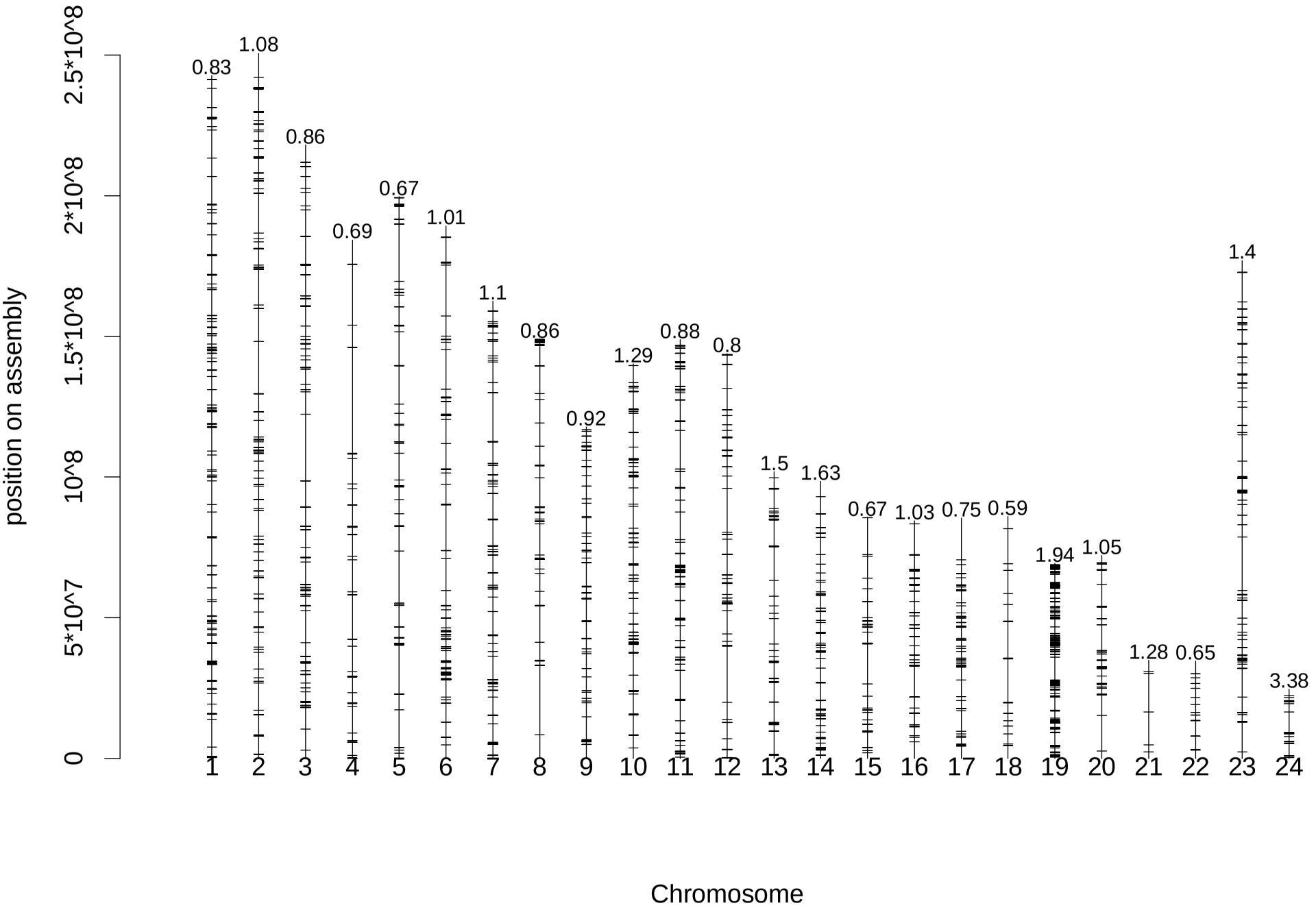
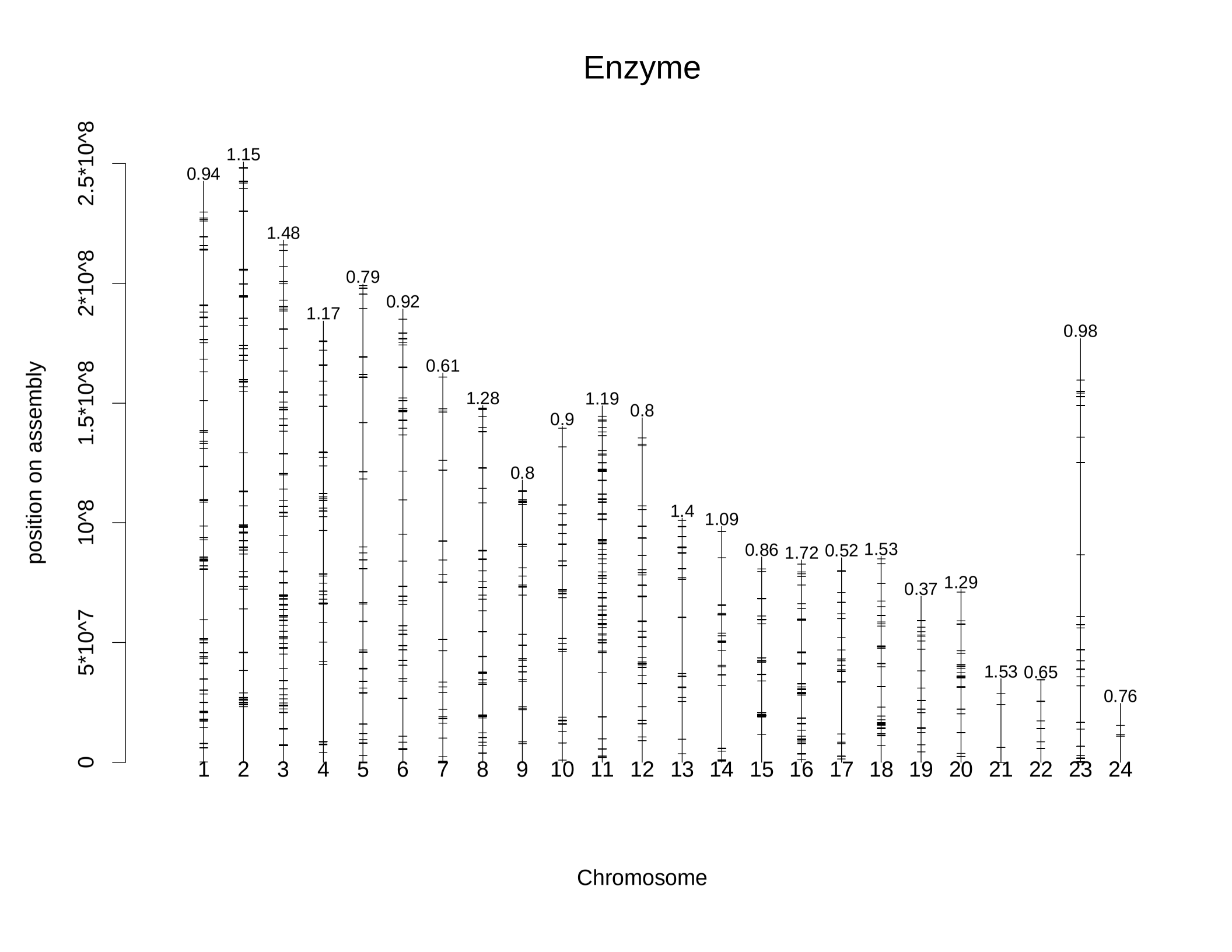
Nuclear organization and biogenesis




Enzyme
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0.94
1.15
1.48
1.17
0.79
0.92
0.61
1.28
0.8
0.9
1.19
0.8
1.4
1.09
0.86
1.72
0.52
1.53
0.37
