

1
brkana ----- C TTTCTG ----- GCACA A ----- CAAA TATATAGAT -----
brkere ----- ----- CTCG ----- GCACA AA ----- CCTTA AATGTGGAT -----
brkgri ----- GT GCGCTG ----- TTCCTT GGCCAGCTTT AAAATGGGGC TTTCCCGCGT
brkmel ----- ----- CTCTG ----- GCACA AA ----- CCCTA AATGTGGAT -----
brkmoj CATAAATGCG ATGCCAAGTT CTTTATGCGA TCGGTGCATA AA ----- ATGCGA AATCTGGAT -----
brkper ----- ----- CCTTA ----- ACACA AA ----- CCCTA AATGTGGAT -----
brkpse ----- G GCCCTTA ----- ACACA AA ----- CCCTA AATGTGGAT -----
brksec ----- ----- CTCTG ----- GCACA AA ----- CCCTA AATGTGGAT -----
brksim ----- TTTACGGC TTCCCTG ----- GCACA AA ----- CCCTA AATGTGGAT -----
brkvir ----- ----- A AGTTCTA ----- CACATA AAAATGTGCTA TAACTGGAT -----
brkwil GATCGTAAAT GCAAGCCAAG TTCTTTACAG CTTCCTCACA AA ----- CCCTA AAAGTGGAT -----
brkyak ----- ----- ACGGC TTCCACG ----- GCACA AA ----- CCCTA TATGTGGAT -----

71
brkana ----- TACGCTA TATATT TCC CCCTAATAAAA ----- ACAGCCTGT -----
brkere ----- TACGCTA ATATTG CC CCCTAATAAAA ----- A ACGGAC GTG GTCCAGGGTC
brkgri GGCCAGGAAC ACATGTGCTG TGTCTT CAT CCCTGAAGAC ----- C AAAGACCGCA ATCC
brkmel ----- TACGCTA ATATTG CCCC CCCTAATAAAA ----- A ACGGTC GTT GTCCAGGGCC
brkmoj ----- TACGCCA ATATAG AA CCCTAATAAAA ----- A AAGGAATGCG CTGAA
brkper ----- TACGCTA ATATTG TC CCCTAATAAAA GTGGCCTGGA ACG --- ATG GCCCTGGCTC
brkpse ----- TACGCTA ATATTG TC CCCTAATAAAA GTGGCCTGGA ACGATGGCTG GCCCTGGCTC
brksec ----- TACGCTA ATATTG CC CCCTAATAAAA ----- A ACGGTC GTG GTCCAGGGCC
brksim ----- TACGCTA ATATTG CC CCCTAATAAAA ----- A ACGGTC GTG GTCCAGGGCC
brkvir ----- TACGCTA ATATTG GAA CCCTAATAAAA AAAGAAGTGC ACGA -----
brkwil ----- TACGCTA ATATTG C CCCTAATAAAA ----- A ATAGGGAC
brkyak ----- TACGCTA ATATTG CCC CCCTAATAAAA ----- A ACGGCCAGTG GTCCAGGGAC

141
brkana ----- GCT ATGTCCAAGG GTCGAGG TTT TCGGTCTGA CAGCGGAAAA
brkere GAG ----- ATATTGCGT CTGATT GGT TTTTCCCACG ATTACAA TTT AGC
brkgri ----- GCAATTCTGC C TCT CTGCGCTCCA ATTTTGGCTT AGGTGCCCCG AAATCAGGCA
brkmel GA ----- ATATTGCGT CTGATT GGT TTTTCCCACG ATTACAA TTT AGC
brkmoj ----- GTGTTGCGT CTGATT GGG TTTTCCCACG GCGG GA CA GGCAGGCAGG CAAA
brkper GCAAGGGAAG AGTATTGCGT CTGATT GGT TTTTCCCACG ATTACAA TTT AGC
brkpse GCAAGGCGGAG AGTATTGCGT CTGATT GGT TTTTCCCACG ATTACAA TTT AGC
brksec GA ----- ATATTGCGT CTGATT GGT TTTTCCCACG ATTACAA TTT AGC
brksim GA ----- ATATTGCGT CTGATT GGT TTTTCCCACG ATTACAA TTT AGC
brkvir ----- ATGTTGCGT CTGATT GGT TTTTCCCACG ATTACAA TTT AGC
brkwil GA ----- ATGTTACGT CTGATTGGGT TTTTCCCACG ATTACAA TTT AGC
brkyak GA ----- ATATTGCGT CTGATT GGT TTTTCCCACG ATTACAA TTT AGC

