

2272 . . . D E Q R N H T G T K K G L V S S T T A
cdiA CATGACGAGCAGCGCAATCATACCGGGACTAAAAAAGGGCTGGTCTCCAGCACCACCGCC

CTo3 AAATGAGATCCAGGCTCTACACTGGGATCTGCCAAAGGGCTGGTCTCCAGCACCACCAACC

2292 R S E E G R S Q T L A V G S M L S A G S
cdiA CGCAGCGAAGAGGGCCGGAGCCAGACGCTGGCGGTGGGCTCGATGCTCTCGGCGGGTTCC

CTo3 CGCAGCGAGGAGGGCCGGAGCCAGACGCTGGCGGTGGGCTCGATGCTCTCGGCGGGTTCC

2312 I D V S S Q N I A V A G S S V V A D K D
cdiA ATTGATGTCAGTAGCCAAAATATCGCGGTGCGCCGGCAGCAGCGTGGTGGCCGATAAGGAT

CTo3 ATTGATGTCAGTAGCCAAAATATCGCGGTGCGCGGCAGCAGCGTGGTGGCCGATAAGGAT

2332 I R L R A Q E N L T V S T A Q Q S E S G
cdiA ATTGCGCTGCGTGCGCAGGAAAACCTGACCGTGAGCACCGCGCAGCAGAGCGAGAGCGGG

CTo3 ATTGCGCTGCGTGCGCAGGAAAACCTGACCGTGAGCACCGCGCAGCAGAGCGAGAGCGGG

2352 S Q L F E Q K K S G L M S T G G I G V F
cdiA TCTCAGCTATTTCGAGCAGAAAAATCCGGCCTGATGAGCACCGGCGGTATCGGTGTCTTT

CTo3 TCTCAGCTATTTCGAGCAGAAAAATCCGGCCTGATGAGCACCGGCGGTATCGGTGTCTTT

2372 I G T S R Q K T T D Q T Q T V S H I G S
cdiA ATCGGGACTTCCCGGCAGAAAACCACCGACCAGACCCAAACGGTGAGCCATATTGGCAGC

CTo3 ATCGGGACTTCCCGGCAGAAAACCACCGACCAGACCCAAACGGTGAGCCATATTGGCAGC

2392 T V G S L T G N V R L E A G N Q L A L H
cdiA ACGGTGGGCAGCCTGACGGGCAATGTGCGTCTCGAGGCGGGCAATCAGTTAGCCCTCAC

CTo3 ACGGTGGGCAGCCTGACGGGCAATGTGCGTCTCGAGGCGGGCGATCAGTTAGCCCTCAC

2412 G S D V V A G K D L A L T G A D V A I S
cdiA GGCAGCGACGTGGTGGCGGGTAAAGACCTCGCCCTGACAGGGGCGGATGTCGCGATCAGC

CTo3 GGCAGCGACGTGGTGGCGGGTAAAGACCTCGCCCTGACAGGGGCGGATGTCGCGATCAGC

2432 A A E N S R S Q Q Y T A E S K Q S G L T
cdiA GCCGCAGAAAATAGCCGTTCTCAACAGTATACTGCCGAGAGTAAACAAAGTGGCCTGACG

CTo3 GCCGCAGAAAATAGCCGTTCTCAACAGTATACTGCCGAGAGTAAACAAAGTGGCCTGACG

2452 V A L S G P V G S A V N T A V T T A K A
cdiA GTGGCGCTGTCCGGACCGGTCGGCAGTGCCGTCAATACGGCGGTACCACCGCCAAAGCG

CTo3 GTGGCGCTGTCCGGACCGGTCGGCAGTGCCGTCAATACGGCGGTACCACCGCCAAAGCG

2472 A R E E N T G R L A G L Q G V K A A L S
cdiA GCCCGCGAAGAAAACACCGGCCGGCTGGCGGGATTGCAAGGGGTCAAAGCGGCGCTGTCC

CTo3 GCCCGCGAAGAAAACACCGGCCGGCTGGCGGGATTGCAAGGGGTCAAAGCGGCGCTGTCC

2492 G V Q A V Q A G Q L V Q A Q G G G V T E
cdiA GGGGTGCAAGCGGTGCAGGCCGGCAACTGGTGCAGGCCAGGGAGGCGGAGTCACTGAG
CTo3 GGGGTGCAGGCGGTGCAGGCCGGCAACTGGTGCAGGCCAGGGAGGTGGTGTCTGCTGAG