1.29
1.53
0.65
0.98
0.76
1
2
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4
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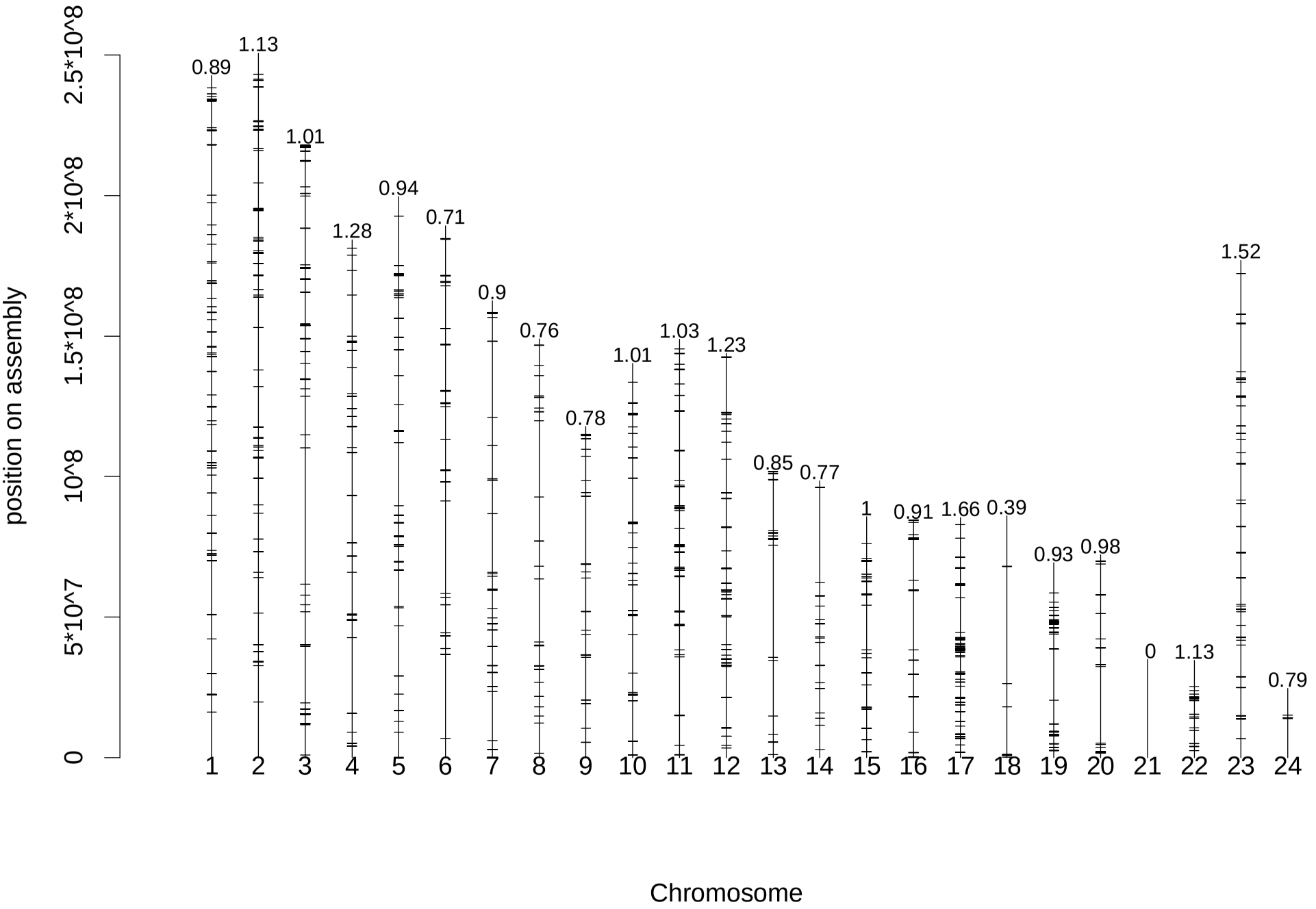
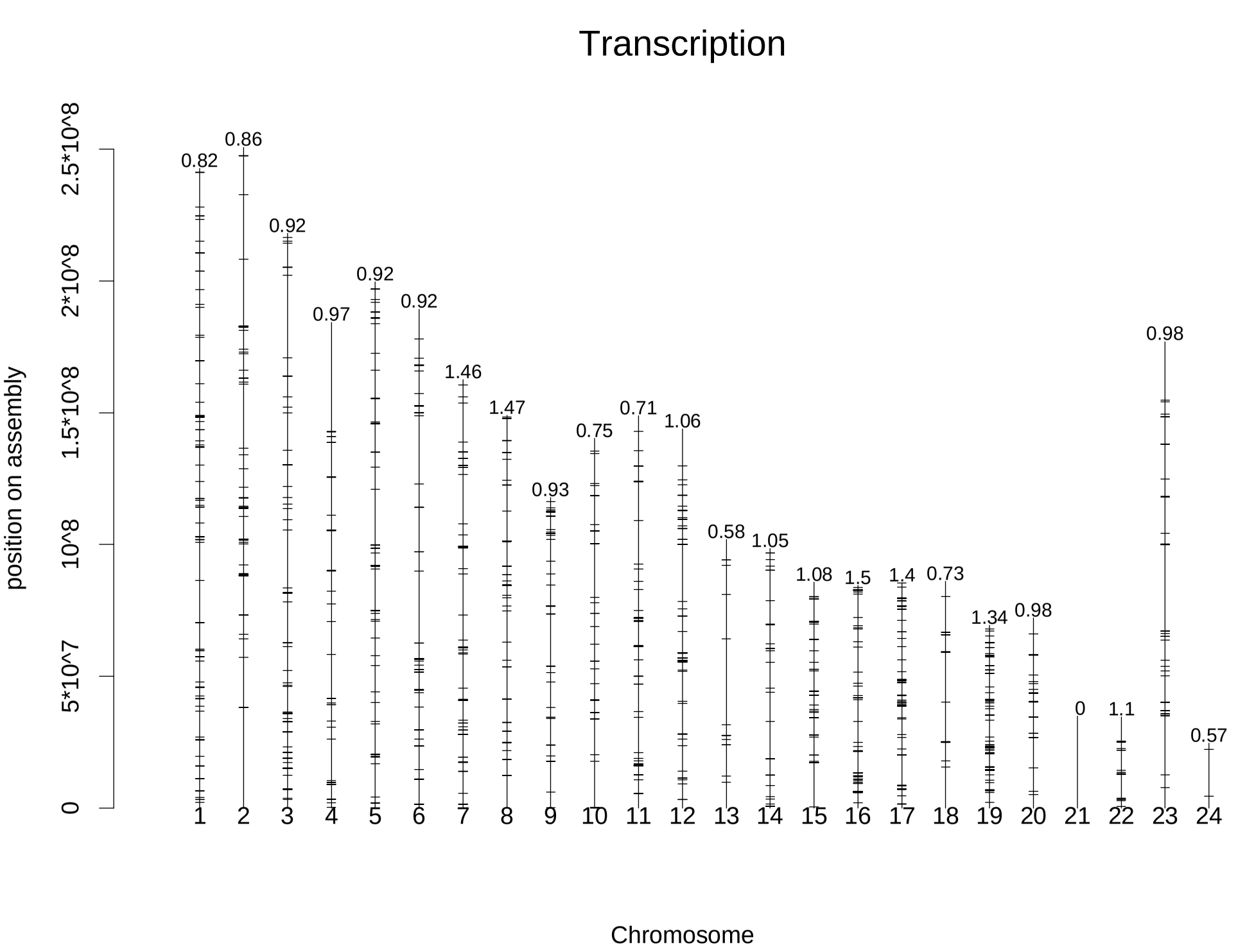
21
22
23
24
Chromosome

Signal transduction




Transcription
