

附 錄

Appendix I. Partial sequences of eubacterial 16S rDNA fragments from DGGE gel.

➤ Eub 1 (535 bp)

TTAGGGCGGAAGCCTGACCAGCGACGCCGCGTGAGGGANGAA
GCCCTTCGGGGTTGTAAACCTCTTTGGNCTGGGANAAATAGGA
GATAGTACCCGTTTAAAAANCCACGGTATAACTACTGTGCCANC
AGCCGCGGTAATACNTAGGTGGNGAGCNTTNNCCNGANTTACT
GGGCGTAAAGGGTGCNTANGCGGCTATGCGANTTAAGCGTGAA
AGCCTTANGCTCANCCTANGGATTGCNCTTAATACTGCNTATCTT
GAGTGCGNGAGAGGACNGCENNATTTCCCGGTGTAGCGGTGAAA
TGCNTATATATCGNGAGGAACACCNGTGGCAAAGGCGNCCGTC
TGGACCGTAACTGACGCTGAGGCACNAAAGCGTGGGGAGCGA
ACANGATTATNATAACCCTGGTAGTCCACNCTGTAAACGATGGAT
GCTATGTGTGGGGGAGAAGGACTCCTCCGTGCCGTAGTTAACA
CAATAANCATCCNCCTGGGNAGTACNGCCGCGNNGTTGANAC
TCAAANAATTGACGGA

➤ Eub 2 (524 bp)

TCCTCCGGGAGGCAGCAGCGGGGAATCTTGCGCAATGGGCGGA
AGCCTGACGCAGCGACGCCGCGTGAGGGAAGAAGCCCTTCGG
GGTGTAACCTCTTTGGACGGGGAGAAGTAGGAGATAGTACCC
GTTTAAAAAGCCACGGCTAACTACGTGCCAGCAGCCGCGGTAA
TACGTAGGTGGCGAGCGTTGTCCGGAATTAAGTGGGCGTAAAGG
GTGCGTAGGCGGCTATGCCAGTTAAGCGTGAAAACCTTAGGCT
CAACCTAAGGATTGCCCTTAATACTGCATAGCTTGAGTGCCGGA
GAGGACGGCGGAATTCGCGGTGTAGCGGTGAAATGCGTAGATA
TTGGGAGGAACACCAGTGGCGAAGGCGGCCGTTTGGACCGTA
ACTGACGCTGAGGCACGAAAGCGTGGGGAGCGAACAGGATTA
GATACCCTGGTAGTCCCCGCTGTAAACGATGGATGCTAGGTGTG
GGGGAGAAGGACTCCTCCGTGCCGTAGTTAACACAATAAGCTC
CCGCTTGGC

➤ Eub 3 (533 bp)

CTGCAGGGCCAAGCTGAGCAGCGACGCCGCGTGTAGGGAAGA
AGCCCTTCGGGGTGTAACCTCTTTGGACGGGGAGAAGTAGGA
GATAGTACCCGCTTTAAAAAGCCACGGCTAACTACGTGCCAGCA
GCCGCGGTAATACGTAGGTGGCGAGCGTTGTCCGGAATTACTGG
GCGTAAAGGGTGCGTAGGCGGCTATGCGAGTTAAGCGTGAAAG
CCTTAGGCTCAACCTAAGGATTGCGCTTAATACTGCATAGCTTG
AGTGCGGGAGAGGACGGCGGAATTCGCGGTGTAGCGGTGAAAT
GCGTAGATATCGGGAGGAACACCAGTGGCGAAGGCGGCCGTCT
GGACCGTAACTGACGCTGAGGCACGAAAGCGTGGGGAGCGAA
CAGGATTAGATACCCTGGTAGTCCACGCTGTAAACGATGGATGC
TAGGTGTGGGGGAGAAGGACTCCTCCGTGCCGTAGTTAACACA
ATAAGCATCCCGCCTGGGGAGTACGGCCGCAAGGTTGAAACTC
AAAGAAATTGACGGA

➤ Eub 4 (563 bp)