2512 M V G V S V S L G S Q K S S S Q Q Q Q E
cdiA ATGGTGGGCGTCACTGTGTCTGTTAGGCTCACAGAAATCGTCCTCGCAGCAACAGCAGGAA
CTo3 ATGGTGGGCGTCACTGTGTCTGTTAGGCTCACAAAATCGTCCTCGCAGCAACAGCAGGAA

2532 Q T Q V S G S A L T A G N N L S I K A T
cdiA CAGACCCAGGTGAGCGGTTCGGCCCTGACGGCGGGTAATAACCTGAGCATCAAGGCCACC
CTo2 ...ACTTAAAACTAGTATTAAAGATCC
CTo3 CAGACCCAGGTGAGCGGTTCGGCCCTGACGGCGGGTAATAACCTGAGCATCAAGGCCACC

2552 G G G N A A N S G D I L I A G S Q L K A
cdiA GGTGGCGGGAATGCGGCAAACAGCGCGATATTCTGATCGCTGGCAGCCAGCTTAAAGCC
CTo2 CAGCTTCACTCTGGGATCAACCGGTAAGCGATATTCTGATCGCCGGCAGCCAGCTTAAAGCC
CTo3 GGTGGCGGGAATGCGGCAAACAGCGCGATATTCTGATCGCTGGCAGCCAGCTTAAAGCC

2572 G G D T R L D A A R D V R L L G A A N R
cdiA GGGGGCGATACCCGGCTTGATGCGGGCGGTGACGTGCGGTTACTCGGGCGCGGCAATAGG
CTo2 GGGGGCGATACCCGGCTTGATGCGGGCGGTGACGTGCGGTTACTCGGGCGCGGCAATAGG
CTo3 GGGGGCGATACCCGGCTTGATGCGGGCGGTGACGTGCGGTTACTCGGGCGCGGCAATAGG

2592 Q K T D G S N S S R G G S V G V S V G G
cdiA CAAAAAACCGACGGCAGTAACAGCAGCCGTGGCGGTAGCGTTGGCGTCAGTGTGGGGGGC
CTo2 CAAAAAACCGACGGCAGTAACAGCAGCCGTGGCGGTAGCGTTGGCGTCAGTGTGGGGGGC
CTo3 CAAAAAACCGACGGCAGTAACAGCAGCCGTGGCGGTAGCGTTGGCGTCAGTGTGGGGGGC

2612 S G L S V F A N A N K G Q G N E R G D G
cdiA AGCGGTCTGAGCGTCTTTGCCAATGCCAACAAGGGGCAGGGCAATGAGCGCGGTGACGGC
CTo2 AGCGGTCTGAGCGTCTTTGCCAATGCCAACAAGGGGCAGGGCAATGAGCGCGGTGACGGC
CTo3 AGCGGTCTGAGCGTCTTTGCCAATGCCAACAAGGGGCAGGGCAATGAGCGCGGTGACGGC

2632 T F W T E T T V D S G G M F S L R S G R
cdiA ACTTTCTGGACGGAACCACCGTCGACAGTGGCGGAATGTTCTCGTTGCGCAGTGGCCCGC
CTo2 ACTTTCTGGACGGAACCACCGTCGACAGTGGCGGAATGTTCTCGTTGCGCAGTGGCCCGC
CTo3 ACTTTCTGGACGGAACCACCGTCGACAGTGGCGGAATGTTCTCGTTGCGCAGTGGCCCGC