position on assembly
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5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0.82
0.86
0.92
0.97
0.92
0.92
1.46
1.47
0.93
0.75
0.71
1.06
0.58
1.05
1.08
1.5
1.4
0.73
1.34
0.98
0
1.1
0.98
0.57
1
2
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21
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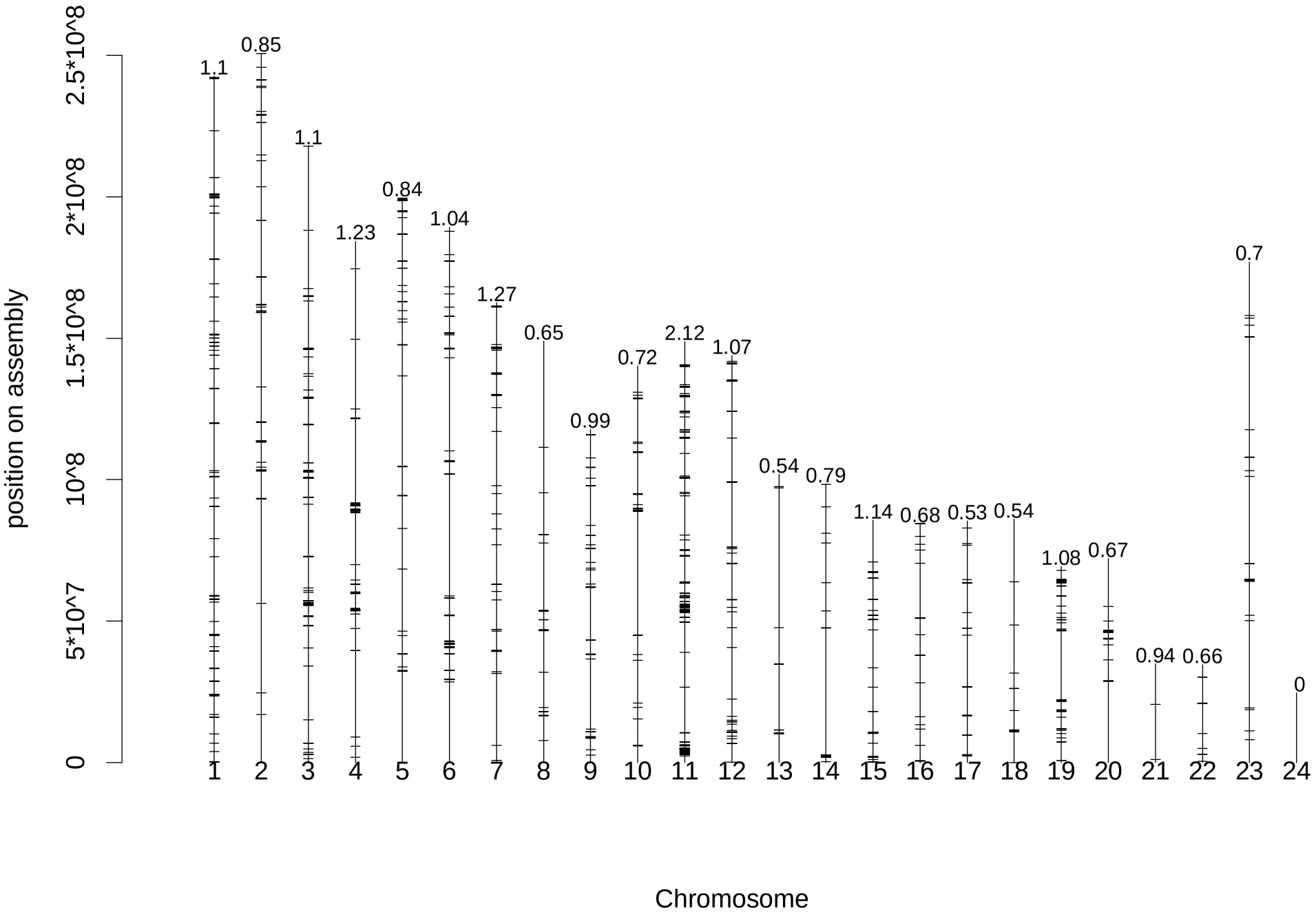
23
24
Chromosome


Receptor
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
1.1
0.85
1.1
1.23
0.84
1.04
1.27
0.65
0.99
0.72
2.12
1.07
0.54