211
brkana TGGG ----- C GAGAGGACAA GAAAAGTGGC CTG AACT ----- GCCGTGAC CTC -----
brkere ----- C GGACGGACA ----- CAAACTGAC CTG AGCT ----- GACCCG ----- CAAAAAAG AC TCGGTT
brkgri CGAA ----- T CGTTGCTCAA ACAAGGCGAC CTG GGCTG GAGCCAGGAG TCCGAGTCAG TT CAATA
brkmel ----- C GGACGGACA ----- CAAACTGAC CTG AGCT ----- GACCCG ----- CAAAAAAG AC ACGGTT
brkmoj CGGG ----- C AAGTGGGCA GCAAGCGAGG CTG AGGCG ATGGCGGACG GAC GGACAG ACGAAGGATC
brkper ----- CCGACAG CGGGACAGAC CTG ACCT ----- GACCTGAC CCTCATGCTG AC CGTT
brkpse ----- CCGACAG CGGGACAGAC CTG ACCT ----- GACCTGAC CCTCATGCTG AC CGTT
brksec ----- C GGACGGACA ----- CAAACTGAC CTG AGCT ----- GACCCG ----- CAAAAAAG AC ACGGTT
brksim ----- C GGACGGACA ----- CAAACTGAC CTG AGCT ----- GACCCG ----- CAAAAAAG AC ACGGTT
brkvir GGCAGG ----- C AGTCGGGCGG GCAGGCGGGC GGGCGGGCG ----- GACGGA ----- CAGTCGG ACGGACAGAC
brkwil CCGAGATGCC GAGTTGCCA ----- ATGCCGAT GCCGAGACTC AGGTCAGG ----- TCAGCAGG TCAGCTCAIT
brkyak ----- C GGACGGACA ----- CAAACTGAC CTG AGCT ----- GACCCG ----- CAAAAAAG AC ACGGTT

281
brkana ----- AGT CCGAACTGA -----
brkere TT CCGG ----- AGT CCGAACTG -----
brkgri ACACTACACC TACACACACA CACACACAGA GAGAGAG ----- AGGAAACTA -----
brkmel GTCCGGG ----- AGT CCGAACTGA -----
brkmoj GCTTGGG ----- CTACCTT CGCGCAAAGT GCGGAACTG -----
brkper CCACTGC ----- CACT CCGAACTG -----
brkpse CCACTGC ----- CACT CCGAACTG -----
brksec GT CCGG ----- AGT CCGAACTGA AGGAAACTA -----
brksim GT CCGG ----- AGT CCGAACTGA AGGAAACTA -----
brkvir GTTCAGGTCG CGACTACCTT GAAGCCAAAGT GCGGAACTG -----
brkwil ATATGATGAT GCTGATCGCA CCCGCAAAGT GCACGGGTAT A -----
brkyak GTGAGGC ----- AGT CCGAACTGA AGTGAACATA AGGAAACTAA AGTGTAGAGT

