

>gis-dre-mir-1
aaaauagcccuuguugaauuaaacguaaauggaagcuuaagcuauauguuaauucaacuagagcuguu
uag

>5p-matureseq
aaaauagcccuuguugaauua
>3p-matureseq
uaauucaacuagagcuguuuag

~~~~~  
>gis-dre-mir-2  
aaagcagccauugacauccagugggaacuaaaaauacuauugggaguugauggcuguuuuga

>5p-matureseq  
aaagcagccauugacauccagugg  
>3p-matureseq  
augggaguugauggcuguuuuga

~~~~~  
>gis-dre-mir-3
aaagcugauuacugugacugcagcuuuuacagugugcacugcagucacaguaaucagcuuu

>5p-matureseq
aaagcugauuacugugacugc
>3p-matureseq
ugcagucacaguaaucagcuuu

~~~~~  
>gis-dre-mir-4  
aaaguaacaagugucaagugacgaugguguccagucacuugacacuuguuacuuuuc

>5p-matureseq  
aaaguaacaagugucaagugac  
>3p-matureseq  
cacuugacacuuguuacuuuuc

>3p-matureseq  
ucacuugacacuuguuacuuuu

~~~~~  
>gis-dre-mir-5
aacaacauggaggacaugcagcagauccuguuccugauuuucugcaugccgucauuguuuuuau

>5p-matureseq
aacaacauggaggacaugcagc
>3p-matureseq
cugcaugccgucauuguuuuuau

~~~~~  
>gis-dre-mir-6  
aacaacaugucacucuaggcuagagcgcuauucugcaguucuuuacuagucuaagagcaacauguuguua  
a

>5p-matureseq  
aacaacaugucacucuaggcu  
>5p-matureseq  
aacaacaugucacucuaggcua

>3p-matureseq  
gucuagagcaacauguuguuaa  
>3p-matureseq  
ucuagagcaacauguuguuaa

~~~~~  
>gis-dre-mir-7
aacacaccugucuucaaugacugaguucuccuucagguuggguuaguuguguuuug

>5p-matureseq
aacacaccugucuucaaugacug

>3p-matureseq
gguuggguuaguuguuug
~~~~~  
>gis-dre-mir-8  
aacacagggugcacaauagaguucgcuucacuaaugcccucucuaaugccccgugcag  
>5p-matureseq  
aacacagggugcacaauagagu  
>3p-matureseq  
ccucucuaaugccccgugcag  
~~~~~  
>gis-dre-mir-9
aacauuacucucuugacacuguauuucauauucacugugucagaucgaguauguuug
>5p-matureseq
aacauuacucucuugacacugu
>3p-matureseq
ugugucagaucgaguauguuug
~~~~~  
>gis-dre-mir-10  
aaccagcagacguugacaucacauaguaggaagaaaaaaauacuauggaagucaauggcugcugcuucc  
>5p-matureseq  
aaccagcagacguugacaucc  
>3p-matureseq  
aagucaauggcugcugcuucc  
~~~~~  
>gis-dre-mir-11
aacgcagagcucuaaaaacaucugcgucguggacgcgcugcagcgcauguuuugaagcucugcgcuu
>5p-matureseq
aacgcagagcucuaaaaacaucu
>3p-matureseq
gcauguuuugaagcucugcgcuu
~~~~~  
>gis-dre-mir-12  
aacuuguccuggaagcuggagguguauagacaaucccuuagcucucaugacaugauuu  
>5p-matureseq  
aacuuguccuggaagcuggaggu  
>3p-matureseq  
uuagcucucaugacaugauuu  
~~~~~  
>gis-dre-mir-13
aagcaggaacuguugacaucacauaguaaacagaggauggaagucaacaguuccugcuaucc
>5p-matureseq
aagcaggaacuguugacaucc
>3p-matureseq
gaagucaacaguuccugcuaucc
~~~~~  
>gis-dre-mir-14  
aaggcuuuucaccauuuggaugaaguaaugguugccccaucacuggaauugaagguuauug  
>5p-matureseq  
aaggcuuuucaccauuuggau  
>3p-matureseq  
uccaucuggaauugaagguuauug  
~~~~~  
>gis-dre-mir-15
aaggcuuuucaccauuuggaucaguaaugauugccccaucacuggaauugacaagguuauug

>5p-matureseq
aaggcuuuucaccuuuuuggau
>3p-matureseq
uccaucuggauugacaaguuaug
~~~~~  
>gis-dre-mir-16  
aaggcuuuucaccuuuuuggaugcaguaaugguugccccaaccaacuggauugaaaaguuaug  
>5p-matureseq  
aaggcuuuucaccuuuuuggau  
>3p-matureseq  
uccaacuggauugaaaaguuaug  
~~~~~  
>gis-dre-mir-17
aaggcuuuucaccuuuuuggaugcaguaaugguugccccaaccaucuggauugacaaguuaug
>5p-matureseq
aaggcuuuucaccuuuuuggau
>3p-matureseq
uccaucuggauugacaaguuaug
~~~~~  
>gis-dre-mir-18  
aaggcuuuucaccuuuuuggaugcaguaaugguugccccguccaucuggauugaacaguuaug  
>5p-matureseq  
aaggcuuuucaccuuuuuggau  
>3p-matureseq  
uccaucuggauugaacaguuaug  
~~~~~  
>gis-dre-mir-19
aaguuuucugguucuugagucguucguucaucacgugacagaaugacucgaacccgaggacucg
>5p-matureseq
aaguuuucugguucuugagucg
>5p-matureseq
aaguuuucugguucuugagucgu
>5p-matureseq
aaguuuucugguucuugagucguucg
>3p-matureseq
augacucgaacccgaggacucg
~~~~~  
>gis-dre-mir-20  
aaguuuucugguucuugagucguuuguucaucaugacagaugacucuaaacccaaggacucg  
>5p-matureseq  
aaguuuucugguucuugagucg  
>5p-matureseq  
aaguuuucugguucuugagucgu  
>3p-matureseq  
augacucuaaacccaaggacucg  
~~~~~  
>gis-dre-mir-21
aaugcugaaugccauugaugucuauguuuuuuuuccuacuauggaaguuaaugguguuuagcau
ucu
>3p-matureseq
aaguuaaugguguuuagcauucu
>5p-matureseq
aaugcugaaugccauugaugucu
>3p-matureseq

aguuaaugguguuuagcauucu
~~~~~  
>gis-dre-mir-22  
aaugcugauuuuggaucuugugcccugauaauuaagaaacgcuuugaauaacaugggucugauccucu  
gucagcagucu  
>5p-matureseq  
aaugcugauuuuggaucuugugc  
>5p-matureseq  
aaugcugauuuuggaucuugugccc  
>3p-matureseq  
ucugauccucugucagcagucu  
~~~~~  
>gis-dre-mir-23
aauguucugugaccauugaaaucgguuuucacagauuucgauagucacagaauauggu
>5p-matureseq
aauguucugugaccauugaaa
>3p-matureseq
uucgauagucacagaauauggu
~~~~~  
>gis-dre-mir-24  
aauuauugauauguggccagauguaaaauguaguauuuuggcccagauguuaauaaauuga  
>5p-matureseq  
aauuauugauauguggccaga  
>3p-matureseq  
uggcccagauguuaauaaauuga  
~~~~~  
>gis-dre-mir-25
acacgccacuaaaugcagagcaacuguaacuucagugggcuaccucacaguggcucugcauuuagu
ggcguguuu
>5p-matureseq
acacgccacuaaaugcagagc
>3p-matureseq
ucugcauuuaguggguguuu
~~~~~  
>gis-dre-mir-26  
acacugaaaggguauguaaaucaccaacaguuaacacaaaaugaagcucauagugaauaugccuguug  
uguag  
>5p-matureseq  
acacugaaaggguauguaaaucaccaaca  
>3p-matureseq  
auagugaauaugccuguuguguag  
~~~~~  
>gis-dre-mir-27
acacugaaaggguauguaaaucaccaacaguuaacacacaaaugaagcucauagugaauaugccuguug
uguag
>5p-matureseq
acacugaaaggguauguaaaucaccaaca
>3p-matureseq
auagugaauaugccuguuguguag
~~~~~  
>gis-dre-mir-28  
acagagagucagugauuaggcugcaaaacaaagcugauuagccuagccucugucugucugugu  
>5p-matureseq  
acagagagucagugauuaggcu

>3p-matureseq  
ccuagccucugucugucugugu  
~~~~~  
>gis-dre-mir-29
acagccagugacuuccauagcauuuuuguuuuuucgaccauggaggucaauggcugcau
>5p-matureseq
acagccagugacuuccauagc
>3p-matureseq
cauggaggucaauggcugcau
~~~~~  
>gis-dre-mir-30  
acagcuacuguaaacucucuaaaguaaaagggcauguaagagugacaguugcuacgg  
>5p-matureseq  
acagcuacuguaaacucucuaaagu  
>3p-matureseq  
uaagagugacaguugcuacgg  
~~~~~  
>gis-dre-mir-31
accgguaaccaucgacuuccauaguaggaaaaacaaaugcuaugaaaguuaaugguuauucgguuu
>5p-matureseq
accgguaaccaucgacuuccau
>3p-matureseq
gaaaguuaaugguuauucgguuu
~~~~~  
>gis-dre-mir-32  
acggauagaaucagcggagcugggagcgcucucucucucccgucuccgcugauuuugucagug  
>5p-matureseq  
acggauagaaucagcggagcugg  
>3p-matureseq  
cgcuccgcugauuuugucagug  
~~~~~  
>gis-dre-mir-33
acuggcacucauugacuucuguaguauuuuuuuuguuuucuaugaaagucuaauugguggcagcca
>5p-matureseq
acuggcacucauugacuucugu
>3p-matureseq
ugaaagucuaauugguggcagcca
~~~~~  
>gis-dre-mir-34  
acuugaggcaggugugcaugagcggcgccgaggaaacgcugguucugaaggagguggcucgugcagag  
gugucgugg  
>5p-matureseq  
acuugaggcaggugugcaugagcggcgc  
>3p-matureseq  
ggcucgugcagaggugucgugg  
~~~~~  
>gis-dre-mir-35
acuungcucacgugacuuggguguuucaaaauagcuuaagucaugugaucuaggggaa
>5p-matureseq
acuungcucacgugacuugggu
>3p-matureseq
uaagucaugugaucuaggggaa
~~~~~  
>gis-dre-mir-36

agaaaucagauucuccacauacacuuugacuaaaugcuucuguguggagaucugauuuucag  
>5p-matureseq  
agaaaucagauucuccacauaca  
>3p-matureseq  
uguguggagaucugauuuucag  
~~~~~  
>gis-dre-mir-37
agaaugcacaccugaggugacgagauguggcuguuacaccucaggugugcauuuuu
>5p-matureseq
agaaugcacaccugaggugacg
>3p-matureseq
uuacaccucaggugugcauuuuu
~~~~~  
>gis-dre-mir-38  
agacaccucuguuaucaaaacuaaaacaaacaugagauucauuugcugcucgcuuuguugauaacagag  
guguccu  
>5p-matureseq  
agacaccucuguuaucaaaacu  
>3p-matureseq  
uguugauaacagagguguccu  
~~~~~  
>gis-dre-mir-39
agacgcugacucugauggguuagucagugagaugaaccugucgggcggcgaaca
>5p-matureseq
agacgcugacucugauggguua
>3p-matureseq
ugaaccugucgggcggcgaaca
~~~~~  
>gis-dre-mir-40  
agacuaguagccauugagauuuuuuuucuuuuuaggauguuaguggcuacugguuuca  
>5p-matureseq  
agacuaguagccauugagaucu  
>3p-matureseq  
auguuaguggcuacugguuuca  
~~~~~  
>gis-dre-mir-41
agacuccaucauggugcgguucagcugauaugaccuggguuucugaacucacacagaaggagcucc
>3p-matureseq
acucacacagaaggagcucc
>5p-matureseq
agacuccaucauggugcgguuc
~~~~~  
>gis-dre-mir-42  
agagagaaaagucaauggcuuaaguggcuggagucgcugaugauucucuuggc  
>5p-matureseq  
agagagaaaagucaauggcuua  
>3p-matureseq  
agucgcugaugauucucuuggc  
~~~~~  
>gis-dre-mir-43
agagagaaaagucaauggcuugaguggcuggaguuacugauaaucuuuuggc
>5p-matureseq
agagagaaaagucaauggcuug
>3p-matureseq

aguuacugauaaauucuuuuggc
~~~~~  
>gis-dre-mir-44  
agagagaaaagucuauggcuuggguggcaggagucgcugauaaucucuuggc  
>5p-matureseq  
agagagaaaagucuauggcuug  
>3p-matureseq  
agucgcugauaaucucuuggc  
>3p-matureseq  
gagucgcugauaaucucuuggc  
~~~~~  
>gis-dre-mir-45
agagagaaaagucuauggcuuggguggcuggagucacugauaaucucuuggcu
>5p-matureseq
agagagaaaagucuauggcuug
>3p-matureseq
agucacugauaaucucuuggc
>3p-matureseq
gucacugauaaucucuuggcu
>3p-matureseq
ucacugauaaucucuuggcu
~~~~~  
>gis-dre-mir-46  
agagagaaaagucuguggcuugggugacuggagucgcugauaaucucuuggc  
>5p-matureseq  
agagagaaaagucuguggcuug  
>3p-matureseq  
agucgcugauaaucucuuggc  
>3p-matureseq  
gagucgcugauaaucucuuggc  
~~~~~  
>gis-dre-mir-47
agagagaaaagucuguggcuuggguggcuggagucacuaauuuucucuuggc
>5p-matureseq
agagagaaaagucuguggcuug
>3p-matureseq
agucacuaauuuucucuuggc
~~~~~  
>gis-dre-mir-48  
agagagaaaagucuuuggcuugggugacuggagucuaugauaaucucuuggc  
>5p-matureseq  
agagagaaaagucuuuggcuug  
>3p-matureseq  
agucacuaauuuucucuuggc  
>3p-matureseq  
gucauugauaaucucuuggc  
~~~~~  
>gis-dre-mir-49
agagagaaaagucuauggcuuggguggcuggagucgcugaugauuaucucuuggc
>5p-matureseq
agagagaaaagucuauggcuug
>3p-matureseq
agucgcugaugauuaucucuuggc
~~~~~

>gis-dre-mir-50  
agagaggaaagucuaugucuugggguggcuggagucuaugauaaauucucuuggc  
>5p-matureseq  
agagaggaaagucuaugucuug  
>3p-matureseq  
agucuaugauaaauucucuuggc  
>3p-matureseq  
gucauugauaaauucucuuggc  
~~~~~  
>gis-dre-mir-51
agagcguaggcuggggccguggagaggcgucugugcacugccuccagcugacagcuccu
>5p-matureseq
agagcguaggcuggggccgugga
>3p-matureseq
cugccuccagcugacagcuccu
~~~~~  
>gis-dre-mir-52  
agaggcuguccgagugcugauuuacauuaaugucacgacuaucagcacucggacagccucuuc  
>5p-matureseq  
agaggcuguccgagugcugaua  
>5p-matureseq  
gaggcuguccgagugcugaua  
>3p-matureseq  
ucagcacucggacagccucuuc  
~~~~~  
>gis-dre-mir-53
agagggaaaagucuauggcuugggguggcuggagucgcugaugauucucuuggcu
>5p-matureseq
agagggaaaagucuauggcuug
>3p-matureseq
agucgcugaugauucucuuggc
>3p-matureseq
ucgcugaugauucucuuggcu
~~~~~  
>gis-dre-mir-54  
agauagaaucagcggagcggggagaacucucucucccagcuccgcugauucugucagu  
>5p-matureseq  
agauagaaucagcggagcgggg  
>3p-matureseq  
cagcuccgcugauucugucagu  
~~~~~  
>gis-dre-mir-55
agaucuacuuugauuguucagaugacucugcucugcucugauuggucaaaauaggucuaca
>5p-matureseq
agaucuacuuugauuguucaga
>3p-matureseq
ugauuggucaaaauaggucuac
>3p-matureseq
ugauuggucaaaauaggucuaca
~~~~~  
>gis-dre-mir-56  
agauucaucacgacugacgguguacgacggaggaguagaucgacggggacuugacccuu  
>5p-matureseq  
agauucaucacgacugacgguguacga



>3p-matureseq  
guagaucgacggggacuugacccuu  
~~~~~  
>gis-dre-mir-57
agauuuagcacacuucuggcauauuuaucauguuguuaguagugucuaagucaug
>5p-matureseq
agauuuagcacacuucuggca
>3p-matureseq
uuaguagugucuaagucaug
~~~~~  
>gis-dre-mir-58  
agcaaucuagccugugcagauguguaguucuccagcgauucugcccaggccagacuacuagu  
>5p-matureseq  
agcaaucuagccugugcagaug  
>3p-matureseq  
ucugcccaggccagacuacuagu  
~~~~~  
>gis-dre-mir-59
agcagcacaaguacuauaggagagcgucaugauaaaggcucgguacacuuguguuugacc
>5p-matureseq
agcagcacaaguacuauaggagagc
>3p-matureseq
ucgguacacuuguguuugacc
~~~~~  
>gis-dre-mir-60  
agccaaccaggcacgugcaguggaguuuacugguucagugggcaugggcucauccgccggacucggga  
ccgccggucugcugacugg  
>5p-matureseq  
agccaaccaggcacgugcaguggagu  
>3p-matureseq  
ucgggaccgccggucugcugacugg  
~~~~~  
>gis-dre-mir-61
agccauuuccagccuggucuuagcuguucagacuggaaaaugaccagccaaauccagcuaaaaccagc
uugaccagccuggacauagcugg
>5p-matureseq
agccauuuccagccuggucuuagc
>3p-matureseq
uugaccagccuggacauagcugg
~~~~~  
>gis-dre-mir-62  
agccauuugcugaguccaagauucaguuccuggacucagcaaauggcuca  
>5p-matureseq  
agccauuugcugaguccaaga  
>3p-matureseq  
cuggacucagcaaauggcuca  
~~~~~  
>gis-dre-mir-63
agccgacucgcagcucucugucuccaaauggcgcguugugagcgaggagagaccgugagucgguag
c
>3p-matureseq
agagagaccgugagucgguagc
>5p-matureseq
agccgacucgcagcucucugucu

