

```

*          20          *          40          *          60
MARL      : GGGCAGCTAGG-TG-GCA-CAGTGG-ATA-GAGTGTGGCCCTGGAGTCAGGAGCACTCATCTTCCCTGA : 64
chr1_73148154_73148411 : GGAGGCTAGG-TG-GCA-CAGTGG-ATA-GAGTGTGTTTCTCTGGAGTCAGGAGCACTTCTCTTCCCTGA : 65
chr1_99059687_99059942 : TGGAGCTAGG-TG-GCA-CAGT-G-ATA-GAGTGTAGCTCTTGGAGTCAGGAGCACTTCTCTTCCCTGA : 62
chr1_112385716_112385972 : TGGCAGCTAGG-TG-GTA-TATAG-ATA-GAGTGTCTGCTCTTGGAGTCAGGAGCACTCATCTTCCCTGA : 64
chr1_182004252_182004510 : GCTCAGGAGG-TG-AGG-TAGGTC-AT-CAGTGTATAGCCCTGGAGTCAGGAGCACTCATCTTCCCTGA : 64
chr1_311070955_311071206 : CCACAGCTAGTATTC-A-----CAGC-GAGTGTGAGCCCTGGAGTCAGGAGCACTCATCTTCCCTGA : 58
chr1_356111949_356112206 : GTGCAGCTAGG-TAG--CT-CAGTGG-ATA-GAGTGTCCATCCCTGGAGTCAGGAGCACTCATCTTCCCTGA : 64
chr1_403476601_403476857 : -AGCAGCTAGGATGCGG---CAGTGG-ATA-GACTCTCTGATTTGGAGTCAGGAGCACTCATCTTCCCTGA : 62
chr1_503687409_503687666 : GGGTAGCTAGG-TG-GCA-CCATGG-ATG-GAGTGTAGGCCCTGGAGTCAGGAGCACTCATCTTCCCTGA : 64
chr2_107143600_107143857 : GGCTAGCTAGG-TGATGA--AGTGG-ATA-GAGCGGTGGCTTGGAGTCAGGAGCACTCATCTTCCCTGA : 64
chr2_118516269_118516527 : GGGAGCTAGG-GTA-GCA-CAGTGG-ATA-GAGTGTGTTGGCTTGGAGTCAGGAGCACTTAT-TTCCCTGA : 64
chr2_194502837_194503096 : GGGCAGCTGGG-TG-GTG-CAGTGG-ATA-GAGTGTGTTGGCCCTGGAGTCAGGAGCACTCATCTTCCCTGA : 64
chr2_506391510_506391767 : GG-CAGCTAGG-TG-GTG-CAGTGG-ATA-GAGTGTGTTGGCCCTGGAGTCAGGAGCACTGTCTTCCCTGA : 62
chr3_280527725_280527974 : GGGCAGCTAGG-TG-ACG-CAGTGG-ATA-GAGTGTGTTGGCCCTGGAGTCAGGAGCAC-----CTGA : 58
chr4_89505104_89505362 : AAGTACCAAGG-IT-GCA--CATGG-ATA-GCAGGTGAGCCCTGGAGTCAGGAGCACTCATCTTCCCTGA : 64
chr4_121565301_121565561 : TATACCGCAGATG-ACA-TGAT-G-ATA-GAGTACCAAGCCCTGGAGTCAGGAGCACTCATCTTCCCTGA : 64
chr4_216827725_216827982 : -GGCAGCTAGG-TG-GTA-CAGTGG-ATA-GAGTGTGTTGGCCCTGGAGTCAGGAGCACTCATCTTCCCTGA : 62
chr5_6473239_6473496 : -TACAGTTAGGATGCTG---CAGTGGATC-TGACATGCGCTTGGAGTCAGGAGCACTCATCTTCCCTGA : 62
chr5_22233429_22233680 : -----GCTGGG-TG-GCA-CAGTGG-ATA-GAGTGTGTTGGCCCTGGAGTCAGGAGCACTCATCTTCCCTGA : 59
chr5_133278707_133278959 : TGATAGTCCATCAGCAGCCAGGTGG-ATA-GACATGCGTTTGGAGTCAGGAGCACTCATCTTCCCTGA : 59
chr7_207990244_207990500 : -CAACTTTTGTG-GCA-CAGTGG-ATA--GTGCCAGTATGGAGTCAGG-AGCATTCCTTCCCTGA : 61
chr8_69843363_69843625 : CCATAGTGGAGTGG-GCAGCAGTGG-ATA-GAAGATCAAGCTTGGAGTCAGGAGCACTCATCTTCCCTGA : 66
chrX_11725014_11725274 : GGGTACCAAGGATGCTGCTGAGGG-ATA-GAGTACCATGCTTGGAGTCAGGAGCACTCATCTTCCCTGA : 67