351

brkana	-----	AGTGAAGCT	GGAG	-----	GTAGTGAAAC	GTAT	-----	ACAGATT	---	GTGCACTA	
brkere	-----	AAGGAAACT	GTGG	-----	GCAGGTCAGC	GCAA	-----	TGGATT	---	GTGCACTA	
brkgri	-----	AGAGAGACA	GATC	CGAC	ACCATCCGGC	GGCATTGTT	---	TTGGATTTC	CGTCCGATT	TA	
brkmel	-----	AAGGAAACT	GAGG	-----	GCAGGTCAGC	GCTA	-----	TGGATT	---	GTGCACTA	
brkmoj	-----	AAGGAAACA	AAAC	-----	-----	GACGC	-----	GAACCAAGCG	ACGGATT	---	GTGCACTA
brkper	-----	AAGGAAACA	GTGGAAAGGAC	-----	GCAGGCCAGC	GCTG	-----	TGGATT	---	GTGCACTA	
brkpse	-----	AAGGAAACA	GTGGACGGAC	-----	GCAGGCCAGC	GCTG	-----	TGGATT	---	GTGCACTA	
brksec	-----	AAGGAAACT	GAGG	-----	GCAGGTCAGC	GCTA	-----	TGGATT	---	GTGCACTA	
brksim	-----	AAGGAAACT	GAGG	-----	GCAGGTCAGC	GCTA	-----	TGGATT	---	GTGCACTA	
brkvir	-----	AAGGAAACA	AAAC	-----	GGCGAAC	GCTG	CG	ACGGATT	---	GTGCACTA	
brkwil	-----	CACGGAAC	GAAC	-----	-----	TC	GCCTTCCTA	GAGGATT	---	GTGCACTA	
brkyak	GATGAAAAGT	GAAGGAAACT	GAAG	-----	GCAGGTCAGC	GCAATGGATT	---	GTGGATT	---	GTGCACTA	

421

brkana	AGT	-----	TGCTTAATCC	GTGGGAAAT	CCAAACACA	GA	-----	-----	-----	-----
brkere	AGT	-----	TGCTTAATCC	GACGGGAAAT	CCAAACACA	ACCC	-----	-----	-----	-----
brkgri	AGCAACTTAG	-----	TGCACAATCC	GTGGAGCAT	TTG	-----	-----	CT	TGTTTGGTCT	---
brkmel	AGT	-----	TGCTTAATCC	GACGGGAAAT	CCAAACACA	ACCC	-----	-----	-----	-----
brkmoj	AGT	-----	TGCTTAATCC	GACGGGAAAT	CCAAACAAA	TGCCGCCGGA	TGGTGTGC	GC	GCGACTGTGG	---
brkper	AGT	-----	TGCTTAATCC	GACGGGAAAT	CCAAACAAA	TGCGACGGCC	TGCACCCGAT	---	GATGTGGCGT	---
brkpse	AGT	-----	TGCTTAATCC	GACGGGAAAT	CCAAACAAA	TGCGACGGCC	TGCACCCGAT	---	GATGTGGCGT	---
brksec	AGT	-----	TGCTTAATCC	GACGGGAAAT	CCAAACACA	ACCC	-----	-----	-----	-----
brksim	AGT	-----	TGCTTAATCC	GACGGGAAAT	CCAAACACA	ACCC	-----	-----	-----	-----
brkvir	AGT	-----	TGCTTAATCC	GACGGGAAAT	CCAAACAAA	TGCCGCCGGA	TGGTGTGC	AC	GGCTGTGTGT	---
brkwil	AGT	-----	TGCTTAATCC	GACGGGAAAT	CCAAACAAA	TGCTGGCGTA	TGGTGTGT	---	GTGTGGCGT	---
brkyak	AGT	-----	TGCTTAATCC	GACGGGAAAT	CCAAACACA	ACCC	-----	-----	-----	-----

491

brkana	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
brkere	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
brkgri	G	-----	-----	-----	-----	-----	-----	-----	-----	-----
brkmel	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
brkmoj	GTAGCAGTGT	GTGCATGTGT	GTGTGCGTGT	GCAATGGTGT	ATTGAACTGA	CTTGCAAGATA	GATGCTTAGA	---	---	---
brkper	G	-----	-----	TCAGTT	ATTGAACTGA	CTCTCGCACA	CCGATCCTAT	---	---	---
brkpse	G	-----	-----	TCAGTT	ATTGAACTGA	CTCTCGCACA	CCGATCCTAT	---	---	---
brksec	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
brksim	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
brkvir	GTGTGTGTAC	GGGTGTGTGT	GTACGGGTGT	GTGAGGTGT	ATTGAACTGA	CGAAGAGCCC	T	-----	-----	-----
brkwil	G	-----	-----	-----	-----	-----	-----	-----	-----	-----
brkyak	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