>5p-matureseq
agccgacucgcagcucucugucucc
~~~~~

>gis-dre-mir-64  
agcggagcccuauauugaccauauagucauaaaugaucaauauguggcuuccucu  
>5p-matureseq  
agcggagcccuauauugaccu  
>3p-matureseq  
ugaucaauauguggcuuccucu  
~~~~~

>gis-dre-mir-65
agcggcgucagaagcgauggccgugucucuaucceaauaggucgggucgcaaugacgucacc
>5p-matureseq
agcggcgucagaagcgauggcc
>5p-matureseq
agcggcgucagaagcgauggccg
>3p-matureseq
gucgggucgcaaugacgucacc
~~~~~

>gis-dre-mir-66  
agcuguauccuauuuagacuuuaccgucugcaggagagugugaagucuaugaugcgauacagaug  
>5p-matureseq  
agcuguauccuauuuagacuuu  
>3p-matureseq  
gaagucuaugaugcgauacagaug  
~~~~~

>gis-dre-mir-67
aggaukcaggacuccgcucugaauaaugaggaaaagaccaucagagaggagaaugucugcagccccg
c
>5p-matureseq
aggaukcaggacuccgcucug
>3p-matureseq
gagaggagaaugucugcagccccgc
~~~~~

>gis-dre-mir-68  
aggcuguccgagucgugauagucgugacauuaauguaauaucagcacucggacagccucuuc  
>5p-matureseq  
aggcuguccgagucgugauagu  
>3p-matureseq  
ucagcacucggacagccucuuc  
~~~~~

>gis-dre-mir-69
agguuuguacugagacugacuuuaaaguaaagugaugcugaggucuucucuguaccaaucaag
>5p-matureseq
agguuuguacugagacugacu
>3p-matureseq
ucuucucuguaccaaucaag
~~~~~

>gis-dre-mir-70  
agucuccauguaucuguguuugcacugggugaagagcgaaaaacugagugccaacacagauacacgga  
gacugg  
>3p-matureseq  
aacacagauacacggagacugg  
>5p-matureseq

agucuccauguaucuguguuug  
~~~~~  
>gis-dre-mir-71
agucuccguguaucuguguuugcacugggugaagagcgguaaacugagugcgaacacagauacacgga
gacuga
>3p-matureseq
aacacagauacacggagacuga
>5p-matureseq
agucuccguguaucuguguuug
>5p-matureseq
agucuccguguaucuguguuugc
>5p-matureseq
gucuccguguaucuguguuug
~~~~~  
>gis-dre-mir-72  
agucuucguucugcaucgggacuaccuuguaucagccacgauguaaacucaagaccu  
>5p-matureseq  
agucuucguucugcaucggga  
>3p-matureseq  
ccacgauguaaacucaagaccu  
~~~~~  
>gis-dre-mir-73
agucuucugguucuugagucguucguucaucaugugacagaccgacucuaacccgaggacucg
>5p-matureseq
agucuucugguucuugagucguuc
>3p-matureseq
ccgacucuaacccgaggacucg
~~~~~  
>gis-dre-mir-74  
agugcuguucuggaanguauucagguuugguuucuucugaaucucugagcccagcgcuga  
>3p-matureseq  
aaucucugagcccagcgcuga  
>5p-matureseq  
agugcuguucuggaanguauuca  
~~~~~  
>gis-dre-mir-75
aguucaggaggagacagcucuggggaaaaagcuguuccucagucugcugguuuuuuuccgggggagc
cu
>5p-matureseq
aguucaggaggagacagcucu
>3p-matureseq
ugcugguuuuuuuccgggggagccu
~~~~~  
>gis-dre-mir-76  
aguucuauagcaguguuugguaucauucagcggaggaaccacacacaacuauagcacugc  
>5p-matureseq  
aguucuauagcaguguuugguu  
>3p-matureseq  
ccacacacaacuauagcacugc  
~~~~~  
>gis-dre-mir-77
aguuuauuguauggagcgcgucugucagucagcgcuuauacauacuggu
>5p-matureseq
aguuuauuguauggagcgcgucugu

>3p-matureseq
gucagcgcuuauacauacuggu
~~~~~  
>gis-dre-mir-78  
aguuucgguuagugacucaugccuggaauucaggcuggcuuacucucacguugu  
>5p-matureseq  
aguuucgguuagugacucaugcc  
>3p-matureseq  
cuggcuuacucucacguugu  
~~~~~  
>gis-dre-mir-79
aucgguuugaugaucuucagacgugacaauauauaucaguuugaccaucuucagacgugacuauuggu
uugacgaucuucagacgugacu
>5p-matureseq
aucgguuugaugaucuucagac
>3p-matureseq
uugaccaucuucagacgugacua
>3p-matureseq
uugacgaucuucagacgugacu
>3p-matureseq
uuugaccaucuucagacguga
>3p-matureseq
uuugacgaucuucagacgugacu
~~~~~  
>gis-dre-mir-80  
aucuucagauugaucuccaucugucaacagauuuuagagagauccacugauggaacagcugauagacgu  
>5p-matureseq  
aucuucagauugaucuccaucuguc  
>3p-matureseq  
ugauggaacagcugauagacgu  
~~~~~  
>gis-dre-mir-81
aucuuuguucuggcuauauugaaggaguauucagaauguagccugaacaaaaccugauug
>5p-matureseq
aucuuuguucuggcuaua
>3p-matureseq
guagccugaacaaaaccugauu
>3p-matureseq
uagccugaacaaaaccugauug
~~~~~  
>gis-dre-mir-82  
augaagucaaugcaaagauuggauuaggcauccauuucaaucuuugcauugccuugaugu  
>3p-matureseq  
aaucuuugcauugccuugaugu  
>3p-matureseq  
aucuuugcauugccuugaugu  
>5p-matureseq  
augaagucaaugcaaagauugg  
>5p-matureseq  
augaagucaaugcaaagauugga  
~~~~~  
>gis-dre-mir-83
augaguguacuguuggcugcugggaacacuucgugacgacugaaaccaaaggaaaagaggaacuggcu
uuguuuc

>3p-matureseq
aggaaaagaggaacuggcuuuguuuc
>5p-matureseq
augaguguacuguuggcugcu
~~~~~  
>gis-dre-mir-84  
augauacacagcagcaucauggguaauguaguuuugcaccaugaaugcugcuguauaucauu  
>3p-matureseq  
augaaugcugcuguauaucauu  
>5p-matureseq  
augauacacagcagcaucauggg  
~~~~~  
>gis-dre-mir-85
augauguccauuucugcugcgcugugguugucaggagugcaagaauaggaccuucaggc
>5p-matureseq
augauguccauuucugcugcg
>3p-matureseq
caagaauaggaccuucaggc
~~~~~  
>gis-dre-mir-86  
auucacuaugacugucccuuguuccaaaaucuuacgagggagagucaauagugaacaca  
>3p-matureseq  
agggagagucaauagugaacaca  
>5p-matureseq  
auucacuaugacugucccuug  
~~~~~  
>gis-dre-mir-87
auuccggcgcggaugcggcagcugcggcucgcuuacggccgcccgaucuggccggaucg
>5p-matureseq
auuccggcgcggaugcggcag
>5p-matureseq
auuccggcgcggaugcggcagcg
>3p-matureseq
cgccgcaucuggccggaucg
~~~~~  
>gis-dre-mir-88  
auuccggcgcggaugcggcagcugcggcucgcuuacggcugcccgaucuggcccgaucg  
>5p-matureseq  
auuccggcgcggaugcggcag  
>5p-matureseq  
auuccggcgcggaugcggcagcg  
>3p-matureseq  
gccgcaucuggcccgaucg  
~~~~~  
>gis-dre-mir-89
auuccggcgcggaugcggcagcguuggcucgcuuacggccgcccgaucuggcccggaauuga
>5p-matureseq
auuccggcgcggaugcggcag
>5p-matureseq
auuccggcgcggaugcggcagcg
>3p-matureseq
cgccgcaucuggcccggaauuga
~~~~~  
>gis-dre-mir-90

caucagcugaucugucugcaagcugagauaugagugauccgcugauggauugacugauuggc  
>5p-matureseq  
caucagcugaucugucugca  
>3p-matureseq  
cugauggauugacugauuggc  
~~~~~  
>gis-dre-mir-91
cacauuugggcgaguucuuugaucaucuugaauucaugguacuccuuggauguugac
>3p-matureseq
augguacuccuuggauguugac
>5p-matureseq
cacauuugggcgaguucuuuga
~~~~~  
>gis-dre-mir-92  
cacgaccagcccagccgcguggaauuggagcagcgcagcccggacucggucaagg  
>5p-matureseq  
cacgaccagcccagccgcgugga  
>3p-matureseq  
cgcagcccggacucggucaagg  
~~~~~  
>gis-dre-mir-93
cacgcccacuaaaugcagagccacugugagguacgcccacugaaaguacaguugcucugcauuuagug
ggcguguuu
>5p-matureseq
cacgcccacuaaaugcagagcca
>3p-matureseq
ucugcauuuagugggcguguuu
~~~~~  
>gis-dre-mir-94  
cagaggaagaccgacaggugaagcacacaccgcaccugugcugauugauugaucaccugugcugaugu  
cugcuuccu  
>5p-matureseq  
agaggaagaccgacaggug  
>5p-matureseq  
cagaggaagaccgacaggug  
>3p-matureseq  
ccugugcugaugucugcuucc  
>3p-matureseq  
ccugugcugaugucugcuuccu  
~~~~~  
>gis-dre-mir-95
cagcagauucuuggucuucagagucugaauuccuucuuucugagucuuugagaucugcaga
>5p-matureseq
cagcagauucuuggucuucaga
>3p-matureseq
ucugagucuuugagaucugcaga
~~~~~  
>gis-dre-mir-96  
cagccccggucuugaaucugguccagacuaaacauuugggcugaucagugacugcggcugcu  
>5p-matureseq  
cagccccggucuugaaucuggucc  
>3p-matureseq  
gcugaucagugacugcggcugcu  
~~~~~

>gis-dre-mir-97
cagcguccucuccaagccugacugacaauaauuggacagaggcugaagacggggcgugc
>3p-matureseq
agaggcugaagacggggcgugc
>5p-matureseq
cagcguccucuccaagccugacu
~~~~~  
>gis-dre-mir-98  
caggacauccaauccgacagaccuugaguauagauucugaucagugggauuuggaggccaggc  
>5p-matureseq  
caggacauccaauccgacagacc  
>3p-matureseq  
ucagugggauuuggaggccaggc  
~~~~~  
>gis-dre-mir-99
cagucucucuggaucagugguuuuucuuacagcagcgucucagaucugugacagacagga
>5p-matureseq
cagucucucuggaucaguggu
>3p-matureseq
ucagaucugugacagacagga
~~~~~  
>gis-dre-mir-100  
caguuccccguccuguugguguuguaauuuuagucuuacaaagugggucggagagcuguu  
>3p-matureseq  
caaagugggucggagagcuguu  
>5p-matureseq  
caguuccccguccuguugguguu  
~~~~~  
>gis-dre-mir-101
caguuugguucgguaggccuuuugacaguggaaacagccauaaaagcuuaccaaaccguaccgua
>3p-matureseq
agcuuaccaaaccguaccgua
>5p-matureseq
caguuugguucgguaggccuuu
~~~~~  
>gis-dre-mir-102  
caguuugguucgguaggccuuuugacaguggaaacggccaauaaaagcguaccaaaccgaaccaua  
>3p-matureseq  
aaaagcguaccaaaccgaacc  
>3p-matureseq  
agcguaccaaaccgaaccaua  
>3p-matureseq  
auaaaagcguaccaaaccgaacc  
>5p-matureseq  
caguuugguucgguaggccuuu  
>3p-matureseq  
uaaaagcguaccaaaccgaacc  
~~~~~  
>gis-dre-mir-103
caucaaaugucaucgcgaucaucauaguagaagugaucgcuaugacauuugaugacg
>3p-matureseq
aucgcuaugacauuugaugacg
>5p-matureseq
caucaaaugucaucgcgaucau

~~~~~  
>gis-dre-mir-104  
caucuggucuaguugcaggagucaaaauuuucaacggacccgcagcucaaaucagaucu  
>3p-matureseq  
acccgcagcucaaaucagaucu  
>5p-matureseq  
caucuggucuaguugcaggaguu  
~~~~~  
>gis-dre-mir-105
caugaugaugccuugaucagaugcugacugugacauuaagugacggcuugaucaggauucaucaucg
cc
>5p-matureseq
caugaugaugccuugaucaga
>3p-matureseq
cuugaucaggauucaucaucgcc
~~~~~  
>gis-dre-mir-106  
caugcacugucaaccugacaccuuauauagacagguguaugcguuuucaggucauguc  
>5p-matureseq  
caugcacugucaaccugacac  
>3p-matureseq  
uguaugcguuuucaggucauguc  
~~~~~  
>gis-dre-mir-107
cauuagaggucuuuuuacuguuuguaucacugcuuuuuuaguguccuccagagc
>5p-matureseq
cauuagaggucuuuuuacugu
>3p-matureseq
uuuuuuuaguguccuccagagc
~~~~~  
>gis-dre-mir-108  
ccaaaucguauguuacacugugaauacuguaaaggccuguuuguucgcaaggagcuguggcguc  
>5p-matureseq  
ccaaaucguauguuacacugugaauacugu  
>3p-matureseq  
uuuguucgcaaggagcuguggcguc  
~~~~~  
>gis-dre-mir-109
ccaaucaacuugagucuggguuuuugaucucagcugcauccagcagguguuuucggagcagacuucgac
uugauugggu
>5p-matureseq
ccaaucaacuugagucuggguuuu
>3p-matureseq
gcagacuucgacuugauugggu
~~~~~  
>gis-dre-mir-110  
ccaccacugcaauuccaucaugaugaaaaagaagucugagaaaugcuguaauuggugua  
>5p-matureseq  
ccaccacugcaauuccaucaugaugaaaa  
>3p-matureseq  
ucugagaaaugcuguaauuggugua  
~~~~~  
>gis-dre-mir-111
ccaguuccacaauuugccauauucugugcauacuugaaacauaaaaauuggcaaaauguggaacuagc

