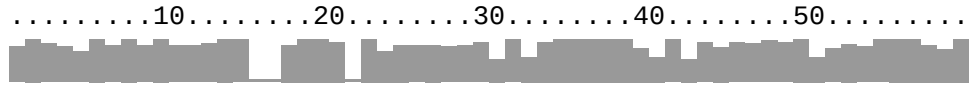
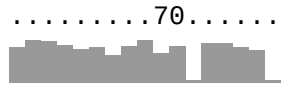
```
                                 (((((((..(((.............)))(((((.......)))))).....(((((.....
chr-6D.trna78-Pro-TGG    CGAGGUGUAGCGUAGUCUGGUCAGCGCAUAUGUUUUGGGUACAGAGGGCCAUAGGUUUGA 60
chr-2A.trna77-Pro-TGG    UGAGGUGUAGCGCAGUCUGGUUAGCGCAUCUGUUUUGGGUACAGAGGGCCAUAGGUUCGA 60
chr-2C.trna23-Pro-TGG    CGAGGUGUAGCGCAGUCUGGUUAGCGCAUCUGUUUUGGGUACAGAGGGCCAUAGGUUCGA 60
chr-6B.trna11-Pro-TGG    CGAGGUGUAGCACAGUCUGGUCAGCGCAUCUGUUUUGGGUACAGAGGGCCAUAGGUUUGA 60
chr-2C.trna107-Pro-TGG   CGAGGUGUAGCGUAGUCUGGUCAGGGCAUCUGUUUUGGGUACAGAGGGCCAUAGGUUUGA 60
chr-6B.trna61-Pro-TGG    AGAGAUGUAGCGCAACUGGGU-AGCGCGUUUGUUUUGGGUACAAAAUGUCACGGGUUCAA 59
chr-2C.trna122-Pro-TGG   AGGGAUGUAGCGUAGCUUGGU-AGCGUGUUUGUUUUGGGUACAAAAUGUCACGGGUUCAA 59
chr-1D.trna80-Pro-TGG    AGGGAUGUAGCGCAGCUUGGU-AGCGCGUUUGUUUUGGGUACAAAAUGUCACGGGUUCAA 59
chr-2B.trna97-Pro-TGG    AGGGAUGUAGCGCAGCUUGGU-AGCGCGUUUGUUUUGGGUACAAAAUGUCACGGGUUCAA 59
chr-6B.trna32-Pro-TGG    GGGUAUUUGGUCUAG--UGGU-AUGAUUCUUGAUUUGGGAU-AAGAGAUCCGAGUUCAA 56
chr-6B.trna34-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUUGAUUUGGGAUCAAGAGGUCCUGAGUUCAA 57
chr-6D.trna33-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUUGAUUUGGGAUCAAGAGGUCUCGAGUUUGA 57
chr-6B.trna36-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUUGAUUUGGGAUCAAGAGGUCUCGAGUUUGA 57
chr-6D.trna32-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUUGAUUUGGGAUCAAGAGGUCCCGAGUUCGA 57
chr-6D.trna29-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUUGAUUUGGGAUCAAGAGGUCCUGAGUUCGA 57
chr-6D.trna27-Pro-TGG    GGGCAUUUGGUCUAG--GGGU-AUGAUUCUUGAUUUGGGAUCAAGAGGUCUCGAGUUCGA 57
chr-6B.trna33-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUUGAUUUGGGAUCAAGAGGUCCUGAGUUCGA 57
chr-6D.trna30-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUUGAUUUGGGAUCAAGAGGUCCCGGGUUCAA 57
chr-6B.trna35-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-ACGAUUCUUGAUUUGGGAUCAAGAGGUCCCGAUUUCGA 57
chr-6D.trna28-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUUGAUUUGGGAUCAAGAGAUCCCGAGUUCAA 57
chr-2A.trna38-Pro-TGG    GGGCAUUUGGUCUAG--AGGA-AUGAUUCUCGCCUUGGGUGCGAGAGGUCCUGAGUUCAA 57
chr-2B.trna44-Pro-TGG    GGGCAUUUGGUCUAG--AGGA-AUGAUUCUCGCCUUGGGUGCGAGAGGUCCUGAGUUCAA 57
chr-2C.trna48-Pro-TGG    GGGCAUUUGGUCUAG--AGGA-AUGAUUCUCGCCUUGGGUGCGAGAGGUCCUGAGUUCAA 57
chr-7D.trna50-Pro-TGG    GGGCAUUUGGUCUAG--GGGA-AUGAUUCUCGCCUUGGGUGCGAGAGGUCCUGAGUUCGA 57
chr-6B.trna41-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AGGAUUCUUGGUUUGGGUCCAAGAGGUCCGAGUUCAA 57
chr-6B.trna45-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AGGAUUCUUGGUUUGGGUCCAAGAGGUCCGAGUUCAA 57
chr-8D.trna21-Pro-TGG    GGGCGUUUGGUCUAG--UGGU-ACGAUUCUCGCUUUGGGUGCGAGAGGUCGCGAGUUCGA 57
chr-6B.trna83-Pro-TGG    GGGCGUUUGGUCUAG--UGGU-AUGAUUCUUGCUUUGGGUGCAAGAGGUCGCGAGUUCGA 57
chr-6D.trna71-Pro-TGG    GGGCGUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCGCGAGUUCGA 57