TCCTACGGGAGGCAGCAGCGGGGAATCTTGCGCAATGGGCGGA
AGCCTGACGCAGCGACGCCGCGTGAGGGAAGAAGCCCTTCGG
GGTGTAACCTCTTTGGACGGGGAGAAGTAGGAGATAGTACCC
GTTTAAAAAGCCACGGCTAACTACGTGCCAGCAGCCGCGGTAA
TACGTAGGTGGCGAGCGTTGTCCGGAATTACTGGGCGTAAAGG
GTGCGTAGGCGGCTATGCGAGTTAAGCGTGAAAGCCTTAGGCT
CAACCTAAGGATTGCGCTTAATACTGCATAGCTTGAGTGCGGGA
GAGGACGGCGGAATTCGCGGTGTAGCGGTGAAATGCGTAGATA
TCGGGAGGAACACCAGTGGCGAAGGCGGCCGTTTGGACCGTA
ACTGACGCTGAGGCACGAAAGCGTGGGGAGCGAACAGGATTA
GATACCCTGGTAGTCCACGCTGTAAACGATGGATGCTAGGTGTG
GGGGAGAAGGACTCCTCCGTGCCGTAGTTAACACAATAAGCAT
CCCGCCTTGTATTCAAGGCCGCAAGGTTGAAACTCAAAGAATT
GACGG

➤ Eub 5 (565 bp)

TCCTCCCGGGAGGCAGCAGCGGGGAATCTTATACATGGGCGGA
GCCTGACGCAGCGACGCCGCGTGAGGGA-GAAGCCCTTCGGGG
TGTAACCTCTTTGGACGGGGAGAAGTAGGAGATAGTACCCGT
TTAAAAAGCCACGGCTAACTACGTGCCAGCAGCCGCGGTAATA
CGTAGGTGGCGAGCGTTGTCCGGAATTACTGGGCGTAAAGGGT
GCGTAGGCGGCTATGCGAGTTAAGCGTGAAAGCCTTAGGCTCA
ACCTAAGGATTGCGCTTAATACTGCATATCTTGAGTGCGGGAGA
GGACGGCGGAATTCCCGGTGTAGCGGTGAAATGCGTAGATATCG
GGAGGAACACCAGTGGCGAAGGCGGCCGTCTGGACCGTAACT
GACGCTGAGGCACGAAAGCGTGGGGAGCGAACAGGATTAGAT
ACCCTGGTAGTCCACGCTGTAAACGATGGATGCTAGGTGTGGG
GGAGAAGGACTCCTCCGTGCCGTAATTAACACAATAAGCATCCC
GCCTGGGGAGTACGGCCGCAAGGTTGAAACTAAAGAAAATTGG
ACGGA

➤ Eub 6 (564 bp)

TCCTACGGGAGGCAGCAGCGGGGAATCTTTGGCAAGTGGCGGA
GCCTGACGCAGCGACGCCGCGTGAGGGAAGAAGCCCTTCGGG
GTGTAACCTCTTTGGACGGGGAGAAGTAGGAGATAGTACCCG
TTAAAAAGCCACGGCTAACTACGTGCCAGCAGCCGCGGTAAT
ACGTAGGTGGCGAGCGTTGTCCGGAATTACTGGGCGTAAAGGG
TGCGTAGGCGGCTATGCGAGTTAAGCGTGAAAGCCTTAGGCTC
AACCTAAGGATTGCGCTTAATACTGCATAGCTTGAGTGCGGGAG
AGGACGGCGGAATTCCCGGTGTAGCGGTGAAATGCGTAGATATC
GGGAGGAACACCAGTGGCGAAGGCGGCCGTCTGGACCGTAAC
TGACGCTGAGGCACGAAAGCGTGGGGAGCGAACAGGATTAGAT
ACCCTGGTAGTCCACGCTGTAAACGATGGATGCTAGGTGTGGG
GGAGAAGGACTCCTCCGTGCCGTAATTAACACAATAAGCATCCC
GCCTGGGGAGTACGGCCGCAAGGTTGAAACTCAAAGAAATTGA
CGGA

➤ Eub 7 (565 bp)

TCCTACGGGAGGCAGCAGCGGGGAATCTTGCGCAATGGGCGGA
AGCCTGACGCAGCGACGCCGCGTGAGGGAAGAAGCCCTTCGG
GGTGTAACCTCTTTGGACGGGGAGAAGTAGGAGATAGTACCC
GTTTAAAAAGCCACGGCTAACTACGTGCCAGCAGCCGCGGTAA
TACGTAGGTGGCGAGCGTTGTCCGGAATTAAGTGGGCGTAAAGG
GTGCGTAGGCGGCTATGCGAGTTAAGCGTGAAAGCCTTAGGCT
CAACCTAAGGATTGCGCTTAATACTGCATAGCTTGAGTGCGGGA
GAGGACGGCGGAATTCGCCGTGTAGCGGTGAAATGCGTAGATA
TCGGGAGGAACACCAGTGGCGAAGGCGGCCGTCTGGACCGTA
ACTGACGCTGAGGCACGAAAGCGTGGGGAGCGAACAGGATTA
GATACCCTGGTAGTCCACGCTGTAAACGATGGATGCTAGGTGTG
GGGGAGAAGGACTCCTCCGTGCCGTAGTTAACACAATAAGCAT
CCCGCCTGGAGAGTACGGCCGCAAGGTTGAAACTCAAAGAATT
TGACGGA