2652 D T A L T G A Q V S A E T V K A D V G R
cdiA GATACGGCACTGACCGGCGCGCAGGTGAGCGCTGAAACGGTCAAGGCCGATGTGGGGCGT
CTo2 GATACGGCACTGACCGGCGCGCAGGTGAGCGCTGAAACGGTCAAGGCCGATGTGGGGCGT
CTo3 GATACGGCACTGACCGGCGCGCAGGTGAGCGCTGAAACGGTCAAGGCCGATGTGGGGCGT
CTo4 ...TCC

2672 N L T L Q S Q Q D R D N Y D A K Q S R V
cdiA AATCTTACTCTGCAAAGCCAGCAGGACCGCGATAATTATGATGCGAAGCAGAGCCGTGTC
CTo2 AATCTTACTCTGCAAAGCCAGCAGGACCGCGATAATTATGATGCGAAGCAGAGCCATGTC
CTo3 AATCTTACTCTGCAAAGCCAGCAGGACCGCGATAATTATGATGCGAAGCAGAGCCGTGC
CTo4 TAGTTAGTTGGTGGGGCTTTTGCTTTTACATATTTTATGACGCGAAGCAGAGCCATGTC

2692 S G G I S V P V A G G G A A V N L S M S
cdiA AGCGGCGGTATCAGTGTCCCGGTGGCGGGGGGGCGGTGCCGCGGTCAACCTGAGCATGAGC
CTo2 AGCGGCGGTATCAGTGTCCCGGTGGCGGGGGGGCGGTGCCGCGGTCAACCTGAGCATGAGC
CTo3 AGCGGCGGTATCAGTGTCCCGGTGGCGGGGGGGCGGTGCCGCGGTCAACCTGAGCATGAGC
CTo4 AGCGGCGGTATCAGTGTCCCGGTGGCGGGGGGGCGGTGCCGCGGTCAACCTGAGCATGAGC

2712 D R L S S Q Y D S V Q A Q T G I F A G
cdiA CGTGACAGGTTATCCAGCCAGTATGATTCGGTGCAGGCGCAGACGGGTATTTTTGCCGGC
CTo2 CGTGACAGGTTATCCAGCCAGTATGATTCGGTGCAGGCGCAGACGGGTATTTTTGCCGGC
CTo3 CGTGACAGGCTATCCAGCCAGTATGACTCGGTGCAGGCGCAGACGGGTATTTTTGCCGGT
CTo4 CGTGACAGGTTATCCAGCCAGTATGATTCGGTGCAGGCGCAGACGGGTATTTTTGCCGGC

2732 S G G V D I R V G E H T Q L D G A V I A
cdiA TCTGGCGGTGTTGATATCCGGTGGGGGAGCACACCCAAGTGGATGGCGCGGTGATTGCC
CTo2 TCTGGCGGTGTTGATATCCGGTGGGGTGGAGCACACCCAAGTGGATGGCGCGGTGATTGCC
CTo3 TCTGGCGGTGTTGATATCCGGTGGGGGAGCACACCCAAGTGGATGGCGCGGTGATTGCC
CTo4 TCTGGCGGTGTTGATATCCGGTGGGGGAGCACACCCAAGTGGATGGCGCGGTGATTGCC

2752 S T A A A D K N T L D T G T L G F S D I
cdiA AGCACGGCGGCAGCCGATAAAAAACACGCTGGATACCGGCACACTGGGCTTCAGTGATATC
CTo2 AGCACGGCGGCAGCCGATAAAAAACACGCTGGATACCGGCACACTGGGCTTCAGTGATATC
CTo3 AGCACGGCGGCAGCCGATAAAAAACACGCTGGATACCGGCACACTGGGCTTCAGTGATATC
CTo4 AGCACGGCGGCAGCCGATAAAAAACACGCTGGATACCGGCACACTGGGCTTCAGTGATATC