>5p-matureseq
ccaguuccacaauuugccauau
>3p-matureseq
uauggcaaaauguggaacuagc
~~~~~  
>gis-dre-mir-112  
ccauccacaucaagguucgacaugugcacaacaugucgaaccuugauguggaugggcu  
>5p-matureseq  
ccauccacaucaagguucgaca  
>3p-matureseq  
ucgaaccuugauguggaugggcu  
~~~~~  
>gis-dre-mir-113
ccauccacaucaagguucgacauguugugcacaugucgaaccuugauguggaugggcu
>5p-matureseq
ccauccacaucaagguucgaca
>3p-matureseq
ucgaaccuugauguggaugggcu
~~~~~  
>gis-dre-mir-114  
ccauuugggcagagcugagcuccagugaggggcucaugcucggcuggagcgcagcucugcuca  
aauggcu  
>3p-matureseq  
agcgcagcucugcucaauggcu  
>5p-matureseq  
ccauuugggcagagcugagcu  
>5p-matureseq  
ccauuugggcagagcugagcucc  
>3p-matureseq  
cgcagcucugcucaauggcu  
~~~~~  
>gis-dre-mir-115
cccagaauucaaggaccaaccaucuucucaacgcuugaugugguccugccuucuggacg
>5p-matureseq
cccagaauucaaggaccaaccau
>3p-matureseq
ugugguccugccuucuggacg
~~~~~  
>gis-dre-mir-116  
cccccgcauguccuugagccccgcaucugucugcugugcucagagugguugugcgggugu  
>5p-matureseq  
cccccgcauguccuugagcccc  
>3p-matureseq  
gcucagagugguugugcgggugu  
~~~~~  
>gis-dre-mir-117
ccgagcuugugcagauaguggaaugguaccaacaagagauaguugggcucaccuccacacacagcuug
ggc
>5p-matureseq
ccgagcuugugcagauaguggaauggua
>3p-matureseq
ucaccuccacacacagcuugggc
~~~~~  
>gis-dre-mir-118

ccgagcuugugcgggagguggaacgauacugacuagggcucaccuccacacauagcuuggg  
>5p-matureseq  
ccgagcuugugcgggaggugga  
>3p-matureseq  
ucaccuccacacauagcuuggg  
~~~~~  
>gis-dre-mir-119
ccgccccgucucugcuaccucauaaauaagucuaaauugugagucggcggaggcagggugacg
>5p-matureseq
ccgccccgucucugcuaccu
>5p-matureseq
ccgccccgucucugcuaccuca
>3p-matureseq
gucggcggaggcagggugacg
~~~~~  
>gis-dre-mir-120  
ccggaauauagaguuggauugggcucucagaguuggguauccauggcaucaguagagaagccacaac  
cgauuguuuaauuuuugug  
>3p-matureseq  
ccacaaccgauuguuuaauuuuugug  
>5p-matureseq  
ccggaauauagaguuggauugggcu  
~~~~~  
>gis-dre-mir-121
ccgugccugauaaacagggacucugcuuuauagcgaucaaaaagcgccugauaucagcgcacuggca
g
>5p-matureseq
ccgugccugauaaacagggacu
>3p-matureseq
cgccugauaucagcgcacuggcag
~~~~~  
>gis-dre-mir-122  
ccguggagugaucaaggaggacgagauuuacacucuccuccuucccaccacgaugagg  
>3p-matureseq  
cccuccuucccaccacgaugagg  
>5p-matureseq  
ccguggagugaucaaggaggacg  
~~~~~  
>gis-dre-mir-123
ccuagaaaucuggaaaagugcuggaguuuugacaaggcauuuuccaggcuuucuaggac
>3p-matureseq
cauuuuccaggcuuucuaggac
>5p-matureseq
ccuagaaaucuggaaaagugcu
~~~~~  
>gis-dre-mir-124  
ccucgagcccagugcuuccuccuguuggcagagcgaguggggagccugagcucgguggau  
>5p-matureseq  
ccucgagcccagugcuuccuccu  
>3p-matureseq  
uggggagccugagcucgguggau  
~~~~~  
>gis-dre-mir-125
cgaaccgacagaaaacacaugugaaaacacaacauacguguguuuucugucgguucguu

>5p-matureseq
cgaaccgacagaaaacacaugu
>3p-matureseq
guguguuuucugucgguucguu
~~~~~  
>gis-dre-mir-126  
cggccgauuggccggccgcccggucgaucguucagucguucggccggccagucggacaga  
>5p-matureseq  
cggccgauuggccggccgcccg  
>3p-matureseq  
uucggccggccagucggacaga  
~~~~~  
>gis-dre-mir-127
cggcugugcauggaacucuggagacggcacuggccauuuaggaacucuggacaccuga
>5p-matureseq
cggcugugcauggaacucugga
>3p-matureseq
uaggaacucuggacaccuga
~~~~~  
>gis-dre-mir-128  
cgguuugguacgcuucuguggccguuuccacugucaauaaguguaccaaaccaaac  
>3p-matureseq  
caauaaguguaccaaaccaaac  
>5p-matureseq  
cgguuugguacgcuucugug  
~~~~~  
>gis-dre-mir-129
cgucuacagauacugcuggagagauagaguaugaaaacuccuccacugucucugucggcguc
>5p-matureseq
cgucuacagauacugcuggagag
>3p-matureseq
cuccacugucucugucggcguc
~~~~~  
>gis-dre-mir-130  
cgucuggcauuggguuugcagcaaacaaaugcauuggcggacucc  
>3p-matureseq  
aacaaaugcauuggcggacucc  
>5p-matureseq  
cgucuggcauuggguuugcagc  
~~~~~  
>gis-dre-mir-131
cgugggauugagguagaagagaacugauuauaacucuccucacauacaaucccugccu
>5p-matureseq
cgugggauugagguagaaga
>5p-matureseq
cgugggauugagguagaagaga
>3p-matureseq
uccucacauacaaucccugccu
~~~~~  
>gis-dre-mir-132  
cuacuggccuccauuacuccaguauugaugucucuggagacguggaggucgguggau  
>5p-matureseq  
cuacuggccuccauuacucca  
>3p-matureseq

ggagacguggaggucgguggau  
~~~~~  
>gis-dre-mir-133
cuccacugucucugucggcgucucuucuuucucuccgcucgacggaguguguauuu
>3p-matureseq
cgucgacggaguguguauuu
>5p-matureseq
cuccacugucucugucggcguc
~~~~~  
>gis-dre-mir-134  
cucgagcccagaguucccucccgugcaagguggggaggggaguuugagcucaggu  
>5p-matureseq  
cucgagcccagaguucccucccg  
>3p-matureseq  
ggaggggaguuugagcucaggu  
~~~~~  
>gis-dre-mir-135
cucggaguagaucuuugagagaagucagcugagaugacucagagaucuguuucgaau
>3p-matureseq
acucagagaucuguuucgaau
>5p-matureseq
cucggaguagaucuuugagaga
~~~~~  
>gis-dre-mir-136  
cucugacagaaucagcggagcggggagagagagcgcuccccgcaccgcugauucuauccguac  
>3p-matureseq  
caccgcugauucuauccguac  
>5p-matureseq  
cucugacagaaucagcggagc  
>5p-matureseq  
cucugacagaaucagcggagcg  
~~~~~  
>gis-dre-mir-137
cucuuccuucuacgucauuaaaccgcgaggagaagcaccacaauugucgaaaguuuuaugauguacugaac
ggaugccu
>5p-matureseq
cucuuccuucuacgucauuaaaccgcg
>3p-matureseq
uaaugauguacugaacggaugccu
~~~~~  
>gis-dre-mir-138  
cugaagcaaaaacucgggccuggauagaguucaggaaggccagacugcauuguugacgcg  
>3p-matureseq  
aggccagacugcauuguugacgcg  
>5p-matureseq  
cugaagcaaaaacucgggccugg  
~~~~~  
>gis-dre-mir-139
cugaagcccuugugaauugggcauuuaagguaaagcccaauucacacugggcuucagc
>3p-matureseq
ccaauucacacugggcuucagc
>5p-matureseq
cugaagcccuugugaauugggc
~~~~~

>gis-dre-mir-140  
cugagccucggcugcaggucugauugcucuguaaacucuucaccaugcagccgagaccaaga  
>5p-matureseq  
cugagccucggcugcaggucuga  
>3p-matureseq  
ucaccaugcagccgagaccaaga  
~~~~~  
>gis-dre-mir-141
cugaugaagucacucuaugacccgcgggcucugugucucgggauagguugauuucauugcau
>5p-matureseq
cugaugaagucacucuaugacc
>5p-matureseq
cugaugaagucacucuaugaccc
>5p-matureseq
cugaugaagucacucuaugacccg
>3p-matureseq
ggauagguugauuucauugcau
~~~~~  
>gis-dre-mir-142  
cugccauccagcgcucugaaccugcggcuuucuggcgggcagagcgcagguggggcgaac  
>5p-matureseq  
cugccauccagcgcucugaaccu  
>3p-matureseq  
gcagagcgcagguggggcgaac  
~~~~~  
>gis-dre-mir-143
cuggaacacaugcguuagcacagcaacacaugcuaaucgucaacagucuagu
>3p-matureseq
acaaugcuaaucgucaacagucuagu
>5p-matureseq
cuggaacacaugcguuagcacagca
~~~~~  
>gis-dre-mir-144  
cuggagaucagcagaauggauucaguauugguaaaaccucaacuucagcugaucucugggu  
>3p-matureseq  
caacauucagcugaucucugggu  
>5p-matureseq  
cuggagaucagcagaauggauuc  
~~~~~  
>gis-dre-mir-145
cuggagauccgcugaauugauucgauaaugguaaaacuuaacuucagcugaucucugggu
>5p-matureseq
cuggagauccgcugaauugauuc
>3p-matureseq
uaacauucagcugaucucugggu
~~~~~  
>gis-dre-mir-146  
cugguuuugcuggucuaaggucuggucaugcugguuuaaauugcauugaccagcuagaccagcauuaaa  
accagcaagaccagcu  
>3p-matureseq  
auuaaaaccagcaagaccagcu  
>5p-matureseq  
cugguuuugcuggucuaagguc  
~~~~~

>gis-dre-mir-147
cuguacgguucaguuugguauuuuaggccguuuccacugucaaaaagacauaccgaaccguacug
uaccgua

>5p-matureseq
cuguacgguucaguuugguauug
>3p-matureseq
uaccgaaccguacuguaccgua

~~~~~  
>gis-dre-mir-148  
cuguacgguucaguuugguauuuuccacugucaaaaaggcguaccaaaccgaaccguaucaua  
>5p-matureseq  
cuguacgguucaguuugguauug  
>3p-matureseq  
uaccaaaccgaaccguaucaua

~~~~~  
>gis-dre-mir-149
cugugcuugagucaaaaguuuuacauccagcuaaggauaaagcaggggc
>5p-matureseq
cugugcuugagucaaaaguuu
>3p-matureseq
gcuaaggauaaagcaggggc

~~~~~  
>gis-dre-mir-150  
cuguggucagcguggucguugcagugugaagauauagccgacgacacuguucugauuggcugu  
>3p-matureseq  
acgacacuguucugauuggcugu  
>5p-matureseq  
cuguggucagcguggucgu

~~~~~  
>gis-dre-mir-151
cuuacaauuaaaggauauuuucugagccgaaacuagcagaaauaucucuuaauuguuuuggu
>3p-matureseq
aaauaucucuuaauuguuuuggu
>5p-matureseq
cuuacaauuaaaggauauuuucu
>5p-matureseq
uuacaauuaaaggauauuuucu

~~~~~  
>gis-dre-mir-152  
cuucacucgucuguguucagcucuggaugaugugaugcugaacacggcccugagugagggga  
>5p-matureseq  
cuucacucgucuguguucagc  
>3p-matureseq  
ugaacacggcccugagugagggga

~~~~~  
>gis-dre-mir-153
cuugggaugeaucuggcucguggaguacaaaguguuguggaagacuuaggugucagagggccauucau
uccuuacc
>3p-matureseq
cagagggccauucauuccuuacc
>5p-matureseq
cuugggaugeaucuggcucgugga

~~~~~  
>gis-dre-mir-154

cuuguaaccaugaguucuauaguauuuguuguccuacuaugaaaaucacugguuacaggcu

>5p-matureseq

cuuguaaccaugaguucuaa

>3p-matureseq

ugaaaaucacugguuacaggcu

~~~~~

>gis-dre-mir-155

gaaaccaagcauggguguggccugaauccuccaauggcacccauccugguuucuga

>5p-matureseq

gaaaccaagcauggguguggcc

>5p-matureseq

gaaaccaagcauggguguggccu

>3p-matureseq

gcgacccauccugguuucuga

~~~~~

>gis-dre-mir-156

gaaagcugauuacugugacugcagugcacacuguaaaagcugcagucacaguaaucagcuuuu

>5p-matureseq

aaagcugauuacugugacugc

>5p-matureseq

gaaagcugauuacugugacugc

>3p-matureseq

gcagucacaguaaucagcuuuu

>3p-matureseq

ugcagucacaguaaucagcuuu

~~~~~

>gis-dre-mir-157

gaaagggugccgaaaaagugguacgguacgauuugguucgguacgccuuuuga

>5p-matureseq

gaaagggugccgaaaaagug

>3p-matureseq

uuugguucgguacgccuuuuga

~~~~~

>gis-dre-mir-158

gaaaguggacaaaagaaacacauucaaaugccuggugucaaccguaauggauucauuuguccacuug

uga

>5p-matureseq

gaaaguggacaaaagaaacaca

>3p-matureseq

ugauucauuuguccacuuguga

~~~~~

>gis-dre-mir-159

gaaaguggacaaaagaaacacauuuaaugcuagguuugaaugguaaugugugucuuuuguccacuug

uga

>5p-matureseq

gaaaguggacaaaagaaacaca

>3p-matureseq

ugugucuuuuguccacuuguga

~~~~~

>gis-dre-mir-160

gaaauuagcuauugacauaaaaaaaaucuacuauggauaucaguggcuaguucca

>5p-matureseq

gaaauuagcuauugacauaaa

>3p-matureseq

gauaucaguggcuaguuucca  
~~~~~  
>gis-dre-mir-161
gaagcauccuuguccucugccccgaagcccagcccuaaggcagagcggccggaugugccu
>5p-matureseq
gaagcauccuuguccucugcccc
>3p-matureseq
uaaggcagagcggccggaugugccu
~~~~~  
>gis-dre-mir-162  
gaagcauccuuguccucugccccggagcccagcccuaaggcagagcggccggaugugccu  
>5p-matureseq  
gaagcauccuuguccucugcccc  
>5p-matureseq  
gaagcauccuuguccucugccccgg  
>3p-matureseq  
uaaggcagagcggccggaugugccu  
~~~~~  
>gis-dre-mir-163
gaagguagugagcugugccuuaaaacuggacuggguuccuuaauagagccgggagaaguguccgaggu
gaugccacgccggacu
>5p-matureseq
gaagguagugagcugugccuuaaaac
>3p-matureseq
uccgaggugaugccacgccggacu
~~~~~  
>gis-dre-mir-164  
gacaucugcacacugcuguguuauugauucagcacagaaguacacagacgucug  
>3p-matureseq  
cacagaaguacacagacgucug  
>5p-matureseq  
gacaucugcacacugcugugu  
~~~~~  
>gis-dre-mir-165
gaccguccggcugcccgaacgaacaaacgaccgaccgggcccggccggaucgc
>3p-matureseq
accgggcccggccggaucgc
>5p-matureseq
gaccguccggcugcccgaacg
~~~~~  
>gis-dre-mir-166  
gacucugcaugugugcuguguuuuuuagcccacacugcaaccauaugcaggauucugc  
>3p-matureseq  
cugcaaccuauaugcaggaucu  
>5p-matureseq  
gacucugcaugugugugcugugu  
>3p-matureseq  
ugcaaccuauaugcaggauucugc  
~~~~~  
>gis-dre-mir-167
gagaagcagacaucagcacaggugaucaucauacagcacaggugcggugugugcuucacc
>3p-matureseq
caggugcggugugugcuucacc
>5p-matureseq

gagaagcagacaucagcacaggu

~~~~~

>gis-dre-mir-168

gagaauaaugcacacaugagcaacuuaaccaacucaggugugcauuuuuccu

>3p-matureseq

acucaggugugcauuuuuccu

>5p-matureseq

gagaauaaugcacacaugagca

~~~~~

>gis-dre-mir-169

gagaaucaucagacuaggcaauguuuuuccaauaucugugucuaauuuuggugagccuguucug

>5p-matureseq

gagaaucaucagacuaggcaau

>3p-matureseq

ucuaauuuuggugagccuguucug

~~~~~

>gis-dre-mir-170

gaggcggguggcgcgguaguuguggggacgccgcucucuaauuucugccacccuagacgcggaua  
uaauug

>5p-matureseq

gaggcggguggcgcgguag

>3p-matureseq

gccacccuagacgcggauuaauug

~~~~~

>gis-dre-mir-171

gaguucugagguuuuuguauuugucaucauuaucauacgcaagugcaaauccaucagaucugu

>3p-matureseq

agugcaaauccaucagaucugu

>5p-matureseq

gaguucugagguuuuuguauuu

>5p-matureseq

gaguucugagguuuuuguauuuug

>5p-matureseq

gaguucugagguuuuuguauuuugu

~~~~~

>gis-dre-mir-172

gaugaggcugaaggccacugagcaugugcaguaagucuccugcagcuacucaucu

>5p-matureseq

gaugaggcugaaggccacu

>3p-matureseq

ucuccugcagcuacucaucu

