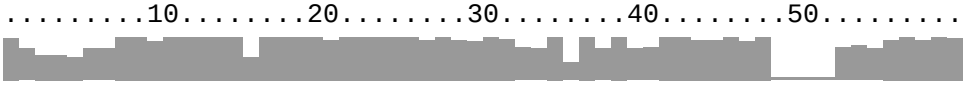
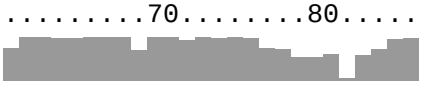
```
                                 (((((((..(((.(.....)).)))((((((.......))))))).(.......)).. 
chr-2.trna18-Leu-CAA             GUCAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCCUCUAACGAGGGC 59
chr-3.trna3-Leu-CAA              GUCAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCCUCUAACGAGGGC 59
chr-3.trna4-Leu-CAA              GUCAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCCUCUAACGAGGGC 59
chr-3.trna41-Leu-CAA             GUCAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCCUCUAACGAGGGC 59
chr-7.trna9-Leu-CAA              GUCAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCCUCUAACGAGGGC 59
chr-11.trna7-Leu-CAA             GUCAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCCUCUAACGAGGGC 59
chr-10.trna13-Leu-CAA            GUCAGGAUGGCCGAG-UGGUCUAAGGCGCCAGACUCAAGUUCUGGUCCUCUAACGAGGGC 59
chr-6.trna25-Leu-CAA             GUCAGGAUGGCCGAG-UGGUCUAAGGCGCCAAACUCAAGUUCUGGUCCUCUAAAGAGGGU 59
chr-1.trna36-Leu-TAA             GCUGGUUUGCCCGAG-UGGU-UAAGGGGGAAGACUUAAGAUCUUCUGGCACAGAAGUGCGC 58
chr-12.trna21-Leu-TAA            GCUGGUUUGCCCGAG-UGGU-UAAGGGGGAAGACUUAAGAUCUUCUGGCACUGAAGUGCGC 58
chr-11.trna20-Leu-TAA            GCUGGUUUGCCCGAG-UGGU-UAAGGGGGAAGACUUAAGAUCUUCUGGCACAUGAGUGCGC 58
chr-8.trna21-Leu-AAG             GUUGAGAUGCCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGGC 56
chr-1.trna54-Leu-CAG             GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCC----GAAAGGGC 56
chr-7.trna26-Leu-CAG             GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCC----GAAAGGGC 56
chr-1.trna72-Leu-CAG             GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCC----GAAAGGGC 56
chr-1.trna73-Leu-CAG             GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCC----GAAAGGGC 56
chr-2.trna40-Leu-CAG             GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCC----GAAAGGGC 56
chr-5.trna31-Leu-CAG             GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCC----GAAAGGGC 56
chr-9.trna10-Leu-CAG             GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCC----GAAAGGGC 56
chr-3.trna68-Leu-CAG             GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCC----GAAAGGGC 56
chr-1.trna55-Leu-CAG             GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAGUUUCAGGUACUGGUCC----GAAAGGGC 56
chr-1.trna31-Leu-CAG             GUCAAGAUGGCCGAGUUGGUCUAAGGCGCCAUUUUCAGGUACUGGUCC----GAAAGGGC 56
chr-1.trna53-Leu-AAG             GUUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGGC 56
chr-1.trna68-Leu-AAG             GUUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGGC 56
chr-8.trna8-Leu-AAG              GUUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGGC 56
chr-8.trna7-Leu-AAG              GUUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGGC 56
chr-8.trna1-Leu-AAG              GUUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGGC 56
chr-9.trna7-Leu-AAG              GUUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGGC 56
chr-3.trna74-Leu-AAG             GUUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGGC 56
chr-4.trna22-Leu-AAG             GUUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGGC 56
chr-6.trna24-Leu-AAG             GUUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGGC 56
chr-2.trna7-Leu-AAG              GUUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GAAAGGGC 56
chr-4.trna8-Leu-AAG              GUUGAGAUGGCCGAGUUGGUCUAAGGCGCCAGAUUAAGGUUCUGGUCC----GGAAGGGC 56
chr-3.trna66-Leu-AAG             GUUGAGAUGGCCGAGUUGGUCUAAGGCGCUAGAUUAAGGUUCUGGUCC----GAAAGGGC 56
chr-1.trna35-Leu-TAG             GACAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCC----GAAAGGGC 55
chr-1.trna49-Leu-TAG             GACAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCC----GAAAGGGC 55
chr-5.trna3-Leu-TAG              GACAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCC----GAAAGGGC 55
chr-4.trna40-Leu-TAG             GACAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCC----GAAAGGGC 55
chr-4.trna39-Leu-TAG             GACAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCC----GAAAGGGC 55
chr-2.trna46-Leu-TAG             GACAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCC----GAAAGGGC 55
chr-5.trna13-Leu-TAG             GACAGUUUGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUUC----GAAAGGGC 55
chr-12.trna3-Leu-TAG             -------UGGCCGAG-UGGUCUAAGGCGCCAGAUUUAGGCUCUGGUCC----GAAAGGGC 48
                                 .........10........20........30........40........50.........