2772 K N K A V F T V E H Q G G S L S T G G P
cdiA AAAAAAAGCGGTATTCACGGTAGAGCATCAGGGCGGCAGCCTGAGCACCGGTGGCCCG
CTo2 AAAAAAAGCGGTATTCACGGTAGAGCATCAGGGCGGCAGCCTGAGCACCGGTGGCCCG
CTo3 AAAAAAAGCGGTATTCACGGTAGAGCATCAGGGCGGCAGCCTGAGCACCGGTGGCCCG
CTo4 AAAAAAAGCGGTATTCACGGTAGAGCATCAGGGCGGCAGCCTGAGCACCGGTGGCCCG

2792 V G S D L L S N L G G M V L A G L G N G
cdiA GTGGGTCAGACCTGCTGAGTAATCTGGGCGGTATGGTGCTCGCGGGGCTGGGCAATGGC
CTo2 GTGGGTCAGACCTGCTGAGTAATCTGGGCGGCATGGTGCTCGCGGGGCTGGGCAATGGC
CTo3 GTGGGTCAGACCTGCTGAGTAATCTGGGCGGCATGGTGCTCGCGGGGCTGGGCAATGGC
CTo4 GTGGGTCAGACCTGCTGAGTAATCTGGGTCGCATGGTGCTCGCGGGGCTGGGCAATGGC

2812 G Y A E G T T Q A A V S E G T I T V R D
cdiA GGATATGCCGAAGGCACCACGCAGGCGGCAGTGAAGTGAAGGCACGATTACCGTTCGCGAC
CTo2 GGATATGCTGAAGGCACCACGCAGGCGGCAGTGAAGTGAAGGCACGATTACCGTTCGCGAC
CTo3 GGATATGCCGAAGGCACCACGCAGGCGGCAGTGAAGTGAAGGCACGATTACCGTTCGCGAC
CTo4 GGATATGCCGAAGGCACCACGCAGGCGGCAGTGAAGTGAAGGCACGATTACCGTTCGCGAC

2832 T E N Q Q Q N V D D L S R D T G N A N G
cdiA ACGGAGAATCAACAGCAGAAATGTTGATGACCTGAGCCGGGACACCGGGAATGCCAACGGC
CTo2 ACGGAGAATCAACAGCAGAAATGTTGATGACCTGAGCCGGGACACCGGGAATGCCAACGGC
CTo3 ACGGAGAATCAACAGCAGAAATGTTGATGACCTGAGCCGGGACACCGGGAATGCCAACGGC
CTo4 ACGGAGAATCAACAGCAGAAATGTTGATGACCTGAGCCGGGACACCGGGAATGCCAACGGC

2852 S I G P I F D K E K E Q N R L K E V Q L
cdiA AGTATCGGGCCGATTTTTGATAAAGAGAAAGAGCAGAACCGGCTGAAAGAAGTGCAGCTG
CTo2 AGTATCGGGCCGATTTTTGATAAAGAGAAAGAGCAGAACCGAAGTGCAGCTG
CTo3 AGTATCGGGCCGATTTTTGATAAAGAGAAAGAGCAGAACCGGCTGAAAGAAGTGCAGCTG
CTo4 AGTATCGGGCCGATTTTTGATAAAGAGAAAGAGCAGAACCGGCTGAAAGAAGTGCAGCTG

2872 I G E I G G Q A L D I A S T Q G K I I A
cdiA ATTGGCGAGATAGGCGGTGAGGCGTTAGATATTGCCTCCACGCAGGGCAAGATAATTGCC
CTo2 ATTGGCGAGATAGGCGGTGAGGCGTTAGATATTGCCTCCACGCAGGGCAAGATAATTGCC
CTo3 ATTGGCGAGATAGGCGGTGAGGCGTTAGATATTGCCTCCACGCAGGGCAAGATAATTGCC
CTo4 ATTGGCGAGATAGGCGGTGAGGCGCTGGATATTGCCTCCACGCAGGGCAAGATAATTGCC