~~~~~

>gis-dre-mir-173

gcacaauacaggcauuuggaugcuggcugcucucaaagcuucccaugcucguagaaugug

>5p-matureseq

gcacaauacaggcauuuggaug

>3p-matureseq

uucccaugcucguagaaugug

~~~~~

>gis-dre-mir-174

gcaccaucgacuuucauaguauuuuguuuuccuacuauugaagucgaugggugcca

>3p-matureseq

cuauugaagucgaugggugcca

>5p-matureseq

gcacccaucgacuuuauagua  
~~~~~  
>gis-dre-mir-175
gcacucugugguuccaguggcgcauuguuaccuccccaugggccuggcgaucaacagggcgaga
>5p-matureseq
gcacucugugguuccaguggc
>3p-matureseq
ggccuggcgaucaacagggcgaga
~~~~~  
>gis-dre-mir-176  
gcagacuucgacuugauugggucuuuugauugaggaggagaccaguggguaagucugaga  
>3p-matureseq  
ccaguggguaagucugaga  
>5p-matureseq  
gcagacuucgacuugauugggu  
~~~~~  
>gis-dre-mir-177
gcaguagugucugauucugucauuuauaagcaugucugaauugauuuauugcau
>5p-matureseq
gcaguagugucugauucuguca
>3p-matureseq
ucugaaucugauguuuauugcau
~~~~~  
>gis-dre-mir-178  
gccagcuccgggccgagcgcauuacucucgggcugauuccggcgcggaugcggcag  
>3p-matureseq  
auuccggcgcggaugcggcag  
>5p-matureseq  
gccagcuccgggccgagcgc  
~~~~~  
>gis-dre-mir-179
gccagggaccucuagguggaggggcaauaggcccucuggggccagacugcaaguccaaggagaguuu
ggccc
>5p-matureseq
gccagggaccucuagguggaggggcaaa
>3p-matureseq
ugcaaguccaaggagaguuuaggccc
~~~~~  
>gis-dre-mir-180  
gccaucugacagguccaguucagugucacuguugaauuauagagcgguggaaaaaacguagauauac  
cagaucggcug  
>3p-matureseq  
aacguagauauaccagaucggcug  
>5p-matureseq  
gccaucugacagguccaguuca  
~~~~~  
>gis-dre-mir-181
gccugccucucugugucucaaacacuucuaacugugucugagacacucagagggugg
>5p-matureseq
gccugccucucugugucucaaca
>3p-matureseq
ucugagacacucagagggugg
~~~~~  
>gis-dre-mir-182

gcgucaaaaagcauuuuucagaaaaucccuguaaucgauuucugacaugucuuuugaugcca

>5p-matureseq

gcgucaaaaagcauuuuucagaaa

>3p-matureseq

ucugacaugucuuuugaugcca

~~~~~

>gis-dre-mir-183

gcgugauaacucuuuggcgacagagugucugcuucuguccaugguuguacgcuga

>5p-matureseq

gcgugauaacucuuuggcgacagagu

>3p-matureseq

uguccaugguuguacgcuga

~~~~~

>gis-dre-mir-184

gcguggaccggugggguuacauuaacaauuaccaauguaacgccgccgguccuacgcca

>5p-matureseq

cguuggaccggugggguuaca

>5p-matureseq

gcguggaccggugggguuaca

>3p-matureseq

uaacgccgccgguccuacgcc

>3p-matureseq

uaacgccgccgguccuacgcca

~~~~~

>gis-dre-mir-185

gcuaauguuagagaccaucugaaugcuguggcauauugguccaugauguuugcua

>5p-matureseq

gcuaauguuagagaccaucu

>3p-matureseq

uaugguccaugauguuugcua

~~~~~

>gis-dre-mir-186

gcuagugugaauaaggcauaagaauucgucuaacaaacgucgcuuucuaaccucauucacacuacga

>3p-matureseq

cuaaccucauucacacuacga

>5p-matureseq

gcuagugugaauaaggcauaag

~~~~~

>gis-dre-mir-187

gcugagacuugggccagacaugguccauguuuagucaaugucuggcaucaagacuuggucc

>5p-matureseq

gcugagacuugggccagaca

>3p-matureseq

ucuggcaucaagacuuggucc

~~~~~

>gis-dre-mir-188

gcugccacaugggccacaggaguguccauuccacgcccucgggacaucucggugggggaggagcua

uugugggauuauuggugucagacgg

>5p-matureseq

gcugccacaugggccacagg

>3p-matureseq

ugugggauuauuggugucagacgg

~~~~~

>gis-dre-mir-189

gcugcuggacuccggaugcuuguggacucacugcccgauuuccggccagaugcggcggccg

>5p-matureseq

gcugcuggacuccggaugcu

>3p-matureseq

uuuccggccagaugcggcggccg

~~~~~

>gis-dre-mir-190

gcuuuacaccauguuggaugcaguaaugguugcccauccaucuggauugaaaaguu

>3p-matureseq

auccaucuggauugaaaaguu

>5p-matureseq

gcuuuacaccauguuggaugc

~~~~~

>gis-dre-mir-191

ggaagaagaggcguuguuagugcugagaaaaagacaacaacaauuccucuucuuucuc

>3p-matureseq

acaacaauuccucuucuuucuc

>5p-matureseq

ggaagaagaggcguuguuagug

~~~~~

>gis-dre-mir-192

ggauagaaucagccgagcggggagcgcucucucucccguccgcugauucugucagu

>3p-matureseq

ccgcuccgcugauucugucagu

>5p-matureseq

ggauagaaucagccgagcggg

>5p-matureseq

ggauagaaucagccgagcgggg

~~~~~

>gis-dre-mir-193

ggauagaaucagccgagcggggagcgcucucucucccguccgcugauucugucaga

>3p-matureseq

ccgcuccgcugauucugucaga

>5p-matureseq

ggauagaaucagccgagcggg

>5p-matureseq

ggauagaaucagccgagcgggg

~~~~~

>gis-dre-mir-194

ggauagaaucagcggagcggggagcgcucucucucccguccgcugaaucugucagu

>3p-matureseq

ccgcuccgcugaaucugucagu

>5p-matureseq

ggauagaaucagcggagcgggg

~~~~~

>gis-dre-mir-195

ggauagaaucagcggagcggggagcgcucucucucccguccgcagauucugucagu

>3p-matureseq

ccgcuccgcagauucugucagu

>5p-matureseq

ggauagaaucagcggagcgggg

~~~~~

>gis-dre-mir-196

ggauagaaucagcggagcggggagcgcucucucucccucuccgcugauucuguca

>3p-matureseq  
cccucuccgcugauucuguca  
>5p-matureseq  
ggauagaaucagcggagcgggg  
~~~~~  
>gis-dre-mir-197
ggauagaaucagcggagcggggagcgcucuucuccccgcucugcugauuuugucagu
>3p-matureseq
ccgcucugcugauuuugucagu
>5p-matureseq
ggauagaaucagcggagcgggg
~~~~~  
>gis-dre-mir-198  
ggauagaaucagcugagcgggaaacgcucucucuccccgcuccgcugauucugucagu  
>3p-matureseq  
ccgcuccgcugauucugucagu  
>5p-matureseq  
ggauagaaucagcugagcggg  
>5p-matureseq  
ggauagaaucagcugagcggga  
~~~~~  
>gis-dre-mir-199
ggcuaaaauacuuguagaagauggacagagagauuaucuacaagugauuuagcugu
>5p-matureseq
ggcuaaaauacuuguagaaga
>3p-matureseq
uucuacaagugauuuagcugu
~~~~~  
>gis-dre-mir-200  
ggcucgcaggaaggccugcugcuugacgcuguuccucgugacuagagaggagaccuugccugcgggc  
uuu  
>3p-matureseq  
ggagaccuugccugcgggcuuu  
>5p-matureseq  
ggcucgcaggaaggccugcug  
~~~~~  
>gis-dre-mir-201
gggagcaguguuaauuucgucaaugcaaaauagaauugagaaauugucauugcucauga
>3p-matureseq
gagaaauugucauugcucauga
>5p-matureseq
gggagcaguguuaauuucguca
~~~~~  
>gis-dre-mir-202  
ggggagaacauguaaacucugcauagaaacgacauuuugugcaguuuacuuguucuuuucgu  
>3p-matureseq  
caguuuacuuguucuuuucgu  
>3p-matureseq  
gcaguuuacuuguucuuuucgu  
>5p-matureseq  
ggagaacauguaaacucugcau  
>5p-matureseq  
ggggagaacauguaaacucugca  
>5p-matureseq

ggggagaacauguaaacucugcaua  
>3p-matureseq  
ugcaguuuacuuguucuuuucgu  
~~~~~  
>gis-dre-mir-203
gguaaccuugacuuccauaguuaagaaaaacaaauacuauugagaucaaugguugcagg
>5p-matureseq
gguaaccuugacuuccauagu
>3p-matureseq
uauugagaucaaugguugcagg
~~~~~  
>gis-dre-mir-204  
gguagcacuguugcuuaggauagcaggguucuuuaaacgcuuccucucagcaacaacugccc  
>5p-matureseq  
gguagcacuguugcuuaggau  
>3p-matureseq  
uuccucucagcaacaacugccc  
~~~~~  
>gis-dre-mir-205
ggugcaaaguuaaacgugcaugcuguguguguaugugcgugaacuuguagcga
>5p-matureseq
ggugcaaaguuaaacgugcaug
>3p-matureseq
ugugcgugaacuuguagcga
~~~~~  
>gis-dre-mir-206  
ggugcagcagacuccucuccucucagauaucugugcuggagcugaggagcugaugcucugc  
>3p-matureseq  
agcugaggagcugaugcucugc  
>5p-matureseq  
ggugcagcagacuccucuccucu  
~~~~~  
>gis-dre-mir-207
ggugcgcaacuucacggggacucucugaugcacgagaaagagcucguaaaguagcgcagggc
>3p-matureseq
gagcucguaaaguagcgcagggc
>5p-matureseq
ggugcgcaacuucacggggacu
~~~~~  
>gis-dre-mir-208  
gguuugguacgcuuuuaggccguuuccacugucaaaaggccuaccgaaccaa  
>5p-matureseq  
gguuugguacgcuuuuaggcc  
>3p-matureseq  
ucaaaggccuaccgaaccaa  
~~~~~  
>gis-dre-mir-209
guaaaagaacaagggaugccucaguuuuuuuuucaagcuaaagagcuuugaaaugaagaguuuuccu
cguuccuuccacagg
>5p-matureseq
guaaaagaacaagggaugccu
>3p-matureseq
guuuuccucguuccuuccacagg
~~~~~



>5p-matureseq  
gucacugguucgagcucggucc  
>3p-matureseq  
uucgagcucgguccauuggcau  
~~~~~  
>gis-dre-mir-218
gucaucucugagcgggugugugucgcuucucucccgagacccgcagauggugaugg
>3p-matureseq
cagacccgcagauggugaugg
>3p-matureseq
gcagacccgcagauggugaugg
>5p-matureseq
gucaucucugagcgggugugug
>5p-matureseq
gucaucucugagcgggugugugu
~~~~~  
>gis-dre-mir-219  
gucaugaugagcugauuacucaguugaacucucuugaggaucaucaucaucaagccugaucguug  
gcu  
>3p-matureseq  
caucaucagccugaucguuggcgu  
>5p-matureseq  
gucaugaugagcugauuacu  
>5p-matureseq  
gucaugaugagcugauuacuca  
>3p-matureseq  
ucaucagccugaucguuggcgu  
~~~~~  
>gis-dre-mir-220
gucgguggcgccggguuggcggcccugguggugccggugugccaccgcccgaagucgccugcggagg
>3p-matureseq
caccgcccgaagucgccugcggagg
>5p-matureseq
gucgguggcgccggguuggcggcc
~~~~~  
>gis-dre-mir-221  
gucuccguguaucuguguuugcacugggugaagagcaguaagcugagugcaaacuaaacacagagaca  
cggauacug  
>3p-matureseq  
aacacagagacacggauacug  
>5p-matureseq  
gucuccguguaucuguguuug  
~~~~~  
>gis-dre-mir-222
gucuccgugugucuguguuugcacugggugaagagcaguaagcugagugcaaacaaacacagagaca
cggauacug
>3p-matureseq
aacacagagacacggauacug
>5p-matureseq
gucuccgugugucuguguuug
~~~~~  
>gis-dre-mir-223  
gucuggaccccagugacuucaguggaauuacuugaaagucaugguguccgaacua  
>3p-matureseq



aaagucaaugguguccgaacua  
>5p-matureseq  
gucuggaccccagugacuuuca  
>5p-matureseq  
gucuggaccccagugacuuucag  
~~~~~  
>gis-dre-mir-224
gucuugcgcugugcacuugaccuuuugaccucuaaggucgugaccucgcugcaugacugc
>5p-matureseq
gucuugcgcugugcacuugaccu
>3p-matureseq
ucgugaccucgcugcaugacugc
~~~~~  
>gis-dre-mir-225  
gugaguguccugagugggaaacgggacagagaaacuguucugcuaacguccugcucagaacaacaug  
c  
>3p-matureseq  
aacguccugcucagaacaacaugc  
>5p-matureseq  
gugaguguccugagugggaaacggg  
~~~~~  
>gis-dre-mir-226
gugagugucuccuuggcauuuauucgcuugaguuuuuaaaugaccuucguuuuuuuuauugccaugu
ugcauucacagg
>3p-matureseq
aaugccauguugcauucacagg
>5p-matureseq
gugagugucuccuuggcauuua
~~~~~  
>gis-dre-mir-227  
gugccuaggaacuguaugaauGCCuaaaugauugcuauuuuauacauugccuaggcguucu  
>5p-matureseq  
gugccuaggaacuguaugaau  
>3p-matureseq  
uuauacauugccuaggcguucu  
~~~~~  
>gis-dre-mir-228
guggauguaaacgguucuucaugagaaauucaaaagguuccaugaagaacuuaaacaaccaac
>5p-matureseq
guggauguaaacgguucuucaug
>3p-matureseq
ugaagaacuuaaacaaccaac
~~~~~  
>gis-dre-mir-229  
guguaacguuucaugcacaccggccuuccucagacugugcucgaaauguugcaug  
>3p-matureseq  
gacugugcucgaaauguugcaug  
>5p-matureseq  
guguaacguuucaugcacaccggcc  
~~~~~  
>gis-dre-mir-230
guugagacuuuccaccugacuaauuagugcuuuuuuauucgaugcuggauuucucaaccu
>3p-matureseq
aucgaugcuggauuucucaaccu

>5p-matureseq
guugagacuuuccaccugacu
>3p-matureseq
ucgaugcuggauuucucaaccu
~~~~~  
>gis-dre-mir-231  
guuggacaaaagcagcuguaguaggagcaaaaauacuauggcagauuuuuccagcau  
>5p-matureseq  
guuggacaaaagcagcuguagu  
>3p-matureseq  
uauggcagauuuuuccagcau  
~~~~~  
>gis-dre-mir-232
uaaaguaacuugagaaccccagugggaaaccccacacacuucucaguuuagcauuau
>3p-matureseq
acacacuucucaguuuagcauuau
>5p-matureseq
uaaaguaacuugagaaccccagugg
~~~~~  
>gis-dre-mir-233  
uaaccauugaccuccauaguauuuguuuauugcuacuauugagaucaaugguuaag  
>5p-matureseq  
uaaccauugaccuccauagu  
>3p-matureseq  
uauugagaucaaugguuaag  
~~~~~  
>gis-dre-mir-234
uaaccuggccggaauugcuaagccaauaagccccaagcgucuggcuagacucugggccgggagaga
>3p-matureseq
cuagacucugggccgggagaga
>5p-matureseq
uaaccuggccggaauugcuaagcc
~~~~~  
>gis-dre-mir-235  
uaagcacagcuaauuuagaguuuugcaccucaguacucuagauuuaguuguucuugga  
>5p-matureseq  
uaagcacagcuaauuuagagu  
>3p-matureseq  
ucuagauuuaguuguucuugga  
~~~~~  
>gis-dre-mir-236
uaaugcuaagaaagucuuuuuaaguccuaagugcugugcaggcaaggugaugguacgggaacaugca
ugugc
>5p-matureseq
uaaugcuaagaaagucuuuuuaaguc
>3p-matureseq
ugaugguacgggaacaugcugugc
~~~~~  
>gis-dre-mir-237  
uaaugggcugacaaaacagauagagauuuagcgcucacuggcugugcugaauuuuaacuuggaug  
aucuggcucgcugga  
>3p-matureseq  
cuugggaugaucuggcucgcugga  
>5p-matureseq

uaaugggcugacaaaacagua  
~~~~~  
>gis-dre-mir-238
uaauuuccacauugggucauuucugaacaugacuguuuacauggacaucaguaauggaauuuuugg
>5p-matureseq
uaauuuccacauugggucauuucug
>3p-matureseq
uacauggacaucaguaauggaauuuuugg
~~~~~  
>gis-dre-mir-239  
uacacuggguuuagauuuucugagguaaaauagaccagauuauaccagacacauua  
>5p-matureseq  
uacacuggguuuagauuuucugag  
>3p-matureseq  
uuagaccagauuauaccagacacauua  
~~~~~  
>gis-dre-mir-240
uacaugaacagucuugacagagccacaggagucaccugcugaaaggagggaugcagacugcucaacgu
caaaaggaggauuauuggcu
>3p-matureseq
caacgucaaaaggaggauuauuggcu
>5p-matureseq
uacaugaacagucuugacagagccaca
~~~~~  
>gis-dre-mir-241  
uacauucauugaugucguuggguuucacaugugagcgacucacugaccaaugagugcaaa  
>5p-matureseq  
uacauucauugaugucguugggu  
>3p-matureseq  
ucacugaccaaugagugcaaa  
~~~~~  
>gis-dre-mir-242
uacgguuugguaagcuuuuauuggcuguuuccacugucaaaaggccuaccgaaccaaac
>3p-matureseq
caaaaggccuaccgaaccaaac
>5p-matureseq
uacgguuugguaagcuuuuauugg
>3p-matureseq
ucaaaaggccuaccgaacca
~~~~~  
>gis-dre-mir-243  
uacucaggaucgcuggucagcagugccucaaaggccuuuaccacuuuuugucuggcuugagcauccu  
gcucagucuccuguuccgu  
>5p-matureseq  
uacucaggaucgcuggucagcagug  
>3p-matureseq  
ucccugcucagucuccuguuccgu  
~~~~~  
>gis-dre-mir-244
uacuccaagucuguaaccuuugcaaaucacagaggucccgauuguaaguuuuu
>5p-matureseq
uacuccaagucuguaaccuuugcaaaucac
>3p-matureseq
ucagaggucccgauuguaaguuuuu

~~~~~  
>gis-dre-mir-245  
uagaguguaucaugucuacguauguaaugaauauguguagacaugauacacucuaua  
>5p-matureseq  
uagaguguaucaugucuacgua  
>3p-matureseq  
uguagacaugauacacucuaua  
~~~~~  
>gis-dre-mir-246
uaggaaauaauugcacaccugaguugguuaaguugcucaugugugcauuauucuccaau
>5p-matureseq
uaggaaauaauugcacaccugagu
>3p-matureseq
ucaugugugcauuauucuccaau
~~~~~  
>gis-dre-mir-247  
uaggaggcacuagagggcaguagagagcgcgugucgucaucugcgucucugguacuuccuccugga  
>3p-matureseq  
gcgucucugguacuuccuccugga  
>5p-matureseq  
uaggaggcacuagagggcaguag  
~~~~~  
>gis-dre-mir-248
uagguuugguauugcuuuuauuggccguuuccacugucaaaaguguaccgaaccaaac
>3p-matureseq
caaaaguguaccgaaccaaac
>5p-matureseq
uagguuugguauugcuuuuauuggc
>5p-matureseq
uagguuugguauugcuuuuauuggcc
>3p-matureseq
ucaaaaguguaccgaaccaaac
~~~~~  
>gis-dre-mir-249  
uaguauuucagcuccaggacugcccacuuuauugccagggccucuucucaauggcugcguacuugga  
uuccgcuguggugagcuuc  
>3p-matureseq  
cguacuuggauuccgcuguggugagcuuc  
>5p-matureseq  
uaguauuucagcuccaggacugccc  
~~~~~  
>gis-dre-mir-250
uagucacauaugagugaguucuuuggucacauuggauuuauuaaacuccuugaanguugacugga
>3p-matureseq
acuccuugaanguugacugga
>5p-matureseq
uagucacauaugagugaguuc
~~~~~  
>gis-dre-mir-251  
uagucuuguugguaccugguggugauuguuuacccgugguauucgucguagcuagc  
>3p-matureseq  
acccgugguauucgucguagcuagc  
>5p-matureseq  
uagucuuguugguaccugguggugauuguu