561

brkana	-----	-----	AAAT	-----	ACAA	T	-----	CCGCT	CCCTCC	-----
brkere	-----	-----	GAGC	-----	CCGA	TCCT	-----	TCGCT	CCCTTC	-----
brkgri	-----	-----	-----	-----	CCGT	TGTTGGTTT	-----	CAGTT	CCCTTC	-----
brkmel	-----	-----	GAGC	-----	CCGA	TCCT	-----	TCGCT	CCCTTC	-----
brkmoj	TTGAATTTTCG	GTGGTTGGGC	-----	TCGA	GCCCAGTTG	TGGCCTGAG	-----	CCGCA	TTTTTG	-----
brkper	-----	ACGA	TCCTATCCGA	TCCTGAGGCG	AGCAGAGGCT	ATCCTCTACA	CGTTCCTCAG	-----	-----	-----
brkpse	-----	ACGA	TCCTATCCGA	TCCTGAGGCG	AGCAGAGGCT	ATCCTCTACA	CGTTCCTCAG	-----	-----	-----
brksec	-----	GAGC	-----	CCGA	TCCT	-----	TCGCT	CCCTTC	-----	-----
brksim	-----	GAGC	-----	CCGA	TCCT	-----	TCGCT	CCCTTC	-----	-----
brkvir	-----	GGGC	TCGAGCCAG	TTGCGGCCCT	GAG	-----	CCGCT	CTTTT	-----	-----
brkwil	-----	-----	-----	TCAA	GTATTGACA	-----	CTGAC	ACTCA	-----	-----
brkyak	-----	GAGC	CCGATGCCGA	TCCT	-----	-----	TCGCT	CCCTTC	-----	-----

631

brkana	-----	GATTTTGG	TAAGCCAAA	-----	GTGGAAGGC	AGAAGAGGCA	CAGTGC	-----	-----	-----
brkere	-----	GATT	TAAGCCAAA	-----	GTT	AGAGGCA	GA	-----	-----	-----
brkgri	-----	AGTTCCG	CACCTTCGCG	GGGGCGCGGA	CCAGAGGGCG	GG	-----	-----	-----	-----
brkmel	-----	GATT	TAAGCCAAA	-----	GTT	AGAGGCA	CA	-----	-----	-----
brkmoj	-----	TGGCCTGGC	TAAGCCAA	-----	GTC	AGAGGCG	AG	-----	-----	-----
brkper	GTGAGGGCAA	GGGCGAGACC	TAAGCCAAA	-----	GTT	AGAGGCA	CA	-----	-----	-----
brkpse	GTGAGGGCAA	GGGCGAGACC	TAAGCCAAA	-----	GTT	AGAGGCA	CA	-----	-----	-----
brksec	-----	GAGT	TAAGCCAAA	-----	GTT	AGAGGCA	CA	-----	-----	-----
brksim	-----	GATT	TAAGCCAAA	-----	GTT	AGAGGCA	CA	-----	-----	-----
brkvir	-----	G	GTTGCCTGGC	TAAGCCAAAA	TGTTAGCGGC	ACAGAGGGCA	CAATGCGGAT	TCGTTGCGGG	-----	-----
brkwil	-----	GGTCTCT	CACCTCTATC	-----	-----	TGAAATA	CG	-----	-----	-----
brkyak	-----	GATT	TAAGCCAAA	-----	GTT	AGAGGCA	CA	-----	-----	-----

