

### Palindromes in different Chromosomes

| Chromosome | Palindrome Count | Length      | Normalized Palindrome Count |
|------------|------------------|-------------|-----------------------------|
| 1          | 1,015,470        | 249,250,621 | 4.07                        |
| 2          | 1,142,820        | 243,199,373 | 4.70                        |
| 3          | 938,926          | 198,022,430 | 4.74                        |
| 4          | 971,349          | 191,154,276 | 5.08                        |
| 5          | 870,183          | 180,915,260 | 4.81                        |
| 6          | 810,885          | 171,115,067 | 4.74                        |
| 7          | 733,663          | 159,138,663 | 4.61                        |
| 8          | 685,065          | 146,364,022 | 4.68                        |
| 9          | 552,417          | 141,213,431 | 3.91                        |
| 10         | 602,026          | 135,534,747 | 4.44                        |
| 11         | 600,275          | 135,006,516 | 4.45                        |
| 12         | 610,037          | 133,851,895 | 4.56                        |
| 13         | 495,191          | 115,169,878 | 4.30                        |
| 14         | 414,580          | 107,349,540 | 3.86                        |
| 15         | 363,204          | 102,531,392 | 3.54                        |
| 16         | 332,040          | 90,354,753  | 3.67                        |
| 17         | 319,484          | 81,195,210  | 3.93                        |
| 18         | 364,294          | 78,077,248  | 4.67                        |
| 19         | 213,440          | 59,128,983  | 3.61                        |
| 20         | 252,059          | 63,025,520  | 4.00                        |
| 21         | 172,416          | 48,129,895  | 3.58                        |
| 22         | 136,966          | 51,304,566  | 2.67                        |
| X          | 741,731          | 155,270,560 | 4.78                        |
| Y          | 111,232          | 59,373,566  | 1.87                        |

**Ditribution of Palindromes by Length**

| <b>Chromosome</b> | <b>&lt;20 bp</b> | <b>20 - 40 bp</b> | <b>40 - 60 bp</b> | <b>60 - 80 bp</b> | <b>80 - 100 bp</b> | <b>100 - 150 bp</b> | <b>150 - 200 bp</b> | <b>&gt;200 bp</b> |
|-------------------|------------------|-------------------|-------------------|-------------------|--------------------|---------------------|---------------------|-------------------|
| 1                 | 792,701          | 210,890           | 10,672            | 1,112             | 83                 | 12                  | 0                   | 0                 |
| 2                 | 884,917          | 242,689           | 13,263            | 1,742             | 168                | 40                  | 1                   | 0                 |
| 3                 | 727,141          | 198,950           | 10,871            | 1,273             | 140                | 85                  | 50                  | 416               |
| 4                 | 741,765          | 216,137           | 12,067            | 1,232             | 116                | 29                  | 3                   | 0                 |
| 5                 | 671,167          | 187,740           | 10,023            | 1,065             | 149                | 38                  | 1                   | 0                 |
| 6                 | 627,285          | 173,397           | 9,177             | 925               | 95                 | 6                   | 0                   | 0                 |
| 7                 | 566,459          | 156,933           | 8,652             | 1,357             | 190                | 72                  | 0                   | 0                 |
| 8                 | 529,953          | 145,269           | 8,489             | 1,144             | 165                | 45                  | 0                   | 0                 |
| 9                 | 430,154          | 115,408           | 6,035             | 742               | 70                 | 8                   | 0                   | 0                 |
| 10                | 468,972          | 125,658           | 6,630             | 714               | 42                 | 8                   | 2                   | 0                 |
| 11                | 467,056          | 125,060           | 7,238             | 866               | 45                 | 9                   | 1                   | 0                 |
| 12                | 472,263          | 129,641           | 7,096             | 952               | 69                 | 16                  | 0                   | 0                 |
| 13                | 378,493          | 109,654           | 6,334             | 623               | 63                 | 24                  | 0                   | 0                 |
| 14                | 321,489          | 87,483            | 4,962             | 580               | 58                 | 8                   | 0                   | 0                 |
| 15                | 283,528          | 75,134            | 3,894             | 560               | 49                 | 39                  | 0                   | 0                 |
| 16                | 258,196          | 68,919            | 4,187             | 625               | 93                 | 19                  | 1                   | 0                 |
| 17                | 249,074          | 65,829            | 4,089             | 458               | 28                 | 6                   | 0                   | 0                 |
| 18                | 281,630          | 77,924            | 4,157             | 534               | 44                 | 5                   | 0                   | 0                 |
| 19                | 165,179          | 44,738            | 2,680             | 374               | 59                 | 58                  | 50                  | 302               |
| 20                | 198,050          | 50,749            | 2,872             | 363               | 24                 | 1                   | 0                   | 0                 |
| 21                | 133,097          | 37,151            | 1,783             | 305               | 72                 | 8                   | 0                   | 0                 |
| 22                | 108,072          | 27,317            | 1,430             | 125               | 13                 | 8                   | 1                   | 0                 |
| X                 | 565,244          | 163,267           | 11,613            | 1,313             | 166                | 104                 | 24                  | 0                 |
| Y                 | 85,401           | 24,093            | 1,566             | 154               | 17                 | 1                   | 0                   | 0                 |