~~~~~  
>gis-dre-mir-252
uauaucagcuuugguggaggcuugcguuagugucccaccagugcugauauaca
>5p-matureseq
uauaucagcuuugguggaggcu
>3p-matureseq
ugucccaccagugcugauauaca
~~~~~  
>gis-dre-mir-253  
uauucugauaaaauauauaccugcaaguugaccuuuaaaauggucuuuaacugucucuguuugaaga  
auauu  
>5p-matureseq  
uauucugauaaaauauauaccugcaagu  
>3p-matureseq  
uguacucuguuugaagaauauu  
~~~~~  
>gis-dre-mir-254
uaugaagucugcagcuguauccauauaugggucacggguccaguguaagcuucaug
>3p-matureseq
guccacguguaagcuucaug
>5p-matureseq
uaugaagucugcagcuguauc
~~~~~  
>gis-dre-mir-255  
uauugacgcgauuccuuucguaggugacaucuaauguauaaaucuaugauagaggauagcguuuaacca  
uu  
>3p-matureseq  
aucuaugauagaggauagcguuuaaccauu  
>5p-matureseq  
uauugacgcgauuccuuucguaggug  
~~~~~  
>gis-dre-mir-256
ucaagugucugucagcaccaggcaggaagcaagaccucggugcgcagaaacacagcgg
>5p-matureseq
ucaagugucugucagcaccag
>5p-matureseq
ucaagugucugucagcaccagg
>3p-matureseq
uggugcgcagaaacacagcgg
~~~~~  
>gis-dre-mir-257  
ucaauaacauuuugggcucaugaagguauuuaaaauagcgcaaauguuguugauu  
>3p-matureseq  
uaagcgcaaauguuguugauu  
>5p-matureseq  
ucaauaacauuuugggcucaug  
~~~~~  
>gis-dre-mir-258
ucacaauguagaucuaugauauguacagagcaacaaguagaauagccagugugagguc
>3p-matureseq
acaaguagaauagccagugugagguc
>5p-matureseq
ucacaauguagaucuaugauaugu
~~~~~

>gis-dre-mir-259  
ucaccagucgcucucauuucuaauuuuuuuuguccauacaugaagcgaauggugacu  
>3p-matureseq  
acaugaagcgaauggugacu  
>5p-matureseq  
ucaccagucgcucucauuucua  
~~~~~  
>gis-dre-mir-260
ucacucauuuacugcuauaguaagaaaaguaaaauacuauugggaguaaaauaggugaga
>3p-matureseq
cuauaggaguaaaauaggugaga
>5p-matureseq
ucacucauuuacugcuauagu
~~~~~  
>gis-dre-mir-261  
ucagcugaucugucagugaauuggcuuguauaucuacucauagacagauccucugaug  
>3p-matureseq  
cucauagacagauccucugaug  
>5p-matureseq  
ucagcugaucugucagugaau  
~~~~~  
>gis-dre-mir-262
ucaggaaucauggggguuggaccgcgguauugguccuuguucagguggaggugauggag
>5p-matureseq
ucaggaaucauggggguuggaccg
>3p-matureseq
uccuuguucagguggaggugauggag
~~~~~  
>gis-dre-mir-263  
ucaggagucaggauuagacgggcugcuugauuuugaucggguuugaucuccugauguccuucac  
>3p-matureseq  
gguuugaucuccugauguccuucac  
>5p-matureseq  
ucaggagucaggauuagacggg  
~~~~~  
>gis-dre-mir-264
ucaggcacugucagguucggaccuuuacuguaucgcccagccuucucucugccugccu
>3p-matureseq
ccagccuucucucugccugccu
>5p-matureseq
ucaggcacugucagguucggac
~~~~~  
>gis-dre-mir-265  
ucagugaauucucauuggcucuuuuccggccuagcaauaagcagccaauagagauuuuauucugag  
>3p-matureseq  
cagccaauagagauuuuauucugag  
>5p-matureseq  
ucagugaauucucauuggcucu  
~~~~~  
>gis-dre-mir-266
ucagugcagugguucagcugaaaucaagcauuacauuacagcugaaccacugcacugugu
>3p-matureseq
cagcugaaccacugcacugugu
>5p-matureseq

ucagugcagugguucagcuga
~~~~~  
>gis-dre-mir-267  
ucaguuugguacgauuuuaaggccguuuccacugucaauaagcguacugaaccaa  
>3p-matureseq  
ucaauaagcguacugaaccaa  
>5p-matureseq  
ucaguuugguacgauuuuaaggc  
~~~~~  
>gis-dre-mir-268
ucaguuugguacgcuuuuaugaccguuuccaacuaucaaaaaggcguaccaaaccaa
>3p-matureseq
ucaaaaaggcguaccaaaccaa
>5p-matureseq
ucaguuugguacgcuuuuaugac
~~~~~  
>gis-dre-mir-269  
ucauggcccugaugucuucggaaugaagcuuggugacuuggucaucuugaaaugucuuggccgucg  
ug  
>5p-matureseq  
ucauggcccugaugucuucggaauga  
>3p-matureseq  
ucuugaaaugucuuggccgucgug  
~~~~~  
>gis-dre-mir-270
ucaugucagacgagggccguaauaucugcuagaaacucugacccagaucugacugacu
>5p-matureseq
ucaugucagacgagggccguaau
>3p-matureseq
ucugacccagaucugacugacu
~~~~~  
>gis-dre-mir-271  
ucauguccgaggauaauaucucuugcagaggaugacgcccuccuugccaaggcuccucugagaucuccu  
gccggcaccca  
>5p-matureseq  
ucauguccgaggauaauaucucuugcagag  
>3p-matureseq  
ucugagaucuccugccggcaccca  
~~~~~  
>gis-dre-mir-272
uccagaacguucuugccuguguggacauuuugaauucaccgguaaagucguucuggaa
>3p-matureseq
caccgguaaagucguucuggaa
>5p-matureseq
uccagaacguucuugccugugugg
~~~~~  
>gis-dre-mir-273  
uccaucauccucugcgucagcacugucucugcucauguguucaugagaggcuguggaggu  
>3p-matureseq  
guucaugagaggcuguggagg  
>3p-matureseq  
guucaugagaggcuguggaggu  
>5p-matureseq  
uccaucauccucugcgucagca

>5p-matureseq  
uccaucauccucugcgucagcac  
~~~~~  
>gis-dre-mir-274
uccaucuauuuggucuguucugagcgacucuccagcccaggccagauggaggagc
>3p-matureseq
gccagggccagauggaggagc
>5p-matureseq
uccaucuauuuggucuguucug
~~~~~  
>gis-dre-mir-275  
uccuggugcagcuucaccacugggcucaguggaucuucuggugcagcuccaccucuggg  
>5p-matureseq  
uccuggugcagcuucaccacugg  
>3p-matureseq  
ucuggugcagcuccaccucuggg  
~~~~~  
>gis-dre-mir-276
ucgaaugccuacuccuaguccacaaaaacacauguggacugguugggcuaacuucc
>3p-matureseq
acugguugggcuaacuucc
>5p-matureseq
ucgaaugccuacuccuagucc
~~~~~  
>gis-dre-mir-277  
ucggaauugguaugcauuuauuguccuuuuccacugucaaaagguaccuaaaaagcuaaccauucugug  
>3p-matureseq  
ccuaaaaagcuaaccauucugug  
>5p-matureseq  
ucggaauugguaugcauuuauugu  
~~~~~  
>gis-dre-mir-278
ucggcaggcucugcuaucagcacaggcucuuuuguauugaagugcugauaguguaucugucgga
>5p-matureseq
ucggcaggcucugcuaucagcac
>5p-matureseq
ucggcaggcucugcuaucagcaca
>3p-matureseq
ugcugauaguguaucugucgga
~~~~~  
>gis-dre-mir-279  
ucgguucgguacgcuuuuauuggccguuuccacugucaauaagcguacugaacaaa  
>3p-matureseq  
ucaauaagcguacugaacaaa  
>5p-matureseq  
ucgguucgguacgcuuuuauuggc  
~~~~~  
>gis-dre-mir-280
ucgucgacacccaucagauauuagcaugccaaauaucugacgggugucggugacu
>3p-matureseq
uauucugacgggugucggugacu
>5p-matureseq
ucgucgacacccaucagauuu
~~~~~



>gis-dre-mir-281  
ucuaggcuggucaagugaccauguugcuuuaaagugauuuauggcacuugucagccuggaaa

>5p-matureseq  
ucuaggcuggucaagugaccaug  
>3p-matureseq  
uggcacuugucagccuggaaa

~~~~~

>gis-dre-mir-282
ucuccagcagagagaucuccugaggcccgugcacaccaggauacuucugcugacguuu

>3p-matureseq
aggauacuucugcugacguuu
>5p-matureseq
ucuccagcagagagaucuccuga

~~~~~

>gis-dre-mir-283  
ucuccauaucugugggcgcacaaugcuuuccugcauagggguuccuguagauacggagacu

>3p-matureseq  
gguccuguagauacggagacu  
>5p-matureseq  
ucuccauaucugugggcgcaca

~~~~~

>gis-dre-mir-284
ucugaaagcauagugccauggaccuuucuggagaccuugaauuauguauccggagu

>3p-matureseq
accuugaauuauguauccggagu
>5p-matureseq
ucugaaagcauagugccauggacc

~~~~~

>gis-dre-mir-285  
ucugaaucugauguuuauugcauuagcaugccugauuuagccugucugauuuugaugugcuaauagaau  
gucugauuuuaca

>3p-matureseq  
aauagaaugucugauuuuaca  
>5p-matureseq  
ucugaaucugauguuuauugcau

~~~~~

>gis-dre-mir-286
ucugaauuuuuagguggaguugacuucacuagccccgccucugaauucaauagg

>3p-matureseq
ccccgccucugaauucaauagg
>5p-matureseq
ucugaauuuuuagguggagu

~~~~~

>gis-dre-mir-287  
ucugacaacagggugaauagaaguaaaauaguuuucccugugagagauuauucacucacccugg  
ugucagauu

>3p-matureseq  
acucacccuggugucagauu  
>5p-matureseq  
ucugacaacagggugaauaga

~~~~~

>gis-dre-mir-288
ucugacaugucuuuugaugccaanguuuaaangucauuuugacaucuuuuggcaucaaggaaguuuac
au

>3p-matureseq
gcAUcaaggaaguuuacau
>5p-matureseq
ucUGacaugucuuuugaugcca
~~~~~  
>gis-dre-mir-289  
ucUGaccguugacuucuauguugcaaguuugauacuacggaggucagugguuagag  
>3p-matureseq  
uacggaggucagugguuagag  
>5p-matureseq  
ucUGaccguugacuucuaugu  
~~~~~  
>gis-dre-mir-290
ucUGaggcgucaucguguuucuggaucuccaugcagaaaaccaggauccccagagc
>3p-matureseq
aaaccaggauccccagagc
>5p-matureseq
ucUGaggcgucaucguguuucu
~~~~~  
>gis-dre-mir-291  
ucUGauaguauugugcucugggccuguaaaaaacaaagagcuuaaagcaagcuucaacagaaaaccagg  
uaauaauuuauugcga  
>3p-matureseq  
aaaccagguauaauaauuuauugcga  
>5p-matureseq  
ucUGauaguauugugcucugggccu  
~~~~~  
>gis-dre-mir-292
ucUGcccuaggguguccuggugucaugugcacugauggauaccuuauugcucgaaca
>5p-matureseq
ucUGcccuaggguguccuggug
>3p-matureseq
ugauggauaccuuauugcucgaaca
~~~~~  
>gis-dre-mir-293  
ucUGcuuaacgaaccuauagacgccagugguuucucggguucguuaagcaauga  
>3p-matureseq  
ucucggguucguuaagcaauga  
>5p-matureseq  
ucUGcuuaacgaaccuauagacg  
~~~~~  
>gis-dre-mir-294
ucUGgcaccaacugacuuccguaguagaaauacuauaggaggucuuuaggugccagaaa
>3p-matureseq
ggaggucuuuaggugccagaaa
>5p-matureseq
ucUGgcaccaacugacuuccgu
~~~~~  
>gis-dre-mir-295  
ucUGuacaagauuccauuaagcacugaaaguugucccacugcuuaaggauccguaacacauacaggug  
gu  
>3p-matureseq  
cugcuuaaggauccguaacacauacaggugu  
>5p-matureseq

ucuguacaagauuccauuaagcacu  
~~~~~  
>gis-dre-mir-296
ucugugauuuuggugaugugaacugaauuuacuucacuucaccagcauuacaauaa
>3p-matureseq
cacuucaccagcauuacaauaa
>5p-matureseq
ucugugauuuuggugaugugaa
~~~~~  
>gis-dre-mir-297  
ucuuacuguugcucaauggaguuggacaaugaagaaccgacaagaacugaacggcuugugagggc  
>3p-matureseq  
caagaacugaacggcuugugagggc  
>5p-matureseq  
ucuuacuguugcucaauggaguu  
~~~~~  
>gis-dre-mir-298
ucuugaacgccggaaaacagaggaaugcccguuucucaucuguucuccggcgucgagcau
>3p-matureseq
ucuguucuccggcgucgagcau
>5p-matureseq
ucuugaacgccggaaaacaga
>5p-matureseq
ucuugaacgccggaaaacagag
~~~~~  
>gis-dre-mir-299  
ugaaccagcgggccuaucuccugaugcaucuggaauaaugggucaugaagugg  
>3p-matureseq  
ucuggaauaaugggucaugaagugg  
>5p-matureseq  
ugaaccagcgggccuaucucc  
~~~~~  
>gis-dre-mir-300
ugaacgugguacagaggagucuaacgcggguccagagaugagugaggauacuguaaccguucugg
>3p-matureseq
gugaggauacuguaaccguucugg
>5p-matureseq
ugaacgugguacagaggagucuaacgc
~~~~~  
>gis-dre-mir-301  
ugacacccaaucaacuucuaugaaggggaaaauuacuauggaagucaauugggcucagu  
>3p-matureseq  
auggaagucaauugggcucagu  
>5p-matureseq  
ugacacccaaucaacuucuaug  
~~~~~  
>gis-dre-mir-302
ugacucaacucugauuggucagauggcucuacucauucugauuggucaguugagucugcuc
>5p-matureseq
ugacucaacucugauuggucaga
>3p-matureseq
ugauuggucaguugagucugcuc
~~~~~  
>gis-dre-mir-303

ugacuugaaagggacuugcuagaccaagcuacgacuugacgugacuugaaauaagcagugacuucgcu  
ugagucug  
>3p-matureseq  
auaagcagugacuucgcuugagucug  
>5p-matureseq  
ugacuugaaagggacuugcuagacc  
~~~~~  
>gis-dre-mir-304
ugagagaaaagucuauggcuuggguggcuggagucgcugaugauucucuuggc
>3p-matureseq
agucgcugaugauucucuuggc
>5p-matureseq
ugagagaaaagucuauggcuug
~~~~~  
>gis-dre-mir-305  
ugagagaugcgacgacguguugggagcccuauggaggaucuauccacccguccaucuucugg  
>3p-matureseq  
ucuauccacccguccaucuucugg  
>5p-matureseq  
ugagagaugcgacgacguguugggagc  
~~~~~  
>gis-dre-mir-306
ugaggcggucauagcaugagguaaaacgagcagagcuuguucgcucagccguguccgccucaccu
>3p-matureseq
ucagccguguccgccucaccu
>5p-matureseq
ugaggcggucauagcaugaggu
~~~~~  
>gis-dre-mir-307  
ugaguagcaaugcgauguggcuguagcguccaccagugaugucacaucgcacugcuucucgug  
>3p-matureseq  
ucacaucgcacugcuucucgug  
>5p-matureseq  
ugaguagcaaugcgauguggcu  
>5p-matureseq  
ugaguagcaaugcgauguggcug  
~~~~~  
>gis-dre-mir-308
ugaguccuguuuuagcagaguuuuuuaucauuugagcuuugcugugacuggaucuga
>3p-matureseq
gcuuugcugugacuggaucuga
>5p-matureseq
ugaguccuguuuuagcagaguuu
~~~~~  
>gis-dre-mir-309  
ugagucuuguacagggaaauaguguucugauccaagggacuggauuggaaauaucacuguuccucugc  
auaagauuc  
>3p-matureseq  
cuguuccucugcauaagauuc  
>5p-matureseq  
ugagucuuguacagggaaugu  
~~~~~  
>gis-dre-mir-310
ugaugacacccauugacuuccaucguuuuucuuucuguagacaucgauggguagcaucca