2892 T H A A N D K M K A V K P E D I A T A E
cdiA ACTCACGCGGCAAACGACAAGATGAAGGCGGTGAAGCCGGAAGATATCGCCACGGCGGAA
CTo2 ACTCACGCGGCAAACGACAAGATGAAGGCGGTGAAGCCGGAAGATATCGCCACGGCGGAA
CTo3 ACTCACGCGGCAAACGACAAGATGAAGGCGGTGAAGCCGGAAGATATCGCCACGGCGGAA
CTo4 ACTCACGCGGCAAACGACAAGATGAAGGCGGTGAAGCCGGAAGATATCGCTCGCGGCGGAA

2912 K Q W E K A H P G K A A T A E D I N Q Q
cdiA AAACAGTGGGAGAAAGCCATCCGGGCAAGGCGGCCACGGCAGAGGACATCAACCAGCAG
CTo2 AAACAGTGGGAGAAAGCCATCCGGGCAAGGCGGCCACGGCAGAGGACATCAACCAGCAG
CTo3 AAACAGTGGGAGAAAGCCATCCGGGCAAGGCGGCCACGGCAGAGGACATCAACCAGCAG
CTo4 AAACAGTGGGAGAAAGCCATCCGGGCAAGGCGGCCACGGCAGAGGACATCAACCAGCAG

2932 I Y Q T A Y N Q A F N D S G F G T G G P
cdiA A T T T A C C A G A C G G C A T A T A A T C A G G C A T T T A A C G A C T C A G G A T T T G G G A C C G G C G G C C C G
CTo2 A T T T A C C A G A C G G C A T A T A A T C A G G C A T T T A A C G A G T C A G G A T T T G G G A C A G G C G G C C C G
CTo3 A T T T A C C A G A C G G C G T A T A A T C A G G C A T T T A A C G A C T C A G G A T T T G G G A C C G G C G G C C C G
CTo4 A T T T A C C A G A C G G C G T A T A A T C A G G C G T T T A A C G C G T C A G G A T T T G G G A C C G G C G G C C C G

2952 V Q R G M Q A A T A A V Q G L A G G N L
cdiA G T G C A A C G C G G G A T G C A G G C G G C G A C A G C C G C C G T G C A G G G G C T G G C T G G C G G G A A T C T G
CTo2 G T G C A A C G C G G G T A T G C A G G C G G C G A C A G C C G C C G T G C A G G G G C T G G C C G G C G G G A A T A T G
CTo3 G T G C A A C G C G G G A T G C A G G C G G C G A C A G C C G C C G T G C A G G G G C T G G C C G G C G G G A A T C T G
CTo4 G T G C A A C G C G G G A T G C A G G C G G C G A C A G C C G C C G T G C A G G G G C T G G C C G G C G G G A A T A T G

2972 G A A L T G A S A P Y L A G V I K Q S T
cdiA G G T G C G G C C C T G A C G G G T G C C A G T G C G C C G T A T C T A G C G G G G T G A T T A A G C A A A G T A C A
CTo2 G G T G C G G C C C T G A C G G G T G C C A G T G C G C C G T A T C T G C G G G G G T G A T T A A G C A A A G T A C A
CTo3 G G T G C G G C C C T G A C G G G T G C C A G T G C G C C G T A T C T G C G G G G G T G A T T A A G C A A A G T A C G
CTo4 G G T G C G G C C C T G A C G G G T G C C A G T G C G C C G T A T C T G C G G G G G T G A T T A A G C A A A G T A C G