701

```

brkana  --AGCCCACGTCGCATCATAGGAGAGGACACTGTAGCACACATGTGTTT TTGGTT-----
brkere  -----GGCACACATGTGTGT TTCGTT-----
brkgri  -----TTGCCAGGCTGAGGAGGAGGAGGAGGTAGGTGAAGGTGAAGGT-----
brkmel  -----GGCACACATGTGTGT TTCGTT-----
brkmoj  -----GGCAGAGGCGAAGGCAC A-ATGCGGAT TGGTTTACGGGCTCGGCCCG
brkper  -----CCACATGTGTGT TTGCGA-----
brkpse  -----CCACATGTGTGT TTGCGA-----
brksec  -----GGCACACATGTGTGT TTCGTT-----
brksim  -----GGCACACATGTGTGT TTCGTT-----
brkvir  CCAGGTCTCTCCAGATCTACAAATATATGGCATCGGAGCAC A---TGTGT TTGGCT-----
brkwil  -----GGTCAACACATGTGT TTGGGT-----
brkyak  -----GGCACACATGTGTGT TTGCAT-----

```

771

```

brkana  -----TGTCTGTGAAAGC-CCCATTTTAAAGCCTG---GCC-CTTAGGCAA CA-----
brkere  -----TGGACGGAAAGC-CCCATTTTAAAGCTGG---ACCA GC---GGCAA CA-----
brkgri  -----AGATTGGTGAATCGGTTGCTTGGTTGCTGGTTGCCTGCCCTGGCTGCCTG-----
brkmel  -----TGAACGGAAAGC-CCCATTTTAAAGCTGGCCAAACCAAC---GGCAA CACATGTT--
brkmoj  GCTCTCGATCGGGTCTACGGAAAGC-CCCATTTTAAAGCTG---ACC-GGTGGCCAA CA-----
brkper  -----CTGGCGGAAAGC-CCCATTTTAAAGCTGG---GCCAA AAC-GGCAA CA-----
brkpse  -----CTGGCGGAAAGC-CCCATTTTAAAGCTGG---GCCAA AAC-GGCAA CA-----
brksec  -----TGAACGGAAAGC-CCCATTTTAAAGCTGG---ACCAAC---GGCAA CA-----
brksim  -----TGAACGGAAAGC-CCCATTTTAAAGCTGG---ACCAAC---GGCAA CA-----
brkvir  -----GGACGGAAAGC-CCCATAC TAAAGCTGG---CC-GGTGGCCAA CA-----
brkwil  -----GGCTCGGAAAGC-CCCATTTTAAAGCTGG---GCCA CTTCTAGCAAA CAATACACAC
brkyak  -----TGGACGGAAAGC-CCCATTTTCAAGCTGG---ACCA GA---GGCAA CA-----

```

841

```

brkana  -----CATGT-TGGGA-----AAGGTCTCGACC---GGCACAGGTTTCGCAT---ATTCCCTT
brkere  -----CATGT-TAGGA-----C---GACACAGGTTTCAC---ATTCCCTT
brkgri  -----CCTGC-CTCGC-----TGC---TGC---CGGTACCACTAAT TGC AATCGTG
brkmel  -----CATGT-TAGGA-----C---GATACAGGTTGAC---ATTCCCTT
brkmoj  -----CATGT-TGTGGCATTTGCCAGGCCAATTC---TCTACAGGTTCAA---CCAATTCAAC
brkper  -----CATGG-TGCGAGCAACCCCATCCCGGAC---TGGACAGGTTACATTC---ATTCCCTT
brkpse  -----CATGG-TGCGAGCAACCCCATCCCGGAC---TGGACAGGTTACATTC---ATTCCCTT
brksec  -----CATGT-TAGGA-----C---GACACAGGTTTCAC---ATTCCCTT
brksim  -----CATGT-TAGGA-----C---GACACAGGTTTCAC---ATTCCCTT
brkvir  -----CATGTCTTGGGCAATTTGCCAGGCCAATACCGTGGCACAGGTTCA-ATACACAGTTCAAC
brkwil  AAAAACTATGCACATGT-TTTGG-----GCCA---GGCACAGGTTACAGGT TTGGTTCTCA
brkyak  -----CATGT-TTCGA-----ACC C---GACACAGGTTTCAC---ATTCCCTT

