32160
aaccacaaag	cagccgctgt	ctgcgtcgct	ccgtgcgact	gctgtttatg	ggatcagggg	32220
ccacagtgtc	ctgaagcatg	attttaatag	cccttaacat	caactttctg	gtgcgatgcg	32280
cgcagcaacg	cattctgatt	tactcaaatt	ctttgcagta	gggtacaacac	attattacaa	32340
tattgtttta	taaaccataa	ttaaagcgc	tccagccaaa	actcatatct	gatataatcg	32400
cccctgcatg	accatcatat	caaagttaa	tataaattaa	atgacgttcc	ctcaaaaaca	32460
cactacccac	atacatgatc	tcttttgga	tgtgcatatt	aacaatctgt	ctgtaccatg	32520
gacaacgttg	gttaatcatg	caacccaata	taaccttccg	gaaccacact	gccaacaccg	32580
ctcccccagc	catgcattga	agtgaaccct	gctgattaca	atgacaatga	agaacccaat	32640
tctctcgacc	gtgaatcact	tgagaatgaa	aaatatctat	agtggcacia	catagacata	32700
aatgcatgca	tcttctcata	atttttaact	cctcaggatt	tagaaacata	tcccagggaa	32760
taggaagctc	ttgcagaaca	gtaaagctgg	cagaacaagg	aagaccacga	acacaactta	32820

cactatgcat	agtcataagta	tcacaatctg	gcaacagcgg	gtggtcttca	gtcatagaag	32880
ctcgggtttc	attttcctca	caacgtggta	actgggctct	gggtgaagg	tgatgtctgg	32940
cgcataatgt	cgagcgtgcg	cgcaaccttg	tcataatgga	gttgcttcct	gacattctcg	33000
tattttgtat	agcaaaacgc	ggccctggca	gaacacactc	ttcttcgcct	tctatcctgc	33060
cgttagcgt	gttccgtgtg	atagttcaag	tacaaccaca	ctcttaagtt	gggtcaaaaga	33120
atgctggctt	cagttgtaat	caaaactcca	tcgcatctaa	tcgttctgag	gaaatcatcc	33180
aagcaatgca	actggattgt	gtttcaagca	ggagaggaga	gggaagagac	ggaagaacca	33240
tgtaattttt	tattccaaac	gatctcgcag	tacttcaa	tgtagatcgc	gcagatggca	33300
tctctcgccc	ccactgtgtt	ggtgaaaaag	cacagctaga	tcaaaagaaa	tgcgattttc	33360
aagggtgctca	acgggtggctt	ccagcaaagc	ctccacgcgc	acatccaaga	acaaaagaat	33420
acaaaaagaa	ggagcatttt	ctaactcctc	aatcatcata	ttacattcct	gcaccattcc	33480
cagataattt	tcagctttcc	agccttgaat	tattcgtgtc	agttcttgtg	gtaaatccaa	33540
tccacacatt	acaaacaggt	cccgaggagg	gccctccacc	accattctta	aacacaccct	33600
cataatgaca	aaatatcttg	ctcctgtgtc	acctgtagcg	aattgagaat	ggcaacatca	33660
attgacatgc	ccttggtctt	aagttcttct	ttaagttcta	gttgtaaaaa	ctctctcata	33720
ttatcaccaa	actgcttagc	cagaagcccc	ccgggaacaa	gagcagggga	cgctacagtg	33780
cagtacaagc	gcagacctcc	ccaattggct	ccagcaaaaa	caagattgga	ataagcatat	33840
tggaaccgc	cagtaatatc	atcgaagttg	ctggaaatat	aatcaggcag	agtttcttgt	33900
aaaaattgaa	taaaagaaaa	atttgccaaa	aaaacattca	aaacctctgg	gatgcaaattg	33960
caatagggtta	ccgcgctgcg	ctccaacatt	gttagttttg	aattagtctg	caaaaataaa	34020
aaaaaaaaaca	agcgtcatat	catagtagcc	tgacgaacag	atggataaat	cagtctttcc	34080
atcacaagac	aagccacagg	gtctccagct	cgacctcgt	aaaacctgtc	atcatgatta	34140
aacaacagca	ccgaaagttc	ctcgcggtga	ccagcatgaa	taattcttga	tgaagcatac	34200
aatccagaca	tgtagcatc	agttaacgag	aaaaaacagc	caacatagcc	tttgggtata	34260
attatgctta	atcgtaagta	tagcaaagcc	acctctcgcg	gatacaaagt	aaaaggcaca	34320
ggagaataaa	aaatataatt	atttctctgc	tgctgttcag	gcaacgtcgc	ccccgggtccc	34380
tctaaatata	catacaaagc	ctcatcagcc	atggcttacc	agacaaagta	cagcggggcac	34440
acaaagcaca	agctctaaag	tgactctcca	acctctccac	aatatatata	tacacaagcc	34500
ctaaactgac	gtaatgggag	taaagtgtaa	aaaatcccgc	caaaccacaac	acacaccccgc	34560
aaactgcgtc	accagggaag	agtacagttt	cacttccgca	atcccaacag	gcgtaacttc	34620
ctctttctca	cggtagctga	tatcccacta	acttgcaacg	tcattttccc	acgggtcgac	34680
cgccccctttt	agccgttaac	cccacagcca	atcaccacac	gatccacact	ttttaaaatc	34740

acctcattta catattggca ccattccatc tataaggtat attatataga taga

34794

<210> 14
<211> 13
<212> RNA
<213> Artificial Sequence

<220>
<223> Kozak sequence

<220>
<221> misc_feature
<222> (7)..(7)
<223> R is purine, adenine or guanine

<400> 14
gccgccrcca ugg 13

<210> 15
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> splice acceptor sequence

<400> 15
tgctaattctt cttttctctc ttcagg 26

<210> 16
<211> 14
<212> DNA
<213> Artificial Sequence

<220>
<223> splice acceptor sequence

<400> 16
tttctctctt cagg 14

<210> 17
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Forward Primer

<400> 17
acggaacttg ttactacaca gc 22

<210> 18
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Reverse Primer

<400> 18	
ctttcacagt ccaactgctg c	21
<210> 19	
<211> 22	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Forward Primer	
<400> 19	
agccggagaa caactacaag ac	22
<210> 20	
<211> 21	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Forward Primer	
<400> 20	
catccagatg acccagtctc c	21
<210> 21	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Reverse Primer	
<400> 21	
ggacaaacca caactagaat gcag	24
<210> 22	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Forward primer	
<400> 22	
cctcagtga ggtctcctgc	20
<210> 23	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Reverse Primer	
<400> 23	
ggacaaacca caactagaat gcag	24

<210> 24
<211> 22
<212> PRT
<213> Artificial Sequence

<220>
<223> High efficiency self-cleavable P2A peptide sequence

<400> 24

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

Glu Glu Asn Pro Gly Pro
20

<210> 25
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> High efficiency self-cleavable F2A peptide sequence

<400> 25

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

Glu Asn Pro Gly Pro
20

<210> 26
<211> 23
<212> PRT
<213> Artificial Sequence

<220>
<223> High efficiency self-cleavable E2A peptide sequence

<400> 26

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

Val Glu Ser Asn Pro Gly Pro
20

<210> 27
<211> 25
<212> PRT
<213> Artificial Sequence

<220>
<223> High efficiency self-cleavable T2A peptide sequence

<400> 27

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

Gly	Asp	Val	Glu	Ser	Asn	Pro	Gly	Pro
			20					25