0.79
1.14
0.68
0.53
0.54
1.08
0.67
0.94
0.66
0.7
0
1
2
3
4
5
6
7
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10
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12
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14
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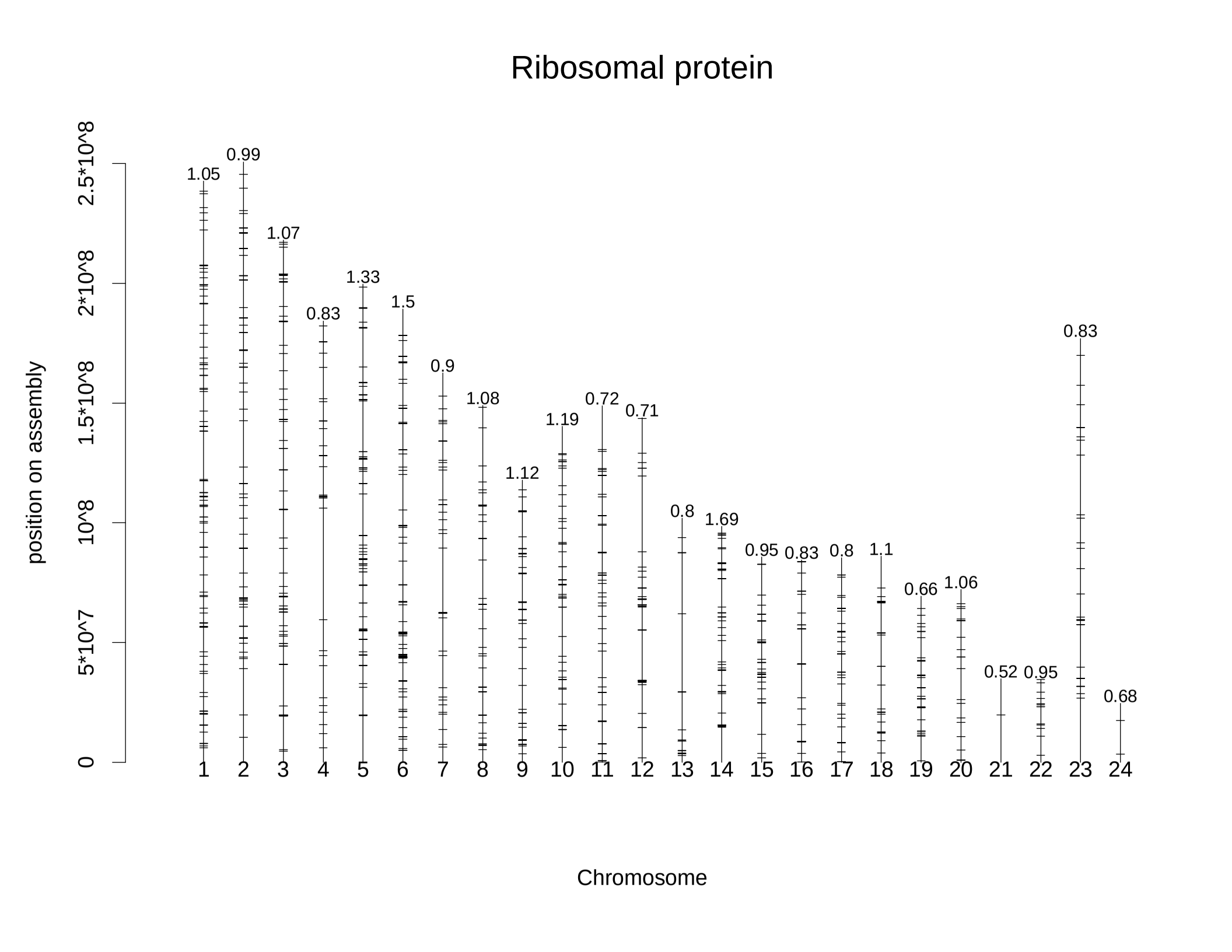
16
17
18
19
20
21
22
23
24
Chromosome


Ribosomal protein
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
1.05
0.99
1.07
0.83
1.33
1.5
0.9
1.08
1.12
1.19
0.72
0.71
0.8
1.69
0.95
0.83
0.8
1.1
0.66
1.06
0.52
0.95
0.83