**AT - GC richness**

| Chromosome | AT %  | GC %  |
|------------|-------|-------|
| 1          | 71.22 | 28.78 |
| 2          | 73.14 | 26.86 |
| 3          | 73.96 | 26.04 |
| 4          | 75.49 | 24.51 |
| 5          | 73.89 | 26.11 |
| 6          | 73.74 | 26.26 |
| 7          | 72.84 | 27.16 |
| 8          | 73.21 | 26.79 |
| 9          | 71.52 | 28.48 |
| 10         | 71.38 | 28.62 |
| 11         | 71.33 | 28.67 |
| 12         | 72.68 | 27.32 |
| 13         | 75.28 | 24.72 |
| 14         | 72.36 | 27.64 |
| 15         | 70.66 | 29.34 |
| 16         | 67.60 | 32.40 |
| 17         | 67.01 | 32.99 |
| 18         | 73.70 | 26.30 |
| 19         | 64.56 | 35.44 |
| 20         | 67.90 | 32.10 |
| 21         | 72.61 | 27.39 |
| 22         | 62.43 | 37.57 |
| X          | 74.34 | 25.66 |
| Y          | 74.14 | 25.86 |

**Percentage of Palindromes by % AT richness**

| Chromosome | <20%   | 20 - 30% | 30 - 40% | 40 - 50% | 50 - 60% | 60 - 70% | 70 - 80% | 80 - 90% | 90 - 100% |
|------------|--------|----------|----------|----------|----------|----------|----------|----------|-----------|
| 1          | 18,144 | 46,672   | 52,777   | 129,715  | 83,153   | 115,580  | 214,694  | 147,196  | 207,539   |
| 2          | 14,633 | 41,738   | 48,636   | 131,209  | 89,993   | 133,212  | 255,637  | 179,699  | 248,063   |
| 3          | 10,089 | 30,618   | 36,113   | 105,007  | 75,155   | 110,993  | 213,282  | 151,880  | 205,789   |
| 4          | 8,459  | 25,117   | 29,198   | 93,430   | 71,606   | 112,707  | 227,481  | 171,536  | 231,815   |
| 5          | 9,333  | 28,050   | 32,428   | 95,621   | 68,420   | 102,895  | 198,454  | 142,503  | 192,479   |
| 6          | 8,877  | 26,477   | 30,980   | 89,320   | 63,821   | 95,577   | 184,460  | 132,088  | 179,285   |
| 7          | 11,467 | 29,569   | 33,086   | 85,191   | 56,633   | 83,062   | 160,272  | 114,506  | 159,877   |
| 8          | 8,708  | 24,832   | 28,614   | 79,543   | 55,172   | 80,098   | 152,417  | 106,753  | 148,928   |
| 9          | 10,065 | 24,954   | 27,259   | 67,545   | 44,718   | 63,513   | 119,769  | 82,310   | 112,284   |
| 10         | 10,058 | 27,158   | 31,463   | 77,046   | 49,536   | 68,891   | 127,258  | 87,669   | 122,947   |
| 11         | 10,898 | 28,056   | 30,528   | 75,715   | 49,690   | 68,880   | 128,082  | 88,054   | 120,372   |
| 12         | 8,976  | 23,918   | 27,034   | 72,495   | 48,559   | 70,167   | 133,304  | 93,700   | 131,884   |
| 13         | 4,634  | 13,872   | 16,296   | 48,360   | 35,029   | 56,859   | 115,405  | 87,016   | 117,720   |
| 14         | 6,681  | 16,992   | 19,195   | 48,906   | 32,893   | 47,451   | 90,383   | 64,350   | 87,729    |
| 15         | 6,897  | 18,025   | 20,485   | 48,341   | 30,006   | 40,932   | 75,532   | 50,724   | 72,262    |
| 16         | 10,626 | 23,443   | 24,532   | 50,051   | 27,819   | 35,162   | 59,518   | 39,381   | 61,508    |
| 17         | 11,434 | 24,889   | 25,464   | 48,112   | 25,589   | 31,290   | 55,374   | 37,382   | 59,950    |
| 18         | 4,352  | 12,163   | 14,134   | 40,527   | 28,437   | 42,735   | 82,374   | 59,080   | 80,492    |
| 19         | 12,148 | 22,389   | 21,455   | 35,399   | 16,318   | 17,183   | 29,961   | 20,443   | 38,144    |
| 20         | 6,649  | 16,408   | 17,799   | 38,339   | 21,621   | 27,824   | 47,309   | 30,836   | 45,274    |
| 21         | 3,063  | 7,636    | 8,151    | 19,323   | 12,630   | 19,165   | 36,930   | 27,527   | 37,991    |
| 22         | 6,662  | 15,028   | 14,344   | 23,513   | 10,771   | 12,046   | 19,856   | 13,079   | 21,667    |
| X          | 6,794  | 22,495   | 26,387   | 82,736   | 61,533   | 89,786   | 167,893  | 118,563  | 165,544   |
| Y          | 748    | 3,112    | 3,886    | 13,356   | 9,759    | 13,666   | 24,764   | 17,333   | 24,608    |