```

911

```

brkana  GGAAGG-ATGA-----GGCTAGTGGGAGATTCCCAATTTCCCTTTTCTTGGGAAGGTCTTTGTG
brkere  GGAAGG-ATG-----CACCTCTGGGTGATTCCCA-----CGACG GTTGGCTAAC TCTTCGTTTG
brkgri  GGAAGG-ATG-----CACCTCTGGGTGATTCCCA-----CGACG GTTGGCTAAC TCTTCGTTTG
brkmel  GGAAGG-ATG-----CACCTCTGGGTGATTCCCA-----CGACG GTTGGCTAAC TCTTCGTTTG
brkmoj  AGAA-----CTTATGCCGCCATCTCAATG-----ACGGTTTTCAT AAAACTG
brkper  GGAAGA-AGAAAAAAACAAAGAAACGTGTACGAGAACTCCGG-----GG-----
brkpse  GGAAGA-AGAAAAAAACAAAGAAACGTGTACGAGAACTCCGG-----GG-----
brksec  GGAAGG-ATTT-----CACCTCTGGGAGTTTCCCA-----GGGAGTTTCC CA
brksim  GGAAGG-ATTT-----CACCTCTGGGAGTTTCCCA-----GGGAGTTTCC CA
brkvir  AGAACT-ATG-----CACCTCTGGGAGTTTCCCA-----GGGAGTTTCC CA
brkwil  GGAACAACAGGAATGGTA-----GACAAAAAGGTAA-----
brkyak  GGAAGGATATG-----CACCTCTGGGAGATTCCCA-----GGGAGATTCC CA

```

981

```

brkana  TAACATGGCCAGGCCAAAAAAGATCCCAGATAGCCAAACA GTGGGCTTTA GTTGGCTAAC TCTTCGTTTG
brkere  -----C AACCCTGAGCAGGT-----CGACG CGGAGGCCAC TTGTCCC
brkgri  -----C GGCTCAATATTAGC-----GTAATCCA-----CATTTTG ACGGTTTCAT AAAACTG
brkmel  -----C AACCCTGAGCAGGT-----CATG TC-----CAA CCGATCTGTTG CCGGAGCCAC TTGTCCC
brkmoj  -----C AGGCCATACC AAGGCCGAGA CAG-----A GGTTCGATGGA GAGGAGCCAC TTGTCCG
brkper  -----A GGACCAAAACCAGGC-----A GGTTCGATGGA GAGGAGCCAC TTGTCCG
brkpse  -----A GGACCAAAACCAGGC-----A GGTTCGATGGA GAGGAGCCAC TTGTCCG
brksec  -----C AACCCTGAGCAGGT-----CATG TC-----CAA CCGGCTGTCG CCGGAGCCAC TTGTCCC
brksim  -----C AACCCTGAGCAGGT-----CATG TC-----CAA CCGGCTGTCG CCGGAGCCAC TTGTCCC
brkvir  -----C CTGCCAGGCAGGCC-----TCGT ATATCGTATA
brkwil  -----A ATGCCAGAGAAGGC-----AGGTCAATCCA ATCGAACAAT CGAACCT
brkyak  -----C AACCCTGAGCAGGT-----CATG TCCTCATCGC CGCCTCGTCG CTGGAGCCAC TTGTCCC

```

1051

brkana	GAAATGC	----	----
brkere	-----	----	----
brkgri	-----	----	----
brkmel	-----	----	----
brkmoj	-----	----	----
brkper	-----	----	----
brkpse	AACCTCCAAAC	AAAG	
brksec	-----	----	----
brksim	AA	-----	----
brkvir	C	-----	----
brkwil	-----	----	----
brkyak	-----	----	----