```



```
                                 (((((.......)))))))))).))).
chr-2.trna18-Leu-CAA             GUGGGUUCAAAUCCCACUUCU-GACA 84
chr-3.trna3-Leu-CAA              GUGGGUUCAAAUCCCACUUCU-GACA 84
chr-3.trna4-Leu-CAA              GUGGGUUCAAAUCCCACUUCU-GACA 84
chr-3.trna41-Leu-CAA             GUGGGUUCAAAUCCCACUUCU-GACA 84
chr-7.trna9-Leu-CAA              GUGGGUUCAAAUCCCACUUCU-GACA 84
chr-11.trna7-Leu-CAA             GUGGGUUCAAAUCCCACUUCU-GACA 84
chr-10.trna13-Leu-CAA            GUGGGUUCAAAUCCCACUUCU-GACA 84
chr-6.trna25-Leu-CAA             GUGUGUUCAAAUCCCACUUCU-GACA 84
chr-1.trna36-Leu-TAA             GUGGGUUCGAACCCCACAGCC-AGCA 83
chr-12.trna21-Leu-TAA            GUGGGUUCGAACCCCACAGCC-AGCA 83
chr-11.trna20-Leu-TAA            GUGGGUUCGAACCCCACAGCC-AGCA 83
chr-8.trna21-Leu-AAG             GUGGGUUCAAAUCCCACUCUCUAACA 82
chr-1.trna54-Leu-CAG             AUGGGUUCGAAUCCCAUUCUU-GACA 81
chr-7.trna26-Leu-CAG             AUGGGUUCGAAUCCCAUUCUU-GACA 81
chr-1.trna72-Leu-CAG             AUGGGUUCGAAUCCCAUUCUU-GACA 81
chr-1.trna73-Leu-CAG             AUGGGUUCGAAUCCCAUUCUU-GACA 81
chr-2.trna40-Leu-CAG             AUGGGUUCGAAUCCCAUUCUU-GACA 81
chr-5.trna31-Leu-CAG             AUGGGUUCGAAUCCCAUUCUU-GACA 81
chr-9.trna10-Leu-CAG             AUGGGUUCGAAUCCCAUUCUU-GACA 81
chr-3.trna68-Leu-CAG             AUGGGUUCAAAUCCCAUUCUU-GACA 81
chr-1.trna55-Leu-CAG             AUGGAUUCGAAUCCCAUUCUU-GACA 81
chr-1.trna31-Leu-CAG             AUGGGUUCGAAUCCCAUUCUU-GACA 81
chr-1.trna53-Leu-AAG             GUGGGUUCAAAUCCCACUCUC-AACA 81
chr-1.trna68-Leu-AAG             GUGGGUUCAAAUCCCACUCUC-AACA 81
chr-8.trna8-Leu-AAG              GUGGGUUCAAAUCCCACUCUC-AACA 81
chr-8.trna7-Leu-AAG              GUGGGUUCAAAUCCCACUCUC-AACA 81
chr-8.trna1-Leu-AAG              GUGGGUUCAAAUCCCACUCUC-AACA 81
chr-9.trna7-Leu-AAG              GUGGGUUCAAAUCCCACUCUC-AACA 81
chr-3.trna74-Leu-AAG             GUGGGUUCAAAUCCCACUCUC-AACA 81
chr-4.trna22-Leu-AAG             GUGGGUUCAAAUCCCACUCUC-AACA 81
chr-6.trna24-Leu-AAG             GUGGGUUCAAAUCCCACUCUC-AACA 81
chr-2.trna7-Leu-AAG              GUGGGUUCAAAUCUCACUCUC-AACA 81
chr-4.trna8-Leu-AAG              GUGGGUUCAAAUCCCACUCUC-AACA 81
chr-3.trna66-Leu-AAG             GUGGGUUCAAAUCCCACUCUU-AAGA 81
chr-1.trna35-Leu-TAG             GUGGGUUCAAAUCCCACAGCU-GUCA 80
chr-1.trna49-Leu-TAG             GUGGGUUCAAAUCCCACAGCU-GUCA 80
chr-5.trna3-Leu-TAG              GUGGGUUCAAAUCCCACAGCU-GUCA 80
chr-4.trna40-Leu-TAG             GUGGGUUCAAAUCCCACAGCU-GUCA 80
chr-4.trna39-Leu-TAG             GUGGGUUCAAAUCCCACAGCU-GUCA 80
chr-2.trna46-Leu-TAG             GUGGGUUCAAAUCCCACAGCU-GUCA 80
chr-5.trna13-Leu-TAG             GUGGGUUCAAAUCCCUCAGCU-GUCA 80
chr-12.trna3-Leu-TAG             GUGGGUUCAAAUCCCAC--------- 65
                                 .........70........80.....
```