>3p-matureseq
agacaucgauggguagcaucca
>5p-matureseq
ugaugacacccauugacuuccaucguuu
~~~~~  
>gis-dre-mir-311  
ugauuggucaaauaggucuacauugauugaucaaaugacuacuugcuaugauuggucuggcgacucu  
gcuaggauugaucaga  
>3p-matureseq  
cgacucugcuaggauugaucaga  
>3p-matureseq  
gcgacucugcuaggauugaucaga  
>5p-matureseq  
ugauuggucaaauaggucuac  
>5p-matureseq  
ugauuggucaaauaggucuaca  
~~~~~  
>gis-dre-mir-312
ugauuggucaaauaggucuacauugauugaucaaaugacuacuugcuaugauuggucuggcgacucu
gcuauugauuggucaga
>3p-matureseq
cgacucugcuauugauuggucaga
>3p-matureseq
gcgacucugcuauugauuggucaga
>5p-matureseq
ugauuggucaaauaggucuac
>5p-matureseq
ugauuggucaaauaggucuaca
~~~~~  
>gis-dre-mir-313  
ugcaaguccaaggagaguuuggccccucaguagcuugcuggguucaggguaaucuuauuguggggggca  
ag  
>3p-matureseq  
guaaucuuauuguggggggcaag  
>5p-matureseq  
ugcaaguccaaggagaguuuggccc  
~~~~~  
>gis-dre-mir-314
ugcacuuugaaccgcucuauggcacaccucuccaaccgggccaggaccggauaaagugagcc
>3p-matureseq
caggaccggauaaagugagcc
>5p-matureseq
ugcacuuugaaccgcucuauggc
~~~~~  
>gis-dre-mir-315  
ugcagcccuugaguuucauaguugaguuccgaaaaauacuauuggaagucagggguuaccuu  
>3p-matureseq  
uauggaagucagggguuaccuu  
>5p-matureseq  
ugcagcccuugaguuucauagu  
~~~~~  
>gis-dre-mir-316
ugcauccgcgcagaaacacugaaggucaugauagcguguaucugcugcagauaggau
>5p-matureseq

ugcauccgcgcagaaacacug
>3p-matureseq
uguaucugcugcagaugaggau
~~~~~  
>gis-dre-mir-317  
ugcauugcucuacuugaaguuuuguacugucagaaacucaagcaaagcagcgagg  
>3p-matureseq  
acuucaagcaaagcagcgagg  
>5p-matureseq  
ugcauugcucuacuugaaguuu  
~~~~~  
>gis-dre-mir-318
ugcgagccugugguguguaguauugcagaaauugcgcacuacacaccacggacuuugcacu
>3p-matureseq
uacacaccacggacuuugcacu
>5p-matureseq
ugcgagccugugguguguagu
~~~~~  
>gis-dre-mir-319  
ugcguccugauugugaugacgggauauaaaauuggcccacaauucauucacaaugaugacgucgu  
>3p-matureseq  
aucuucacaaugaugacgucgu  
>5p-matureseq  
ugcguccugauugugaugacgg  
~~~~~  
>gis-dre-mir-320
ugcguuugaaagucgagcuuggcaauaccaagucccccuucgggcgucucu
>3p-matureseq
caagucccccuucgggcgucucu
>5p-matureseq
ugcguuugaaagucgagcuuggc
~~~~~  
>gis-dre-mir-321  
ugcucaggcccguuucucagaucguuugagaagugugagcgucucugaaucaggcucaggcacg  
>3p-matureseq  
cucugaaucaggcucaggcacg  
>3p-matureseq  
ugaaucaggcucaggcacg  
>5p-matureseq  
ugcucaggcccguuucucaga  
>5p-matureseq  
ugcucaggcccguuucucagaucg  
~~~~~  
>gis-dre-mir-322
ugcuguuugguuugguauuggccuuuccacugucaaaaaggcauaccgaaccuuaccguacc
>3p-matureseq
ggcauaccgaaccuuaccguacc
>5p-matureseq
ugcuguuugguuugguauuggccc
~~~~~  
>gis-dre-mir-323  
ugcuugagaacgagggcucggcgucugcuugagggcgaaggcucgccggcgucguugagggcgaa  
ggcucg  
>3p-matureseq

cggcgcuugagggcgaaggcucg  
>3p-matureseq  
ggcgcuugagggcgaaggcucg  
>5p-matureseq  
ugcuugagaacgagggcucgccgg  
>5p-matureseq  
ugcuugagaacgagggcucgccggc  
~~~~~  
>gis-dre-mir-324
uggaucuacauugguuagagcacucuacugugauuggucuuuugacuugcucugcucugauugguca
aauaggucuaca
>5p-matureseq
ggaucuacauugguuaga
>3p-matureseq
ugauuggucaaaauaggucuac
>3p-matureseq
ugauuggucaaaauaggucuaca
>5p-matureseq
uggaucuacauugguuaga
~~~~~  
>gis-dre-mir-325  
uggcagccauugacuuccauuguaggacaacaaaauaugauggaaaucaauggaucucagu  
>3p-matureseq  
gauggaaaucaauggaucucagu  
>5p-matureseq  
uggcagccauugacuuccauugu  
~~~~~  
>gis-dre-mir-326
uggcauucugcugaaguucagaguuucuuuauacaagaaacucugaacuucagcagaaugcca
>3p-matureseq
ucugaacuucagcagaaugcca
>5p-matureseq
uggcauucugcugaaguucaga
~~~~~  
>gis-dre-mir-327  
uggcauuuggaggcacgagaccaguuugugagugaggucugugccccaaaagacacu  
>3p-matureseq  
ucucgugccccaaaagacacu  
>5p-matureseq  
uggcauuuggaggcacgagacc  
~~~~~  
>gis-dre-mir-328
uggcccagauguuaauaauugauaugugggccagauguaaaauguaguauuuggcccagauguuaauu
auugauaugugggccaga
>3p-matureseq
aaauaauugauaugugggccaga
>5p-matureseq
uggcccagauguuaauaauuga
~~~~~  
>gis-dre-mir-329  
ugggggcaggggaaguugaaguuggugaugguauacucuccuucacuucugcccucauc  
>3p-matureseq  
uccuucacuucugcccucauc  
>5p-matureseq

ugggggcaggggaaguugaaguugg  
~~~~~  
>gis-dre-mir-330
uguaaucuuugaccuccguaguguuuuuuuuccuacuacagagggcaaugguuacaga
>3p-matureseq
uacagagggcaaugguuacaga
>5p-matureseq
uguaaucuuugaccuccguagu
~~~~~  
>gis-dre-mir-331  
uguagcacugugauacuggcuguauaucgauacaguauauaggcauaucgcacugcuaugagu  
>3p-matureseq  
aggcauaucgcacugcuaugagu  
>3p-matureseq  
uaggcauaucgcacugcuauga  
>5p-matureseq  
uguagcacugugauacuggcugu  
~~~~~  
>gis-dre-mir-332
uguagcuauugacucccauaguguuuuuuuugccuacuauuggaaguucguuguuacaggu
>3p-matureseq
auggaaguucguuguuacaggu
>5p-matureseq
uguagcuauugacucccauagu
~~~~~  
>gis-dre-mir-333  
uguagcuauugacuuuuauagaanguuguacuacuauagauggcaauagcuaccagu  
>3p-matureseq  
auagauggcauagcuaccagu  
>5p-matureseq  
uguagcuauugacuuuuauaga  
~~~~~  
>gis-dre-mir-334
uguaucuccaucuagaccucacugugcugcaggagagggguugggucuagauuggauacagc
>5p-matureseq
uguaucuccaucuagaccucacu
>3p-matureseq
uugggucuagauuggauacagc
~~~~~  
>gis-dre-mir-335  
uguaucuccaucuggacuucuuugcccuguagaagauggugaagucuagaugggauacagc  
>3p-matureseq  
ugaagucuagaugggauacagc  
>5p-matureseq  
uguaucuccaucuggacuucuu  
~~~~~  
>gis-dre-mir-336
ugucacacuuuucaggucagcuuacaagcuguugaucugaauuaggcguguuugg
>3p-matureseq
ugaucugaauuaggcguguuugg
>5p-matureseq
ugucacacuuuucaggucagc
~~~~~  
>gis-dre-mir-337



ugugaacacaugggaaaacguguguauuuggaacgcuuucuugugaauucacaugu  
>3p-matureseq  
gcuuucuugugaauucacaugu  
>5p-matureseq  
ugugaacacaugggaaaacgugu  
~~~~~  
>gis-dre-mir-338
ugugaggucuuggguugguacuauauaagagucaaaucuagguuuucguagucuguauauucguagc
uucaguacc
>3p-matureseq
guauauucguagcuucaguacc
>5p-matureseq
ugugaggucuuggguugguacu
~~~~~  
>gis-dre-mir-339  
uguggugauuagaacaggcugacuuuugcaagugugaugcggccuacuaacaccacaca  
>3p-matureseq  
ugcggccuacuaacaccacaca  
>5p-matureseq  
uguggugauuagaacaggcugacu  
~~~~~  
>gis-dre-mir-340
ugugugagugcagcagugcaguagacggcagugcaugaacagcuuucuguguucugcgcuacgcacuc
gccacu
>3p-matureseq
ucugcgcuacgcacucgccacu
>5p-matureseq
ugugugagugcagcagugcaguag
~~~~~  
>gis-dre-mir-341  
uguuauacacagacccggauuggccaauucgggaggaccgggagaguucccgguugggcccagucuguuuu  
uuggccgag  
>3p-matureseq  
ccagucuguuuuuuggccgag  
>5p-matureseq  
uguuauacacagacccggauuggcc  
~~~~~  
>gis-dre-mir-342
uuacuuggaaggucacauccaugaguaguuaagaauuggguugaugaugugccucuccgaguaaa
>3p-matureseq
ugaugugccucuccgaguaaa
>5p-matureseq
uuacuuggaaggucacaucc
~~~~~  
>gis-dre-mir-343  
uuagacugaaaucuguuggagccaacauuuuccccagccgaacugcggcucuucagcacgacgggagc  
uaguu  
>3p-matureseq  
cuucagcacgacgggagcuaguu  
>5p-matureseq  
uuagacugaaaucuguuggagcc  
~~~~~  
>gis-dre-mir-344
uuagacugaaaucuguuggagccaacauuuuccccagccgagcugcggcucuucagcacgacgggagc

uaguu
>3p-matureseq
cuucagcacgacgggagcuaguu
>5p-matureseq
uuagacugaaaucuguuggagcc
~~~~~  
>gis-dre-mir-345  
uuaggaucggguuuggacacccuugcucuaagccagagguguccaaacucgauccuggag  
>3p-matureseq  
uguccaaacucgauccuggag  
>5p-matureseq  
uuaggaucggguuuggacacc  
~~~~~  
>gis-dre-mir-346
uuagucacauuugggcaaguucuuugaucuugauuuacuggaacuccuuggauguugacugga
>3p-matureseq
aacuccuuggauguugacugga
>5p-matureseq
uuagucacauuugggcaaguucu
~~~~~  
>gis-dre-mir-347  
uuagucacauuugggcgaguucuuuggucaucuuugaauuuuggaacuccuuggauguugacugga  
>3p-matureseq  
aacuccuuggauguugacugga  
>5p-matureseq  
uagucacauuugggcgaguucu  
>5p-matureseq  
uuagucacauuugggcgaguucu  
~~~~~  
>gis-dre-mir-348
uuagucacauuugggcgaguucuuuggucaucuuugaauuuuggaacuccuuggauguugacugga
>3p-matureseq
aacuccuuggauguugacugga
>5p-matureseq
uagucacauuugggcgaguucu
>5p-matureseq
uuagucacauuugggcgaguucu
~~~~~  
>gis-dre-mir-349  
uucacuguggcgaaaugaccucgguaacauaaagaguguuauacuugccgcagugaug  
>3p-matureseq  
uuauacuugccgcagugaug  
>5p-matureseq  
uucacuguggcgaaaugaccuc  
~~~~~  
>gis-dre-mir-350
uucacuguggcgaaaugaccucgguaacaucaagaguguuauacuugccgcagugaug
>3p-matureseq
uuauacuugccgcagugaug
>5p-matureseq
uucacuguggcgaaaugaccuc
~~~~~  
>gis-dre-mir-351  
uucaguuugguacgcuuuuauuggcuguuuccacugucaaaaggcauaccaaaccgaacc

>3p-matureseq  
aaaaggcauaccaaaccgaacc  
>5p-matureseq  
uucaguuugguacgcuuuuauugg  
~~~~~  
>gis-dre-mir-352
uuccaaauguauuuucuauuguauuuuuauacaaagaaauacauuuggaca
>3p-matureseq
uacaaagaaauacauuuggaca
>5p-matureseq
uuccaaauguauuuucuauuguau
~~~~~  
>gis-dre-mir-353  
uucgguaaugacacggaagcugggauggcaucgucggcugucguauuuuuagcggaag  
>3p-matureseq  
ggcugucguauuuuuagcggaag  
>5p-matureseq  
uucgguaaugacacggaagcug  
~~~~~  
>gis-dre-mir-354
uucucaguucagcgugucaaauguugauucgaaaugauuuggacucacugaaccgagaau
>5p-matureseq
uucucaguucagcgugucaaa
>3p-matureseq
uuggacucacugaaccgagaau
~~~~~  
>gis-dre-mir-355  
uucucuugcguccuuggaaguucagacuugcaagaacgaacucccgaggacgugaggac  
>3p-matureseq  
acucccgaggacgugaggac  
>5p-matureseq  
uucucuugcguccuuggaaguuc  
~~~~~  
>gis-dre-mir-356
uugacagcaguccuccagucaugcugcucgagcuaucugcagcgcuggagcugcuucagcc
>3p-matureseq
gcgcuggagcugcuucagcc
>5p-matureseq
uugacagcaguccuccagucaug
~~~~~  
>gis-dre-mir-357  
uugaccagccuggacauagcuggucuuuggcugggcucccagccagaccagcuaagaccaggcuggaau  
uggc  
>3p-matureseq  
agcuaagaccaggcuggaauuggc  
>5p-matureseq  
uugaccagccuggacauagcugg  
~~~~~  
>gis-dre-mir-358
uugaccagccuggacauagcugguuuggcuggacucccagcuuggcuaggcuggucaagc
>3p-matureseq
agcuuggcuaggcuggucaagc
>5p-matureseq
uugaccagccuggacauagcugg

```
~~~~~  
>gis-dre-mir-359  
uugaccagccuggacauagcugguuuuggcugggcuuccagcuuggguaggcuggucaagc  
>3p-matureseq  
agcuuggguaggcuggucaagc  
>5p-matureseq  
uugaccagccuggacauagcugg  
~~~~~  
>gis-dre-mir-360  
uugagaaucaucugcaaucauucagcuuaauuucugggugacuuuaacuggauguuuguguguuuc  
ucagag  
>3p-matureseq  
uguuuguguguuucucagag  
>5p-matureseq  
uugagaaucaucugcaaucau  
~~~~~  
>gis-dre-mir-361  
uugauuugguacacuuuuguggccguuuccacugucaaaaggcguaccgaaccaaac  
>3p-matureseq  
caaaggcguaccgaaccaaac  
>5p-matureseq  
uugauuugguacacuuuugug  
~~~~~  
>gis-dre-mir-362  
uugcuuuauaguuaaacacucgcugguuauaauagagcuuguuaaacucuaaagcaca  
>3p-matureseq  
cuuguuaaacucuaaagcaca  
>5p-matureseq  
uugcuuuauaguuaaacacucgcu  
~~~~~  
>gis-dre-mir-363  
uuggagaaaggauuuccugaacaaaggaagauguguuuuguugaggauccucucucgca  
>3p-matureseq  
ugaggauccucucucgca  
>5p-matureseq  
uuggagaaaggauuuccugaac  
~~~~~  
>gis-dre-mir-364  
uuggcuaaucgggcagacugggagaauucccguggggccggucugucuuuuggccgca  
>3p-matureseq  
cggucugucuuuuggccgca  
>5p-matureseq  
uuggcuaaucgggcagacuggg  
~~~~~  
>gis-dre-mir-365  
uugggggggaaauacacaggugggcugauaauuauagacuuaacucuguguuuuucucuccaaca  
>3p-matureseq  
acucuguguuuuucucuccaaca  
>5p-matureseq  
uugggggggaaauacacagguggg  
~~~~~  
>gis-dre-mir-366  
uuggguaccguucagguuuuuacugguauuguacuuguaaugcggcacugguauccaucu  
>3p-matureseq
```