➤ Eub 8 (524 bp)

TCCTCGGGAGGCAGCAGCGGGGAATCTTGGCCAATGGGGGGA
ACCCTGAGGCAGGGACGCCGCGTGAGGGAAGAAGCCTTTTCGG
TGGGTAAACTTCTTTGGACGGGGAGAAGTAGGAGATAGTCCCC
GTTTAAAAAGCCCCGGCTAATTACGTCCCACCAGCCGCGGTAA
AGTTAGGGGGCGAGCGTTTTCCGGAATTAAGTGGGGGTAAAGGG
TGGGTAGGGGGCTATGCAATTTAAGCGTGAAAGCCTTAGGTTCA
ACCTAAGGATTGCGCTTAATACTGCATAGCTTGAGTCCGGGAGA
GGAAGGCGAAATTCGCCGGGAAGCGGTAAAATGGGTAGATTTC
GGGAGGACCCCCAGTGGGGAAGGCGGCCCTTTGGACCGTAACT
GACGCTGAGCCAGGAAAACGTGGGGACCGACCAGGATTAGATA
CCCTGGTATTCCCCGCTGTAAACGATGGATGTTAGGTGTGGGGG
AGAAGGATCCTCCGTGCCGTAGTTAACACAATAAGCATCCCGCT
CTGGA

➤ Eub 9 (568 bp)

TCCCTACGGGGGAGCAGCAGCGGGGAATCTCTTTCCATGGGCG
GA-GCCTGACGCAGCGACGCCGCGTGAGGGAAGAAGCCCTTCG
GGGTGTAAACCTCTTTGGACGGGGAGAAGTAGGAGATAGTACC
CGTTTAAAAAGCCACGGCTAACTACGTGCCAGCAGCCGCGGTA
ATACGTAGGTGGCGAGCGTTGTCCGGAATTACTGGGCGTAAAG
GGTGCGTAGGCGGCTATGCGAGTTAAGCGTGAAAGCCTTAGGC
TCAACCTAAGGATTGCGCTTAATACTGCATAGCTTGAGTGCGGG
AGAGGACGGCGGAATTCCTCGGTGTAGCGGTGAAATGCGTAGAT
ATCGGGAGGAACACCAGTGGCGAAGGCGGCCGTCTGGACCGT
AACTGACGCTGAGGCACGAAAGCGTGGGGAGCGAACAGGATT
AGATACCCTGGTAGTCCACGCTGTAAACGATGGATGCTAGGTGT
GGGGGAGAAGGACTCCTCCGTGCCGTAGTTAACACAATAAGCA
TCCCGCCTGGGGAGTACGGCCGCAAGGTTGAAACTCAAAAAT
TTGACGGGA

Appendix II. Partial sequences of archaeal 16S rDNA fragments from DGGE gel.

➤ Arc 1 (421 bp)

CCACAACGGGTGGAGCCTGCGGTTTAATTGGACTCAACGCCGG
GCAGCTCACCGGATAAGACAGCTGGATGATAGCCGGGCTGAAG
ACTCTGCTTGACTAGCTGAAGAGGAGGTGCATGGCCGTCGTCA
GTTTCGT-ACTGTGAAGCATCCTGTTAAGTCAGGCAACGAGCGAG
ACCCACGCCAACAGTTGCCAGCATGTCTCCGGGATGATGGGG
ACACTGTTGGGACCGCCTCTGCTAAAGAGGAGGAAGGAATGGG
CAACGGTAGGTCAGCATGCCCCGAATTATCCGGGCTACACGCGG
GCTACAATGGTCAGGACAATGGGTATCGACACCGAGAGGTGGA
GGCAATCTCTAAACCTGTCTTAGTTTCGGATTGTGGGCTGCAA
CTCGCCACATGAAGCTGGAATCCGTAGTAA

➤ Arc 2 (473 bp)