0.68
1
2
3
4
5
6
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17
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19
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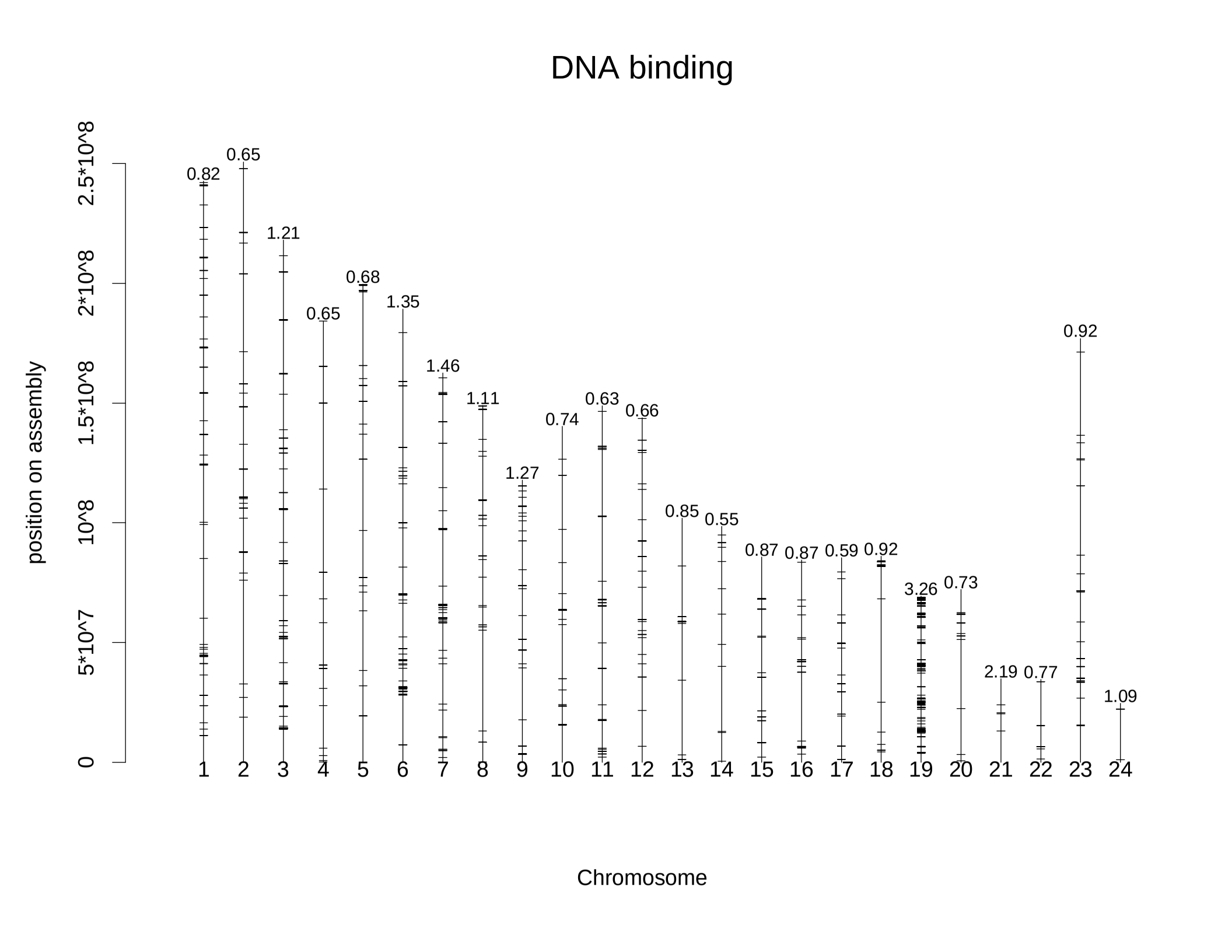
21
22
23
24
Chromosome


DNA binding