aaugcggcacugguauccaucu
>5p-matureseq
uuggguaccguucagguuuuuu
~~~~~  
>gis-dre-mir-367  
uuguggugauuagaacaggcugacuucugcaagucugaugcggccuacuaacaccacacacaugc  
>3p-matureseq  
gccuacuaacaccacacacaugc  
>3p-matureseq  
ugcggccuacuaacaccacaca  
>5p-matureseq  
uguggugauuagaacaggcugacu  
>5p-matureseq  
uuguggugauuagaacaggcuga  
~~~~~  
>gis-dre-mir-368
uuuagaggagagaugauggagcgcuguguguugaaugcucuguaauucucuccucugaggac
>3p-matureseq
ucuguaauucucuccucugaggac
>5p-matureseq
uuuagaggagagaugauggagcg
~~~~~  
>gis-dre-mir-369  
uuuccaccccucugucccauagcagaugugugucugggacaggcaggggcagaau  
>3p-matureseq  
ucugggacaggcaggggcagaau  
>5p-matureseq  
uuuccaccccucugucccauag  
~~~~~  
>gis-dre-mir-370
uuugccaugauaugcagauauguguuuuaaacacuuuuuauaucuguaaucauggcaaaaau
>3p-matureseq
uauaucuguaaucauggcaaaaau
>5p-matureseq
uuugccaugauaugcagauaug
~~~~~  
>gis-dre-mir-371  
uuugggagcagagauugaaacagcccauuaaaaaaguuguuuuuuuuuuuugccccacaac  
>5p-matureseq  
uuugggagcagagauugaaac  
>3p-matureseq  
uuuuuuuuuuugccccacaac  
~~~~~  
>gis-dre-mir-372
uuuggggagacagaaaucguguccuuuccaugauuuguguaaaaauugugucuccucagc
>3p-matureseq
gauaaaauugugucuccucagc
>5p-matureseq
uuuggggagacagaaaucguguc
~~~~~  
>gis-dre-mir-373  
uuugguucgguacgccuuuugacaguggaaacggccauaaaagcguaccaaacagaacc  
>3p-matureseq  
aaaagcguaccaaacagaacc

>5p-matureseq  
uuugguucgguacgccuuuuga  
~~~~~  
>gis-dre-mir-374
uuugguucgguacgccuuuugacaguggaaacggccaauaaaagcguaccaaaccgaacc
>3p-matureseq
aaaagcguaccaaaccgaacc
>3p-matureseq
auaaaagcguaccaaaccgaacc
>3p-matureseq
uaaaagcguaccaaaccgaacc
>5p-matureseq
uuugguucgguacgccuuuuga
~~~~~  
>gis-dre-mir-375  
uuugguucgguacgcuuauugacaguggaaauggacauaaaagcguaccaaaccgaacc  
>3p-matureseq  
aaaagcguaccaaaccgaacc  
>3p-matureseq  
auaaaagcguaccaaaccgaacc  
>3p-matureseq  
uaaaagcguaccaaaccgaacc  
>5p-matureseq  
uuugguucgguacgcuuauuga  
~~~~~  
>gis-dre-mir-376
uuugguucgguucgcuuuugacaguggaaacggccaauaaaagcguaccaaaccgaacc
>3p-matureseq
aaaagcguaccaaaccgaacc
>3p-matureseq
auaaaagcguaccaaaccgaacc
>3p-matureseq
uaaaagcguaccaaaccgaacc
>5p-matureseq
uuugguucgguucgcuuuugac
~~~~~  
>gis-dre-mir-377  
uuuucggucagugacuggugccaguaauugagcuggcuuucucucacguccugagacccccgc  
>3p-matureseq  
gcuuucucucacguccugagacccccgc  
>5p-matureseq  
uuuucggucagugacuggugcc  
~~~~~  
>gis-dre-mir-378
uuuuuaccucugacaccacauggaaucaauugaacaguugcaauuuucucagguugucucaagggg
caaaagg
>3p-matureseq
caggugucucaaggggcaaaagg
>5p-matureseq
uuuuuaccucugacaccaca
~~~~~  
>gis-dre-mir-379  
aaagauccuaauuauugccacacaucgucguuuguugcauauuuagggucucgcu  
>5p-matureseq

aaagauccuaauuaugccac  
>5p-matureseq  
aaagauccuaauuaugccaca  
>3p-matureseq  
ugcauaauuagggucucgcu  
>3p-matureseq  
uugcauaauuagggucucgcu  
~~~~~  
>gis-dre-mir-380
aaaguaacaagugucaagugacuggacaccaucgucacuugacacuuguuacuuuuc
>5p-matureseq
aaaguaacaagugucaagugac
>5p-matureseq
aaguaacaagugucaagugacu
>3p-matureseq
cacuugacacuuguuacuuuuc
>3p-matureseq
ucacuugacacuuguuacuuuu
~~~~~  
>gis-dre-mir-381  
aacacggcuagugacuggucaagguuuacuuucuccagucagugguuguguggu  
>5p-matureseq  
aacacggcuagugacugguca  
>5p-matureseq  
aacacggcuagugacuggucaag  
>3p-matureseq  
cuccagucagugguuguguggu  
>3p-matureseq  
uccagucagugguuguguggu  
~~~~~  
>gis-dre-mir-382
aacagcccugaaaucagacagcugugcagugacucaugucugaauacacggacugcucc
>5p-matureseq
aacagcccugaaaucagaca
>5p-matureseq
acagcccugaaaucagaca
>3p-matureseq
ucugaauacacggacugcuc
>3p-matureseq
ucugaauacacggacugcucc
~~~~~  
>gis-dre-mir-383  
aauggaaaucucgcugauacugcaagaauuguggcaucgguaaagccaguuuuccgaua  
>5p-matureseq  
aauggaaaucucgcugauacu  
>3p-matureseq  
guauaagccaguuuuccgaua  
>3p-matureseq  
uauaagccaguuuuccgaua  
~~~~~  
>gis-dre-mir-384
acacgauacaanguucuagaaugcugggauggccauucuagaacauuuugucgugucu
>5p-matureseq
acacgauacaanguucuagaug

>5p-matureseq
acacgauacauguucuagaugcug
>5p-matureseq
cacgauacauguucuagaug
>3p-matureseq
uucuagaacauuuugucguguc
>3p-matureseq
uucuagaacauuuugucgugucu
~~~~~  
>gis-dre-mir-385  
acaggaauuuggccacugcacucuucagauaaguuggucgugggccaaauuccuguaa  
>5p-matureseq  
acaggaauuuggccacugca  
>5p-matureseq  
acaggaauuuggccacugcacu  
>3p-matureseq  
ugcuguggccaaauuccuguaa  
~~~~~  
>gis-dre-mir-386
acugaguuuggacaccauuguucuauaaaauaugauauuguuguccaaacucggucc
>5p-matureseq
acugaguuuggacaccauuguu
>5p-matureseq
cugaguuuggacaccauuguu
>3p-matureseq
uauuguuguccaaacucgguc
>3p-matureseq
uauuguuguccaaacucggucc
~~~~~  
>gis-dre-mir-387  
agacaacuugcuggagagcuuuuuuuucugugauuuuucaugaacucuaaaaagcucuccagcgaau  
ugccua  
>5p-matureseq  
agacaacuugcuggagagcuu  
>5p-matureseq  
agacaacuugcuggagagcuuu  
>3p-matureseq  
agcucuccagcgaauugccua  
~~~~~  
>gis-dre-mir-388
agagagaaaagucuguggcuuggguggcuggagucacugauaaucucuuggc
>5p-matureseq
agagagaaaagucuguggcuug
>3p-matureseq
agucacugauaaucucuuggc
~~~~~  
>gis-dre-mir-389  
agagagaaaugucuauggcuuggguggcuggagucuaugauaaucucuuggc  
>5p-matureseq  
agagagaaaugucuauggcuug  
>3p-matureseq  
agucacugauaaucucuuggc  
>3p-matureseq  
gucauugauaaucucuuggc



```
~~~~~  
>gis-dre-mir-390
agccauugacuuucuaguaugaaaaacaacuacuaagcaagucaguggucac
>5p-matureseq
agccauugacuuucuaguaug
>3p-matureseq
uacuaagcaagucaguggucac
~~~~~  
>gis-dre-mir-391  
agcugguuaacccacaccagcagaaccaccgcuucaugcuagugugggucaaccggcgcu  
>5p-matureseq  
agcugguuaacccacaccagca  
>3p-matureseq  
cuagugugggucaaccggcg  
>3p-matureseq  
cuagugugggucaaccggcgcu  
>5p-matureseq  
gcugguuaacccacaccagca  
~~~~~  
>gis-dre-mir-392
aggagguggagucgggacacggccaggcuuguuaggaaugucaucccgaaagcaccuccucc
>5p-matureseq
aggagguggagucgggacacggcc
>5p-matureseq
ggagguggagucgggacacggcc
>5p-matureseq
ggagguggagucgggacacggcca
>3p-matureseq
ucaucccgaaagcaccuccuc
>3p-matureseq
ucaucccgaaagcaccuccucc
~~~~~  
>gis-dre-mir-393  
agggccaugacggaaaucagccuguguucuuuaagguucucucugguccugucuuggcuuac  
>5p-matureseq  
agggccaugacggaaaucagcc  
>5p-matureseq  
agggccaugacggaaaucagccu  
>3p-matureseq  
ucugguccugucuuggcuuac  
~~~~~  
>gis-dre-mir-394
aguaccugcgaaugcuuggccaugaguguuucugcugcacuaggacuacucaugucguggacugu
agaagccu
>5p-matureseq
aguaccugcgaaugcuuggccaugagugu
>5p-matureseq
guaccugcgaaugcuuggccaugaguguuu
>3p-matureseq
ucaugucguggacuguagaagccu
~~~~~  
>gis-dre-mir-395  
aguacgguucacuuuuagauaccuuuuagacaguggaaacggccuaaaagcguaccguaacg  
>5p-matureseq
```

aguacgguucacuuuuagauac  
>3p-matureseq  
gcccuaaaagcguaccguaacg  
>5p-matureseq  
guacgguucacuuuuagauacc  
~~~~~  
>gis-dre-mir-396
agugcaaaguuuuacaugcgcgcugugugugucagcugugugcgcaugcgugaacuuuguacc
>5p-matureseq
agugcaaaguuuuacaugcgc
>5p-matureseq
agugcaaaguuuuacaugcgcg
>5p-matureseq
agugcaaaguuuuacaugcgcgc
>5p-matureseq
ugcaaaguuuuacaugcgcgc
>5p-matureseq
ugcaaaguuuuacaugcgcgcu
>5p-matureseq
ugcaaaguuuuacaugcgcgcg
>3p-matureseq
ugcgcaugcgugaacuuuguacc
~~~~~  
>gis-dre-mir-397  
aguucacuuggauuggcugaucuauuuugcagugaucggccgaccagugugcugug  
>5p-matureseq  
aguucacuuggauuggcugauc  
>3p-matureseq  
ucggccgaccagugugcugu  
>3p-matureseq  
ucggccgaccagugugcugug  
~~~~~  
>gis-dre-mir-398
auaaccaucgauguccauagguuuuuuuuuccaucuugcaugcaugcaaugguuauaucagu
>5p-matureseq
auaaccaucgauguccauagg
>5p-matureseq
auaaccaucgauguccauaggu
>3p-matureseq
augcaugcaaugguuauaucagu
>3p-matureseq
uaucaugcaaugguuauaucagu
~~~~~  
>gis-dre-mir-399  
auaucagcacugguggaggugugcguugcucuagucuccuaccagugcugauauac  
>5p-matureseq  
auaucagcacugguggaggugu  
>5p-matureseq  
uaucaugcacugguggaggugug  
>3p-matureseq  
ucuccuaccagugcugauauac  
~~~~~  
>gis-dre-mir-400
auguauaucgacacuggugaguggagugccuuauuguccaccagugaugauauacagc

>5p-matureseq
auguauaucgacacuggugagu
>3p-matureseq
cccaccagugaugauauacagc
>3p-matureseq
ucccaccagugaugauauacagc
~~~~~  
>gis-dre-mir-401  
augucagaugugagaugagcgugaucagauuauaccgcagcacauccacucaucugucaug  
>3p-matureseq  
acaucuccacucaucugucaug  
>5p-matureseq  
augucagaugugagaugagcg  
>3p-matureseq  
cacaucuccacucaucugucaug  
>5p-matureseq  
ugucagaugugagaugagcg  
~~~~~  
>gis-dre-mir-402
auguuuccagcuugcugauuuugcauuucugcucaaaucuaagugaacugagaaaaacagg
>5p-matureseq
auguuuccagcuugcugauu
>5p-matureseq
auguuuccagcuugcugauuu
>3p-matureseq
uaagugaacugagaaaaacagg
~~~~~  
>gis-dre-mir-403  
ccaaacuugugaccccaugacuuccgcuagacugucaugcggacauaaaguugggc  
>5p-matureseq  
ccaaacuugugaccccaugac  
>3p-matureseq  
ucaugcggacauaaaguugggc  
~~~~~  
>gis-dre-mir-404
ccgcggacggugugaggccggugucggccccgccccgcccggggg
>5p-matureseq
ccgcggacggugugaggccgg
>5p-matureseq
ggacggugugaggccgg
>3p-matureseq
ggccccgccccgcccgggg
~~~~~  
>gis-dre-mir-405  
ccuagagugucaacugcuguucaaaacuagacuaguuuacaacaugucacucuaggcu  
>3p-matureseq  
aacaacaugucacucuaggcu  
>5p-matureseq  
ccuagagugucaacugcuguuca  
~~~~~  
>gis-dre-mir-406
ccuguagccacugacuucuauaguauguguuuuuccuacuauagagaucaauggcuacaagu
>5p-matureseq
ccuguagccacugacuucuau