CCACAACGGGTGGAGCCTGCGGTTTAATTGGACTCAACGCCGG
GAAGCTTACCGGGATCGACAGTTGTATGAAGGCCAGGCTGAAG
ACCTTGCCGGACTATCTGAGAGGAGGTGCATGGCCGCCGTCAG
TTCGTACCGTGAGGCGTCCTGTTAAGTCAGGCAACGAGCGAGA
CCCATGTCCACTGTTGCTAACATGTCCCGCGAGGGATGATGAGT
ACACGGTGGAGACCGCTGGCGCTAAGTCAGAGGAAGGGGTGG
TCGACGGTAGGTCAGTATGCCCCGAATATCCCGGGCTACACGCG
GGCTACAATGGACAGGACAATGGGCTACTACACCGAAAGGTGG
CGTCAATCTCT-TAAACCTGTCTTAGTTTCGGATCGAGGGCTGCA
ACTCGCCCTCGTGAAGATGGAATCCGTAGTAATCGCATTTCAA
ACAGTGCGGTGAATACGTCCCTGCTCCTTGCACACACCG

➤ Arc 3 (476 bp)

CCACAACGGGTGGAGCTTGCGGTTTAATTGGATTCAACGCCGG
AAATCTTACCGGGACCGACAGCAATATGAAGGCCAGGCTGAAG
ACTTTGCCGGATTAGCTGAGAGGTGGTGCATGGCCGTCGTCAGT
TCGTACTGTGAAGCATCCTGTTAAGTCAGGCAACGAGCGAGAC
CCACGCCCACAGTTGCCAGCGTACTCTCCGGAGTGACGGGTAC
ACTGTGGGGACCGCCGCTGCTAAAGCGGAGGAAGGAATGGGC
AACGGTAGGTCAGTATGCCCCGAATATCCCGGGCTACACGCGAG
CTACAATGGTTGGTACAATGGGTATCTACCCCGAGAGGGGATGG
CAATCTCCTAAAACCAATCTTAGTTCGGATTGAGGGCTGCAACT
CGCCCTCATGAAGCTGGAATCCGTAGTAATCGCGTTTCAACAGA
ACGCGGTGAATACGTCCCTGCTCCTTGCACACACCGCCCGTC

➤ Arc 4 (467 bp)

GTGTAGCCCGGGATATTCGGGGCATACTGACCTACCGTTGCCCA
TTCCTTCCTCCGCTTTAGCAGCGGCGGTCCCCACAGTGTACCCA
TCACTCCGGAGAGTACGCTGGCAACTGTGGGCGTGGGTCTCGC
TCGTTGCCTGACTTAACAGGATGCTTCACAGTACGAACTGACG
ACGGCCATGCACCACCTCTCAGCTAATCCGGCAAAGTCTTCAGC
CTGGCCTTCATATCGCTGTCGGTCCCGGTAAGATTTCGGGCGTT
GAATCCAATTAACCGCAAGCTCCACCCGTTGTGGTGCTCCCC
GCCAATTCCTTTAAGTTTCAGCCTTGCGGCCGTACTTCCCAGGT
GGCTCGCTTCACGGCTTCCCTACGGCACCGACCACGGTCGCAC
CGTGGCCGACACCTAGCGAGTATCGTTTACGGCTAGGACTACCC
GGGTATCTAATCCGGT-TCGTGCCCTAGC

➤ Arc 5 (476 bp)

CCACAACGGGTGGAGCCTGCGGTTTAATCGGACTCAACGCCGG
AAAGCTCACCGGATAAGACAGCTGAATGATAGCCGGGCTGAAG
ACTCTGCTTGACTAGCTGAGAGGAGGTGCATGGCCGTCGTCAG
TTCGTA CTGTGAAGCATCCTGTTAAGTCAGGCAACGAGCGAGA
CCCACGCCAACAGTTGCCAGCACGTCCCCCGGGATGGTGGGGA
CACTGTTGGGACCGCCTCTGCTAAAGAGGAGGAAGGAATGGGC
AACGGTAGGTCAGCATGCCCCGAATTATCCGGGCTACACGCGG
GCTACAATGGGCAGGACAATGGGCATCGACACCGAAAGGTGGA
GGCAATCTCCTAAACCTGCTCGTAGTTCGGATTGTGGGCTGCAA
CTCGCCACATGAAGCTGGAATCCGTAGTAATTGCGTCTCAAAA
TGGCGCGGTGAATATGTCCCTGCTCCTTGCACACACCGCCCGTC