```

BOX A

```

*          80          *          100          *          120          *
MARL      : GTTCAGATCTGGCCCTCAGACACTT-9CTG G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 128
chr1_73148154_73148411 : GTTCAGATCTGGCCCTCAGACACTT-9TTT G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 129
chr1_99059687_99059942 : GTTCAGATCTGGCCCTCAGACACTT-CTT G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 127
chr1_112385716_112385972 : GTTCAGATCTGGCCCTCAGACACTT-9CTG G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 128
chr1_182004252_182004510 : GTTCAGATCTGGCCCTCAGACACTT-9CTG A---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 129
chr1_311070955_311071206 : GTTCAGATCTGGCCCTCAGACACTT-9TTT G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 122
chr1_356111949_356112206 : GTTCAGATCTGGCCCTCAGACACTT-9CTG G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 128
chr1_403476601_403476857 : GTTCAGATCTGGCCCTCAGACACTT-9TTT G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 127
chr1_503687409_503687666 : ATTCAGATCTGGCCCTCAGACACTT-9TTT G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 128
chr2_107143600_107143857 : GTTCAGATCTGGCCCTCAGACACTT-9CTG G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 128
chr2_118516269_118516527 : GTTCAGATCTGGCCCTCAGACACTT-9TTT G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 128
chr2_194502837_194503096 : GTTCAGATCTGGCCCTCAGACACTT-9CTG G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 128
chr2_506391510_506391767 : GTTCAGATCTGGCCCTCAGACACTT-CCT G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 127
chr3_280527725_280527974 : GTTCAGATCTGGCCCTCAGACACTT-9CTG G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 120
chr4_89505104_89505362 : GTTCAGATATGGCCCTCAGACACTT-9CTG G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 127
chr4_121565301_121565561 : GCTCAGATTTGGCCCTCAGACACTT-9CTG G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 128
chr4_216827725_216827982 : GGTTCAGATCTGGCCCTCAGACTCTT-9CTG G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 127
chr5_6473239_6473496 : GTTCAGATCTGGCCCTCAGACACTT-9TTT G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 127
chr5_22233429_22233680 : GTTCAGATCTGGCCCTCAG-9ACTT-9CTG GTCCCTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 125
chr5_133278707_133278959 : TTTCAGATTTGGCCCTCAGACACTT-9CTG G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 123
chr7_207990244_207990500 : GTTCAGATCTGGCCCTCAGACTCTT-9CTG G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 125
chr8_69843363_69843625 : GCTCAGATCTGGCCCTCAGACACTT-9CTG G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 131
chrX_11725014_11725274 : GTTCAGATCTGGCCCTCAGACTCTT-CCT G---CTGTGTGAGCCCTGGGCAAGTCACCTTAACTCTGTTT : 131

```

BOX B

CORE

```

140          *          160          *          180          *          200
MARL      : GCCTCAGTTT-CCTCATCTGTA--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 191
chr1_73148154_73148411 : GCCTCAGTTT-CCTCATCTGTA--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 192
chr1_99059687_99059942 : GCCTCAGTTT-CCTCATCTGTA--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 190
chr1_112385716_112385972 : ACCTCAGTTT-CCTCATCTGTA--9AAATGA- GTAGGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 191
chr1_182004252_182004510 : GCCTCAGTTT-CCTCATCTGTA--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 192
chr1_311070955_311071206 : ACCTCAGTTT-CCTCATCTGTA--9AAATGA- ACTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 185
chr1_356111949_356112206 : GCTTCAGTTT-CCTCATCTGTA--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 191
chr1_403476601_403476857 : GCCTCAGTTT-CCTCATCTGTA--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 190
chr1_503687409_503687666 : GCCTCAGTTT-CCTCATCTGTCAGAAATGA- ACTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 193
chr2_107143600_107143857 : GCCTCAGTTT-CCTCATCTGTA--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 191
chr2_118516269_118516527 : GCTTCAGTTT-TCTCATCTGTA--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 191
chr2_194502837_194503096 : GCCTCAGTTT-CCTCATCTGTC--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 191
chr2_506391510_506391767 : GTTCAGTTT-CCTCATCTGTC--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 190
chr3_280527725_280527974 : GCCTCAGTTT-CCTCATCTGTA--9AAATGA- GTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 183
chr4_89505104_89505362 : GCCTCAGTTT-CCTCATCTGTA--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 190
chr4_121565301_121565561 : GCCTCAGTTT-CCTCATCTGTA--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 192
chr4_216827725_216827982 : GCCTCAGTTT-CCTCATCTGTA--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 189
chr5_6473239_6473496 : GTATCAGTTT-CCTCATCTGTT--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 190
chr5_22233429_22233680 : GCCTCAGTTT-CCTCATCTGTA--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 190
chr5_133278707_133278959 : GCCTCAGTTT-CCTCATCTGTA--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 186
chr7_207990244_207990500 : GCCTCAGTTT-CCTCATCTGTA--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 188
chr8_69843363_69843625 : GCCTCAGTTT-CCTCATCTGTA--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 193
chrX_11725014_11725274 : GCCTCAGTTT-CCTCATCTGTA--9AAATGA- GCTTGAGAGAGGAAATGGCAAAACCACTTCAGTATCTT : 194