2992 G D N P A A N T M A H A V L G A V T A Y
cdiA G G C G A T A A T C C G G C G G C T A A C A C A A T G G C A C A C G C G G T A T T G G G C G C G G T G A C G G C C T A T
CTo2 G G C G A T A A T C C G G C G G C C A A C A C A A T G G C A C A C G C G G T A T T G G G C G C G G T G A C T G C C T A T
CTo3 G G C G A T A A T C C G G C G G C C A A C A C A A T G G C A C A C G C G G T A T T G G G C G C G G T G A C G G C C T A T
CTo4 G G C G A T A A T C C G G C G G C C A A C A C A A T G G C A C A C G C G G T A T T G G G C G C G G T G A C G G C C T A T

3012 A R G N N A L A G A A G A A T A E L M A
cdiA G C C C G T G G C A A C A A T G C G C T G G C G G G T G C G G C G G G C G G C C A C G G C G G A G T T G A T G G C C
CTo2 G C C C G T G G C A A C C A T G C G C T G G C G G G T G C G G C T G G C G G C G G C C A C G G C G G A G T T G A T G G C C
CTo3 G C C A G C G G C A A C C A T G C G C T G G C G G G T G C G G C G G G C G G C C A C G G C G G A G T T G A T G G C C
CTo4 G C C A G C G G C A A C C A T G C G C T G G C G G G T G C G G C G G G C G G C C A C G G C G G A G T T G A T G G C C

3032 P T I I S A L G W D K N T L T E G Q K Q
cdiA C C C A C G A T T A T C A G C G C G T G G G C T G G G A C A A G A A C A C A C T C A C C G A A G G T C A G A A A C A G
CTo2 C C C A C G A T T A T C A G C G C G T G G G C T G G G A C A A G A A C A C A C T C A C T G A A G G T C A G A A A C A G
CTo3 C C C A C G A T T A T C A G C G C G T G G G C T G G G A C A A G A A C A C A C T C A C C G A A G G T C A G A A A C A G
CTo4 C C C A C G A T T A T C A G C G C G T G G G C T G G G A C A A G A A C A C A C T C A C C G A A G G T C A G A A A C A G

3052 A V S A L S T L A A G L A G G L T G D S
cdiA G C T G T C A G C G C A C T G A G T A C A T T A G C C G C C G G G C T G G C C G G T G G T T T G A C A G G T G A C A G C
CTo2 G C T G T C A G C G C A C T G A G T A C A T T A G C C G C C G G G C T G G C C G G T G G C C T G A C A T T G T G A C A G C
CTo3 G C T G T C A G C G C A C T G A G T A C A T T A G C C G C C G G G C T G G C C G G T G G T T T G A C A G G T G A C A G C
CTo4 G C T G T C A G C G C A C T G A G T A C A T T A G C C G C C G G G C T G G C C G G T G G T T T G A C A G G T G A C A G C

3072 T A D A I A G G Q A G K N A V E N N S L
cdiA A C A G C G G A T G C G A T A G C C G G G G G C A G G C G G G G A A A A T G C G G T A G A G A A T A A C T C G C T G
CTo2 A C A G C G G A T G C G C T A G C C G G G G G C A G G C G G G G A A A A T G C G G T A G A G A A T A A C T T T T T A
CTo3 A C G C G G A T G C G C T A G C C G G G G G C A G G C G G G G A A A A T G C G G T A G A G A A T A A T T A T C T A
CTo4 A C G C G G A T G C G C T A G C C G G G G G C A G G C G G G G A A A A T G C G G T A G A G A A T A A C T C T C T G

3092 S G D K A R A A V Q E S K...
cdiA A G C G G A G A C A A G G C G C G G G C A G C G G T T C A G G A A A G T A A A
CTo2 T C A C C A A C A A A A A A T G A A A G C T A A T G A A A G C A C T T G A T
CTo3 A A C C C A C T C A G G C A C T C A C C T T T G A T A A A G A A T T G T C A
CTo4 A C T G G A G A T C A A G C C C G C A G T C T G T T A A G C A G G T A C G