➤ Arc 6 (476 bp)

CCACAACGGGTGGAGCTTGCGGTTTAATTGGATTCAACGCCGG
AAATCTTACCGGGACCGACAGCGATATGAAGGCCAGGCTGAAG
ACTTTGCCGGATTAGCTGAGAGGTGGTGCATGGCCGTCGTCAGT
TCGTA CTGTGAAGCATCCTGTTAAGTCAGGCAACGAGCGAGAC
CCACGCCACAGTTGCCAGCGTACTCTCCGGAGTGATGGGTAC
ACTGTGGGGACCGCCGCTGCTAAAGCGGAGGAAGGAATGGGC
AACGGTAGGTCAGTATGCCCCGAATATCCCGGGCTACACGCGAG
CTACAATGGTTGGTACAATGGGTATCTACCCCGAGAGGGGATGG
CAATCTCCTAAAACCAATCTTAGTTCGGATTGAGGGCTGCAACT
CGCCCTCATGAAGCTGGAATCCGTAGTAATCGCGTTTCAACAGA
ACGCGGTGAATACGTCCCTGCTCCTTGCACACACCGCCCGTC

➤ Arc 7 (479 bp)

CCACAACGGGTGGGAGCCTGCGGTTTAATTGGACTCAACGCCG
GGAAGCTTACCGGGATCGACAGTTGTATGAAGGCCAGGCTGAA
GACCTTGCCGGACTATCTGAGAGGAGGTGCATGGCCGCCGTCA
GTTCGTACCGTGAGGCGTCCTGTTAAGTCAGGCAACGAGCGAG
ACCCATATCCACTGTTGCTAACGTGACCCGTGAGGGTTGGCGAG
TACACGGTGGAGACCGCTGGCGCTAAGTCAGAGGAAGGGGTG
GTCGACGGTAGGTCAGTATGCCCCGAATATCCCGGGCTACACGC
GGGCTACAATGGACAGGACAATGGGTA ACTACACCGAAAGGTG
GCGTCAATCTCTTAAACCTGTCCTTAGTTCGGATTGAGGGCTGA
AACTCGCCCTCATGAAGATGGAATCCGTAGTAATCGCATTTCAA
AACAGTGCGGTGAATACGTCCCTGCTCCTTGCACACACCGCCC
GTC

➤ Arc 8 (491 bp)

AGGAGCAGGGACGTATTCACCGCGCGATAGTGACACGCGATTA
GTACGCATTCCAGCTTCACGAGGGCGGGTTACAGCCCTCGATCC
GAAATACGACCTGGTTTAGGGGATTACCTCCACCTTTCGGTGTC
GGAACCCATTGTCCAGGCCATTGTAGCCCGGGTGTTGCCAGG
GGATTCCGGGCATACGGACATACCGTCGTCCACTCCTTCCTCA
GTTTATCACTGGCGGTCCCCTTAGTGTGCCCGGCAACCCATAAG
GGTTCCGCTGGTAATTAAGGGCGTGGGTGTCGCTCGTTGCCTGA
CTTAACAGGACGCCTCACGGTACGAGCTGACGGCGGCCATGCA
CCTCCTCTCAGCTCGTCAGGCAAGGTCATCAACCTGGCCATCAT
ACTGCTGTCGCCCTGGTGAGATGTCCGGCG-TGAACCAATAAG
CCGCAGCGATCCGCGCGTTGTGGTGCTCCCCGTA AATTCCTAA
AAAAAAGTTT

➤ Arc 9 (442 bp)

ACAAGGAGCA-GGGACGTATTCACCGCGCGATAGTGACACGCG
ATTACTACGCATTCCAGCTTCACGAGGGCGGGTTACAGCCCTCG
ATCCGAACTACGACCTGGTTTAGGGGATTACCTNCACCTTTTCGG
TGTCGGAACCCATTGTCCAGGCCATTGTAGCCCGCGTGTGCCC
AGGGGATTCGGGGCATAACGGACCTACCGTCGTCCACTCCTTCT
CCAGTTTATCACTGGCGGTCCCCTTAGTGTGCCCGGCAACCCAT
AAGGGTTCGCTGGTAACTAAGGGCGTGGGTCTCGCTCGTTGC
CTGACTTAACAGGACGCCTCACGGTACGAGCTGACGGCGGCCA
TGCACCTCCTCTCAGCTCGTCAGGCAAGGTCATCAACCTGGCCA
TCATACTGCTGTCGCTCCTGGTGAGATGTCCGGCGTGAATCCAA
TAACC