```

```

*          220          *          240          *          260          *
MARL      : TGGCAGAGAAACCCCAAA-TGGGTTACAGAGAGTCAAGACCAACTGAAAGATGACTGAACTCAACA : 258
chr1_73148154_73148411 : TGGCAGAGAAACCCCAAA-TGGGTTACAGAGAGTCAAGACCAACTG---AACTCAACAAGCACTATTCT : 256
chr1_99059687_99059942 : TGGCAGAGAAACCCCAAA-TGGGTTACAGAGAGTCAAGACCAACTG---AACTGACTGAACTCAAAAAA : 255
chr1_112385716_112385972 : TGGCAGAGAAACCCCAAA-TGGGTTTTCAGAGAGTCAAGACCAACTG---AACTGACTGAACTCAACA : 256
chr1_182004252_182004510 : TGGCAGAGAAACCCCAAA-TGGGTTACAGAGAGTCAAGACCAACTGAA---AACTCAAGTCAAAACAGCA : 257
chr1_311070955_311071206 : TGGCAGAGAAACCCCAAA-TGGGTTACAGAGAGTCAAGACCAACTGAA---AACTGACTGAACTCAAAAG : 250
chr1_356111949_356112206 : TGGCAGAGAAACCCCAAA-TGGGTTACAGAGAGTCAAGACCAACTG---AACTGACTGAACTCAAGCA : 256
chr1_403476601_403476857 : TGGCAGAGAAACCCCAAA-TGGGTTACAGAGAGTCAAGACCAACTGCTG---AACTGACTGAACTCAAAA : 256
chr1_503687409_503687666 : TGGCAGAGAAACCCCAAA-TGGGTTACTGAGAGTCAAGACCAACTG---AACTGACTGAACTCAAGCA : 256
chr2_107143600_107143857 : TGGCAGAGAAACCCCAAA-TGGGTTACAGAGAGTCAAGACCAACTG---AACTCAAGTCAAAACAGCA : 256
chr2_118516269_118516527 : TGGCAGAGAAACCCCAAA-TGGGTTACAGAGAGTCAAGACCAACTG---AACTGACTGAACTCAAGCA : 257
chr2_194502837_194503096 : TGGCAGAGAAACCCCAAA-TGGGTTACAGAGAGTCAAGACCAACTGAA---CTGAGACTCAAACTAATA : 258
chr2_506391510_506391767 : TGGCAGAGAAACCCCAAA-TGGGTTACAGAGAGTCAAGACCAACTG---AACTGACTGAACTCAAGCA : 256
chr3_280527725_280527974 : TGGCAGAGAAACCCCAAA-TGGGTTACAGAGAGTCAAGACCAACTG---AACTGACTGAACTCAACA : 248
chr4_89505104_89505362 : TGGCAGAGAAACCCCAAA-TGGGTTCCAGAGTCTCTTCACTGACTGAA---AACTGACTGAACTCAACT : 257
chr4_121565301_121565561 : TGGCAGAGAAACCCCAAA-TGGGTTACTGAGAGGCAAGACCAACTGAA---AACTGACTGAACTGAGCA : 259
chr4_216827725_216827982 : TGGCAGAGAAACCCCAAA-TGGGTTACAGAGAGTCAAGACCAACTGACTG---AACTCAAAACCAAGGTGAG : 256
chr5_6473239_6473496 : TGGCAGAGAAACCCCAAA-TGGGTTACAGAGAGTCAAGACCAACTG---AACTGACTGAACTCAACA : 256
chr5_22233429_22233680 : TGGCAGAGAAACCCCAAA-CAAGTTACAGAGAGTCAAGACCAACTG---AACTCAACTGAACTCA--- : 252
chr5_133278707_133278959 : TGGCAGAGAAACCCCAAA-TGGGTTACTGAGAGTCAAGACCAACTG---AACTGACTGAACTCAAGCA : 251
chr7_207990244_207990500 : TGGCAGAGAAACCCCAAG-TGGGTTACAGAGAGTCAAGACCAACTG---AACTGACTGAACTCAAGCA : 255
chr8_69843363_69843625 : TGGCAGAGAAACCCCAAA-TGGGTTACAGAGAGTCAAGACCAACTG---AACTGACTGAACTGACTAA : 261
chrX_11725014_11725274 : TGGCAGAGAAACCCCAAA-TCAATTCAGAGAGTCAAGACCAACTG---AACTGACTGAACTCAACA : 259

```