>5p-matureseq
cuguagccacugacuuuauagu
>3p-matureseq
uauagagaucaauggcuacaagu
~~~~~  
>gis-dre-mir-407  
cgaguagcagugcgauguggcugugauuauauacagcuacauugcacuucacgagu  
>5p-matureseq  
cgaguagcagugcgauguggcugu  
>3p-matureseq  
cuacauugcacuucacgagu  
>5p-matureseq  
gaguagcagugcgauguggcug  
~~~~~  
>gis-dre-mir-408
cggcacuuuggggcgaaggcucgccggcacuuuggggcgaaggcucgccggcgugcuugagaacgag
ggcucgccggc
>5p-matureseq
cggcacuuuggggcgaaggcucg
>5p-matureseq
ggcacuuuggggcgaaggcucg
>3p-matureseq
ugcuugagaacgaggcucgccgg
>3p-matureseq
ugcuugagaacgaggcucgccggc
~~~~~  
>gis-dre-mir-409  
cgguuugguaggcuuuuauaggcuguuuccacugucaaaagguguaccggaccgua  
>5p-matureseq  
cgguuugguaggcuuuuauaggcu  
>3p-matureseq  
ucaaagguguaccggaccgua  
~~~~~  
>gis-dre-mir-410
cguguaauuguuugugguuuauacgguguaggugaccuauagaaccacagacgauuaccgcu
>5p-matureseq
cguguaauuguuugugguuuaua
>3p-matureseq
ugaaccacagacgauuaccgcu
~~~~~  
>gis-dre-mir-411  
cuagucacauucaggcgaguucuuugauuuuuugaauucaugguacuccuuggauguugacugga  
>3p-matureseq  
augguacuccuuggauguugac  
>5p-matureseq  
cacauucaggcgaguucuuuga  
>5p-matureseq  
cuagucacauucaggcgagu  
>3p-matureseq  
uacuccuuggauguugacugga  
>5p-matureseq  
uagucacauucaggcgaguucu  
~~~~~  
>gis-dre-mir-412

cuagucacauuugggcgaguucuuguucaucuugaauucaugguacuccuuggauguugacugga
>3p-matureseq
augguacuccuuggauguugac
>5p-matureseq
cuagucacauuugggcgaguucu
>3p-matureseq
uacuccuuggauguugacugga
>5p-matureseq
uagucacauuugggcgaguucu
~~~~~  
>gis-dre-mir-413  
cuccaaccuugaucaagcagcucaauaauuuacagacggcugauugaacagggauuggaag  
>5p-matureseq  
cuccaaccuugaucaagcagcu  
>3p-matureseq  
cugauugaacagggauuggaag  
~~~~~  
>gis-dre-mir-414
cucgcucuccuucgacuuguugugacgcagacauaaaacagggagauggagagggagg
>3p-matureseq
cacagggagauggagagggagg
>5p-matureseq
cucgcucuccuucgacuuguu
>5p-matureseq
cucgcucuccuucgacuuguu
~~~~~  
>gis-dre-mir-415  
cugguggucggguaccugcaggguuuagcuaaaaucugcaggacaccggaccuccagga  
>3p-matureseq  
aggacaccggaccuccagga  
>5p-matureseq  
cugguggucggguaccugc  
>3p-matureseq  
ugcaggacaccggaccuccagg  
>5p-matureseq  
ugguggucggguaccugcagg  
~~~~~  
>gis-dre-mir-416
cuuacaauuaaaggauuuucuugcggcugaauacgagaacagaaauguccuuaauuguuuggu
>3p-matureseq
aaauguccuuaauuguuuggu
>3p-matureseq
agaaauguccuuaauuguuug
>5p-matureseq
cuuacaauuaaaggauuuucu
>5p-matureseq
uuacaauuaaaggauuuucu
~~~~~  
>gis-dre-mir-417  
gacuuggucuaagcuccucagugugaugauuaaaccugaggaguuuagagcaaguaa  
>5p-matureseq  
gacuuggucuaagcuccucagu  
>3p-matureseq  
ugaggaguuuagagcaaguaa

~~~~~  
>gis-dre-mir-418
gagcaguccguguauucagacaugaagucacugcacagcugucugaauuucagggcuguuccc
>5p-matureseq
gagcaguccguguauucagaca
>3p-matureseq
ucugaauuucagggcuguuccc
~~~~~  
>gis-dre-mir-419  
gaggucacgagugggucaggguuaccacaaacuaaccgaauccaucagucacgugaccuac  
>5p-matureseq  
gaggucacgagugggucag  
>3p-matureseq  
uccaucagucacgugaccuac  
~~~~~  
>gis-dre-mir-420
gauggaugggacgacaaagccaaaaaacauacuucuuugcuuuuauucgccuuguuccauucc
>5p-matureseq
gauggaugggacgacaaagc
>5p-matureseq
gauggaugggacgacaaagcc
>5p-matureseq
gauggaugggacgacaaagcca
>3p-matureseq
uuuuauucgccuuguuccauucc
~~~~~  
>gis-dre-mir-421  
gauuccuauauacaguuugcuuaaauguuacauucaagcuguauauaugaacauc  
>5p-matureseq  
gauuccuauauacaguuugcuu  
>3p-matureseq  
ucaagcuguauauaugaacauc  
~~~~~  
>gis-dre-mir-422
gccgguguucugcugaguuuagcuaggguggaccuagacucuccaguacacuggcccu
>3p-matureseq
agacucuccaguacacuggcccu
>5p-matureseq
gccgguguucugcugaguuuagcuagg
>5p-matureseq
gguguucugcugaguuuagcu
~~~~~  
>gis-dre-mir-423  
gcggcguggaguuuccuguugaauuguccugucgagcgcaacaggaacuuccagcccgagc  
>3p-matureseq  
acaggaacuuccagcccgagc  
>3p-matureseq  
caacaggaacuuccagcccga  
>5p-matureseq  
gcggcguggaguuuccuguug  
>5p-matureseq  
ggcguggaguuuccuguugaa  
~~~~~  
>gis-dre-mir-424

gcuggacauuugcgcaagcaauuuuauucucuaaaaauugcaugcauaaauguccggu
>3p-matureseq
auugcaugcauaaauguccggu
>5p-matureseq
gcuggacauuugcgcaagcaau
>3p-matureseq
uugcaugcauaaauguccggu
~~~~~  
>gis-dre-mir-425  
gcuguggcucuucagcagggccaugagaaugugguggcccugcucaucaaccacgguacu  
>3p-matureseq  
ccugcucaucaaccacgguacu  
>5p-matureseq  
gcuguggcucuucagcagggc  
~~~~~  
>gis-dre-mir-426
ggccaguugccugacauggacgagaugccuacggguuguucguggcacgcuauccuggca
>5p-matureseq
ggccaguugccugacauggac
>5p-matureseq
ggccaguugccugacauggacg
>5p-matureseq
ggccaguugccugacauggacga
>3p-matureseq
guucguggcacgcuauccuggca
~~~~~  
>gis-dre-mir-427  
ggcucaaagauggagagagugcaguucauucacuccuccgucauugaauuccu  
>3p-matureseq  
uccuccgucauugaauuccu  
>5p-matureseq  
ggcucaaagauggagagagug  
>5p-matureseq  
ggcucaaagauggagagagugc  
>3p-matureseq  
uccuccgucauugaauuccu  
~~~~~  
>gis-dre-mir-428
gguguuguguguuaaacuguaauuccuaaacaacaucauaguuuugauucacagcacaag
>5p-matureseq
gguguuguguguuaaacugua
>3p-matureseq
uaguuuugauucacagcacaag
~~~~~  
>gis-dre-mir-429  
gguuugguucgguaugccuuuugacaguggaaacggcuauaaaggcguaccuaaccgaacugu  
>3p-matureseq  
aggcguaccuaaccgaacugu  
>5p-matureseq  
gguuugguucgguaugccuuu  
>5p-matureseq  
uugguucgguaugccuuuuga  
>5p-matureseq  
uugguucgguaugccuuuugac

~~~~~  
>gis-dre-mir-430
guagccauugacuucuaauaguguuuuuuuccgacuacaugagucaaugguuaccg
>5p-matureseq
guagccauugacuucuaauaguguuug
>3p-matureseq
uacaugagucaaugguuaccg
~~~~~  
>gis-dre-mir-431  
guagccugaacaaaaccugauuguauucuauguucuaaucaagcuuuguucaagcuag  
>5p-matureseq  
guagccugaacaaaaccugauu  
>5p-matureseq  
uagccugaacaaaaccugauug  
>3p-matureseq  
uucaagcuuuguucaagcuag  
~~~~~  
>gis-dre-mir-432
guaucCCAUCUAGACUUCACUUCACUGCAGGAGAGGGUGAGGUCUAGAUGGGAUACAGC
>5p-matureseq
guaucCCAUCUAGACUUCACU
>3p-matureseq
UGAGGUCUAGAUGGGAUACAGC
~~~~~  
>gis-dre-mir-433  
guaucCUAUCUGGACUUCACAGUCUCCUGCAGCAUGGUGAACGCUAGAUGGGAUACAG  
>5p-matureseq  
guaucCUAUCUGGACUUCACA  
>3p-matureseq  
UGAACGCUAGAUGGGAUACAG  
~~~~~  
>gis-dre-mir-434
GUGAGGAUCAUCGUGAGGUCAGUGUGUGUUUAAUAAUGAGCGUCUCUUUUAAAAGCACUGACUUUUCU
CUGGUCUGCACA
>5p-matureseq
GUGAGGAUCAUCGUGAGGUCAGU
>3p-matureseq
UGACUUUUCUCUGGUCUGCACA
>5p-matureseq
UGAGGAUCAUCGUGAGGUCAGU
~~~~~  
>gis-dre-mir-435  
GUUCGGUUCGGUACGCUUUUAUGGCCGUUCCACUGUCAAAAAGUGUACCGAACCAAACCG  
>3p-matureseq  
CAAAAAGUGUACCGAACCAAAC  
>3p-matureseq  
CAAAAAGUGUACCGAACCAAACC  
>3p-matureseq  
CAAAAAGUGUACCGAACCAAACCG  
>5p-matureseq  
GUUCGGUUCGGUACGCUUUUAUGGC  
>3p-matureseq  
UCAAAAAGUGUACCGAACCAAAC  
>5p-matureseq



ucgguucgguacgcuuuuauaggc  
>5p-matureseq  
uucgguucgguacgcuuuuauaggc  
>5p-matureseq  
uucgguucgguacgcuuuuauaggc  
~~~~~  
>gis-dre-mir-436
guucgguuugguacgcuuuuauaggaccuuuccauugucaaaaguguaccgaaccaaaccg
>3p-matureseq
caaaaguguaccgaaccaaacc
>3p-matureseq
caaaaguguaccgaaccaaacc
>3p-matureseq
caaaaguguaccgaaccaaaccg
>5p-matureseq
guucgguuugguacgcuuuuauaggc
>3p-matureseq
ucaaaaaguguaccgaaccaaacc
>5p-matureseq
ucgguuugguacgcuuuuauaggc
>5p-matureseq
uucgguuugguacgcuuuuauaggc
>5p-matureseq
uucgguuugguacgcuuuuauaggc
~~~~~  
>gis-dre-mir-437  
guucgguuugguacgcuuuuauaggccguuuccacugucaaaaguguaccgaaccaaaccg  
>3p-matureseq  
caaaaguguaccgaaccaaacc  
>3p-matureseq  
caaaaguguaccgaaccaaacc  
>3p-matureseq  
caaaaguguaccgaaccaaaccg  
>5p-matureseq  
gguuugguacgcuuuuauaggcc  
>5p-matureseq  
guucgguuugguacgcuuuuauaggc  
>3p-matureseq  
ucaaaaaguguaccgaaccaaacc  
>5p-matureseq  
ucgguuugguacgcuuuuauaggc  
>5p-matureseq  
uucgguuugguacgcuuuuauaggc  
~~~~~  
>gis-dre-mir-438
guugaaaaucaaagguggcuaguugggcagcccaucucuguucuaaggcaccuaguuuagc
>5p-matureseq
guugaaaaucaaagguggcuaguugggca
>3p-matureseq
ucuguucuaaggcaccuaguuuagc
>5p-matureseq
ugaaaaucaaagguggcuaguugggcagccc
~~~~~  
>gis-dre-mir-439

guugggggcaaucaguggagcucaugcugcugcuccacugcucugccuccccu  
>3p-matureseq  
cuccacugcucugccuccccu  
>5p-matureseq  
guugggggcaaucaguggagcu  
>5p-matureseq  
ugggggcaaucaguggagcu  
~~~~~  
>gis-dre-mir-440
uaaacaaguuagcacagacuugaugucagcaaagucugugcuaaacuuguuuaga
>5p-matureseq
uaaacaaguuagcacagacu
>3p-matureseq
ucugugcuaaacuuguuuaga
~~~~~  
>gis-dre-mir-441  
uaaacaaguuagcacagacuugcugacaucaaagucugugcuaaacuuguuuaga  
>5p-matureseq  
uaaacaaguuagcacagacu  
>3p-matureseq  
ucugugcuaaacuuguuuaga  
~~~~~  
>gis-dre-mir-442
uaacguuucgagcccacugacugucuuaaaagagccguggacuugaaacguug
>3p-matureseq
gagccguggacuugaaacguug
>5p-matureseq
uaacguuucgagcccacugacu
>5p-matureseq
uaacguuucgagcccacugacug
~~~~~  
>gis-dre-mir-443  
uaccgacucacggucucucuccucgcucacaagcgccauuuuggagacagagagcugcgagucggcu  
>3p-matureseq  
agacagagagcugcgagucggcu  
>5p-matureseq  
uaccgacucacggucucucucc  
~~~~~  
>gis-dre-mir-444
uacuugcucuaaacuccucagguuuaucaucacacugaggagcuuagaccaagucaa
>5p-matureseq
uacuugcucuaaacuccucagg
>3p-matureseq
ugaggagcuuagaccaaguca
>3p-matureseq
ugaggagcuuagaccaagucaa
~~~~~  
>gis-dre-mir-445  
uagucacauucaggugaguucuuugauuaucaugaaucaugguacuccuuggauguugacugga  
>3p-matureseq  
augguacuccuuggauguugac  
>5p-matureseq  
cacauucaggugaguucuuuga  
>3p-matureseq

uacuccuuggauguugacugga  
>5p-matureseq  
uagucacauucaggugaguucu  
>5p-matureseq  
ucacauucaggugaguucuuug  
>5p-matureseq  
ucacauucaggugaguucuuuga  
~~~~~  
>gis-dre-mir-446
ucauagcagugcgauuguggcuguaaaauacauccacgucacacugcuacgag
>3p-matureseq
auccacgucacacugcuacgag
>5p-matureseq
ucauagcagugcgauuguggcu
>5p-matureseq
ucauagcagugcgauuguggcug
>5p-matureseq
ucauagcagugcgauuguggcugua
>3p-matureseq
uccacgucacacugcuacgag
~~~~~  
>gis-dre-mir-447  
ucaucccucugcucuaucucccucaaaggaccuccaaagggauuagggaauagggaug  
>3p-matureseq  
agggauuagggaauagggaug  
>5p-matureseq  
ucaucccucugcucuaucucccu  
~~~~~  
>gis-dre-mir-448
ucugaaagcauagugccauggaccuuucuggagaccuugaauuauguaaccggagu
>3p-matureseq
accuugaauuauguaaccggagu
>5p-matureseq
ucugaaagcauagugccauggacc
~~~~~  
>gis-dre-mir-449  
ucugcauccaguguacauucagagaacggagacaugguguacgcuggagaacagacu  
>3p-matureseq  
guguacgcuggagaacagacu  
>5p-matureseq  
ucugcauccaguguacauuca  
>5p-matureseq  
ucugcauccaguguacauucag  
~~~~~  
>gis-dre-mir-450
ucuuggagaauaaauguuggaacggcuugccauauagcgugcucacaauuuuuucucugaca
>3p-matureseq
ucacaauuuuuucucugaca
>5p-matureseq
ucuuggagaauaaauguuggaac
~~~~~  
>gis-dre-mir-451  
ugagccacugauguccauaguaggaaacaaaaaaauacuauggaagucuguggcugcuu  
>3p-matureseq

acuauggaagucuguggcugcuu  
>3p-matureseq  
cuauggaagucuguggcugcuu  
>5p-matureseq  
ugagccacugauguccauagu  
~~~~~  
>gis-dre-mir-452
ugagucuucugguucuugagucguucaucacgugacagaaucggaggacucgag
>5p-matureseq
agucuucugguucuugagucguuc
>5p-matureseq
gagucuucugguucuugagucguu
>3p-matureseq
ugacagaaucggaggacucga
>3p-matureseq
ugacagaaucggaggacucgag
>5p-matureseq
ugagucuucugguucuugagucguu
~~~~~  
>gis-dre-mir-453  
uguaccaugcugguagccaguaugaaauagggcuugcugguaaccagcguugugcccc  
>3p-matureseq  
cugguaaccagcguugugccc  
>3p-matureseq  
cugguaaccagcguugugcccc  
>3p-matureseq  
ugguaaccagcguugugcccc  
>5p-matureseq  
uguaccaugcugguagccagu  
>5p-matureseq  
uguaccaugcugguagccagua  
~~~~~  
>gis-dre-mir-454
uguagaucaguggauuagcagagcugaugugugcuguuacacagauacuacagc
>3p-matureseq
ugcuguuacacagauacuacagc
>5p-matureseq
uguagaucaguggauuagcaga
~~~~~  
>gis-dre-mir-455  
uguguguauguaugugcauacuauuuugcaugcaugucugcaccuguauacacacaca  
>3p-matureseq  
ucugcaccuguauacacacaca  
>5p-matureseq  
uguguguauguaugugcauacu  
~~~~~  
>gis-dre-mir-456
uguugcuauugaccuccauaguguguuuuuuuuuucuaucgauagaagucauuaguucggg
>3p-matureseq
gauagaagucauuaguucggg
>5p-matureseq
uguugcuauugaccuccauagu
~~~~~  
>gis-dre-mir-457

uguuugacacuugaagggauuugcuugauuuuugucagcgauucaacuggugucagaguu

>3p-matureseq

cgauucaacuggugucagaguu

>5p-matureseq

uguuugacacuugaagggauuug

>5p-matureseq

uguuugacacuugaagggauuugcu

~~~~~

>gis-dre-mir-458

uugaccauucagacgugacuauauaucaguugaccauucagacgugacuauauaucgguuuga

ugaucuucagac

>3p-matureseq

aucgguuugaugaucuucagac

>5p-matureseq

uugaccauucagacgugacua

>3p-matureseq

uuugaccauucagacguga

~~~~~

>gis-dre-mir-459

uuuauccuaucuagacuuuaccucuccugcagcauggugaagucuagaugggauucagc

>3p-matureseq

ugaagucuagaugggauucagc

>5p-matureseq

uuuauccuaucuagacuuuac

>5p-matureseq

uuuauccuaucuagacuuuacc

~~~~~