➤ Arc 10 (476 bp)

CCACAACGGGTGGAGCCTGCGGTTTAATTGGACTCAACGCCGG
GCAGCTCACCGGATAAGACAGCTGGATGATAGCCGGGCTGAAG
ACTCTGCTTGACTAGCTGAGAGGAGGTGCATGGCCGTCGTCAG
TTCGTACTGTGAAGCATCCTGTTAAGTCAGGCAACGAGCGAGA
CCCACGCCAACAGTTGCCAGCATGTCCTCCGGGATGATGGGGA
CACTGTTGGGACCGCCTCTGCTAAAGAGGAGGAAGGAATGGGC
AACGGTAGGTCAGCATGCCCGAATTATCCGGGCTACACGCGG
GCTACAATGGTCAGGACAATGGGTATCGACACCGAGAGGTGGA
GGCAATCTCCTAAACCTGTCCTTAGTTCGGATTGTGGGCTGCAA
CTCGCCACATGAAGCTGGAATCCGTAGTAATCGCGTTTCAAAA
TAGCGCGGTGAATATGTCCTGCTCCTTGCACACACCGCCCGTC

Appendix III. Partial sequence of 16S rDNA of strain THUT3.

➤ Strain THUT3 (1303 bp)

CGAACGAACCTTGTGTTCGTGGCGAACGGCTCAGTAACACGTG
GATAACCTGCCCTTGGGACCGGGATAACCCCGGGAAACTGGGG
ATAAACCCGGATAGGTGATGCTGCCTGGAATGGTTCTTCACCGA
AACACCTTCGGGTGCCCAAGGATGGGTCTGCGGCCGATTAGGT
TGTTGGTAGGGTAACGGCCTACCAAGCCGATCATCGGTACGGNT
TGTGAGAGCAAGAGCCCGNAGATGAANNCTGAGACAAGGTGT
CAGNCCCTACGGGGCGCAGCAGGCGGCGAAACCTCTGCAATGC
ACGCAAGTGCACGGGGGAACCCCAAGTGCCACTCTTAACGG
GGTGGCTTTTCAGAAGTGTA AAAAGCTTCTGGAATAAGGGCTG
GGCAAGACCGGTGCCAGCCGCCGCGGTAACACCGGCAGCTCA
AGTGGTAGCCGCTTTTATTGGGCCTAAAGCGTCCGTAGCCGGTC
TGATAAGTCTCTGGTGAAATCCCACAGCTTA ACTGTGGGAATTG
CTGGAGATACTATCATGACTCGAGGTCGGGAGAGGCTGGAGGT
ACTCCCAGGGTAGGGGTGAAATCCTGTAATCCTGGGAGGACCA
CCTGTGGCGAAGGCGTCCAGCTGGAACGAACCTGACGGTGAG
GGACGAAAGCCAGGGGCGCGAACCGGATTAGATAACCCGGGTAG
TCCTGGCCGTAAACGATGTGGACTTGGTGTTGGGATGGCTTCGA
GCTGCCCCAGTGCCGAAGGGAAGCTGTTAAGTCCACCGCCTGG
GAAGTACGGCCGCAAGGCTGAAACTTAAAGGAATTGGCGGGG
GAGCACCACAACGCGTGGAGCCTGCGGTTTAATTGGATTCAAC
GCC-GGACATCTCACCAGGGGCGACAGCAGTATGATGGCCAGGT
TGATGACCTTNGCCTGACGAGCTGAGAGGAGGTGCATGGCCGC
CGTCAGCTCGTACCGTGAGGCGTCCTGTTAAGTCAGGCAACGA
GCGAGACCCACGCCCTTAGTTACCAGCGGAACCCTTATGGGTTG
CCGGGCACACTAAGGGGACCGCCAGTGATAAACTGGAGGAAG
GAGTGGACGACGGTAGGTCCGTATGCCCCGAATCCCCTGGGCA
ACACGCGGGCTACAATGGCCTGGACAATGGGTTCCGACACCGA
AAGGTGGAGGTAATCCCCTAAACCAGGTCGTAGTTCGGATCGA
GGGCTGTAACCCGCCCTCGTGAAGCTGGAATGCGTAGTAATCGC
GTGTCACTATCGCGCGGTGAATACGTCCCTGCTCCTTGCACACA
CCGCCCCGTCAC