chr-8A.trna1-Pro-TGG     GGGCGUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCGCGAGUUCGA 57
chr-8C.trna1-Pro-TGG     GGGCGUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCGCGAGUUCGA 57
chr-8B.trna30-Pro-TGG    GGGCGUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCGCGAGUUCGA 57
chr-8A.trna43-Pro-TGG    GGGCGUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCGCGAGUUCGA 57
chr-8A.trna20-Pro-TGG    GGGCGUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCGCGAGUUCGA 57
chr-8B.trna20-Pro-TGG    GGGCGUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCGCGAGUUCGA 57
chr-1B.trna11-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCCCGAGUUCGA 57
chr-1C.trna13-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCCCGAGUUCGA 57
chr-1A.trna91-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCCCGAGUUCGA 57
chr-2A.trna76-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCCGAGUUCGA 57
chr-6D.trna35-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCCGAGUUCGA 57
chr-2B.trna4-Pro-TGG     GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCCGAGUUCGA 57
chr-2C.trna13-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCCGAGUUCGA 57
chr-2C.trna111-Pro-TGG   GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCCGAGUUCGA 57
chr-2D.trna117-Pro-TGG   GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCCGAGUUCGA 57
chr-4A.trna3-Pro-TGG     GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCCGAGUUCGA 57
chr-4B.trna62-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCCGAGUUCGA 57
chr-6B.trna18-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCCGAGUUCGA 57
chr-6B.trna38-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCCGAGUUCGA 57
chr-6B.trna43-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCCGAGUUCGA 57
chr-6B.trna48-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCCGAGUUCGA 57
chr-6B.trna47-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCCGAGUUCGA 57
chr-6B.trna44-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCCGAGUUCGA 57
chr-4D.trna75-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCCUGAGUUCGA 57
chr-7C.trna25-Pro-TGG    GGGCGUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGAGAGGUCGCGAGUUCGA 57
chr-8C.trna2-Pro-TGG     GGGCGUUUGGUCUAG--UGGU-AUGAUUCUCGCUUUGGGUGCGACAGGUCGCGAGUUCGA 57
chr-6C.trna69-Pro-TGG    GGGCGUUUGGUCUAG--UGGU-AUGAUUCUUGCUUUGGGUGCAAGAGGUCGCUAGUUCGA 57
chr-6B.trna40-Pro-TGG    GGGCAUUUGGUCUAG--UGGU-AUGAUUCUCACUUUGGGUGCGAGAGGUCCGAGUUUGA 57
chr-2D.trna92-Pro-TGG    GGGCAUUUGGUCUAG--CGGU-ACGAUUCUUGAUUUGGGUCCAAGAAGUCCGAGUUUGA 57
chr-2B.trna15-Pro-TGG    GGGCAUUUGGUCUAG--CGGU-ACGAUCCUUGGUUUGGGUCCAAAAAGUCCCAAGUUUGA 57
chr-6D.trna31-Pro-TGG    -GGCAUUUGGUCUAG--UGGU-ACGAUCUUUGAUUUGGGAUCAAGAGGUCCGAGUUCAA 56
                                 .........10........20........30........40........50.........
```



```
                                 ..)))))))))).))).. 
chr-6D.trna78-Pro-TGG    AUCCUAUCACC-UUGA- 75
chr-2A.trna77-Pro-TGG    AUCCUGUCACC-UUGA- 75
chr-2C.trna23-Pro-TGG    AUCCUGUCACC-UUGA- 75
chr-6B.trna11-Pro-TGG    AUCUUGUCACC-UUGA- 75
chr-2C.trna107-Pro-TGG   AUCAUGUCACC-UUGA- 75
chr-6B.trna61-Pro-TGG    AUCCUUUCAUC-CCUA- 74
chr-2C.trna122-Pro-TGG   AUCCUGUCAUC-CCUA- 74
chr-1D.trna80-Pro-TGG    AUCCUGUCAUC-CCUA- 74
chr-2B.trna97-Pro-TGG    AUCCUGUCAUC-CCUA- 74
chr-6B.trna32-Pro-TGG    UUCUCAGAAUG-CCCC- 71
chr-6B.trna34-Pro-TGG    AUCUCGGAAUG-CCCC- 72
chr-6D.trna33-Pro-TGG    UUCUUGGAAUG-CCCC- 72
chr-6B.trna36-Pro-TGG    UUCUCGGAAUG-CCCC- 72
chr-6D.trna32-Pro-TGG    UUCUCGGAAUG-CCCC- 72
chr-6D.trna29-Pro-TGG    UUCUCGAAAUG-CCCC- 72
chr-6D.trna27-Pro-TGG    UUCUCGGAAUG-CCCC- 72
chr-6B.trna33-Pro-TGG    UUCUCGGAAAG-CCCC- 72
chr-6D.trna30-Pro-TGG    UUCUCGGAAAG-CCCC- 72
chr-6B.trna35-Pro-TGG    UUCUCGGAAUG-CCCC- 72
chr-6D.trna28-Pro-TGG    UCCUCAGAAUGACCCA- 73
chr-2A.trna38-Pro-TGG    UUCUCAGAAUG-CCCU- 72
chr-2B.trna44-Pro-TGG    UUCUCAGAAUG-CCCU- 72
chr-2C.trna48-Pro-TGG    UUCUCAGAAUG-CCUU- 72
chr-7D.trna50-Pro-TGG    UUCUCAGAAUG-CCCU- 72
chr-6B.trna41-Pro-TGG    UUUUCGGAAUG-CCCC- 72
chr-6B.trna45-Pro-TGG    UUUUCGGAAUG-CCCC- 72
chr-8D.trna21-Pro-TGG    UUCUCGCAACG-CCCC- 72
chr-6B.trna83-Pro-TGG    UUCUCGCAACG-CCCC- 72
chr-6D.trna71-Pro-TGG    UUCUCGCAACG-CCCC- 72
chr-8A.trna1-Pro-TGG     UUCUCGCAACG-CCCC- 72
chr-8C.trna1-Pro-TGG     UUCUCGCAACG-CCCC- 72
chr-8B.trna30-Pro-TGG    UUCUCGCAACG-CCCC- 72
chr-8A.trna43-Pro-TGG    UUCUCGCAACG-CCCC- 72
chr-8A.trna20-Pro-TGG    UUCUCGCAACG-CCCC- 72
chr-8B.trna20-Pro-TGG    UUCUCGCAACG-CCCC- 72
chr-1B.trna11-Pro-TGG    UUCUCGGAAUG-CCCC- 72
chr-1C.trna13-Pro-TGG    UUCUCGGAAUG-CCCC- 72
chr-1A.trna91-Pro-TGG    UUCUCGGAAUG-CCCC- 72
chr-2A.trna76-Pro-TGG    UUCUCGGAAUG-CCCC- 72
chr-6D.trna35-Pro-TGG    UUCUCGGAAUG-CCCC- 72
chr-2B.trna4-Pro-TGG     UUCUCGGAAUG-CCCC- 72
chr-2C.trna13-Pro-TGG    UUCUCGGAAUG-CCCC- 72
chr-2C.trna111-Pro-TGG   UUCUCGGAAUG-CCCC- 72
chr-2D.trna117-Pro-TGG   UUCUCGGAAUG-CCCC- 72
chr-4A.trna3-Pro-TGG     UUCUCGGAAUG-CCCC- 72
chr-4B.trna62-Pro-TGG    UUCUCGGAAUG-CCCC- 72
chr-6B.trna18-Pro-TGG    UUCUCGGAAUG-CCCC- 72
chr-6B.trna38-Pro-TGG    UUCUCGGAAUG-CCCC- 72
chr-6B.trna43-Pro-TGG    UUCUCGGAAUG-CCCC- 72
chr-6B.trna48-Pro-TGG    UUCUCGGAAUG-CCCC- 72
chr-6B.trna47-Pro-TGG    UUCUCGGAAUG-CCCC- 72
chr-6B.trna44-Pro-TGG    UUCUCGGAAUG-CCCC- 72
chr-4D.trna75-Pro-TGG    UUCUCGGAAUG-CCCC- 72
chr-7C.trna25-Pro-TGG    UUCUCGCAACG-CCCU- 72
chr-8C.trna2-Pro-TGG     UUCUCGCAACG-CCCC- 72
chr-6C.trna69-Pro-TGG    UUCUCGCAACG-CCCC- 72
chr-6B.trna40-Pro-TGG    UUCUUGGAAUG-CCCC- 72
chr-2D.trna92-Pro-TGG    UUCUUAGAAUG-CCCC- 72
chr-2B.trna15-Pro-TGG    UUCUUAGAAUG-CCCC- 72
chr-6D.trna31-Pro-TGG    UUCUCGGAGUGCCCCCA 73
                         .........70......
```