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0.82
0.65
1.21
0.65
0.68
1.35
1.46
1.11
1.27
0.74
0.63
0.66
0.85
0.55
0.87
0.87
0.59
0.92
3.26
0.73
2.19
0.77
0.92
1.09
1
2
3
4
5
6
7
8
9
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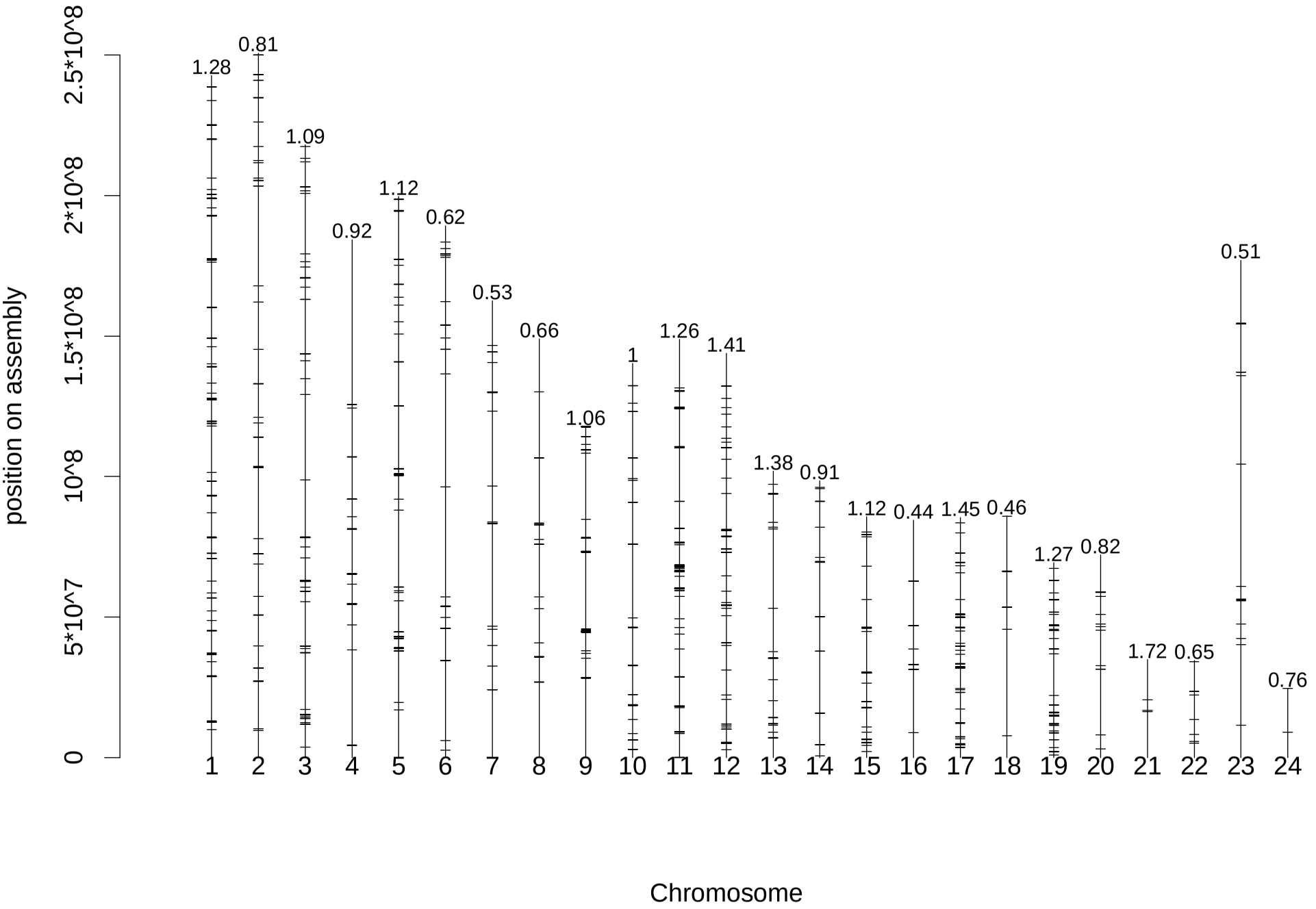
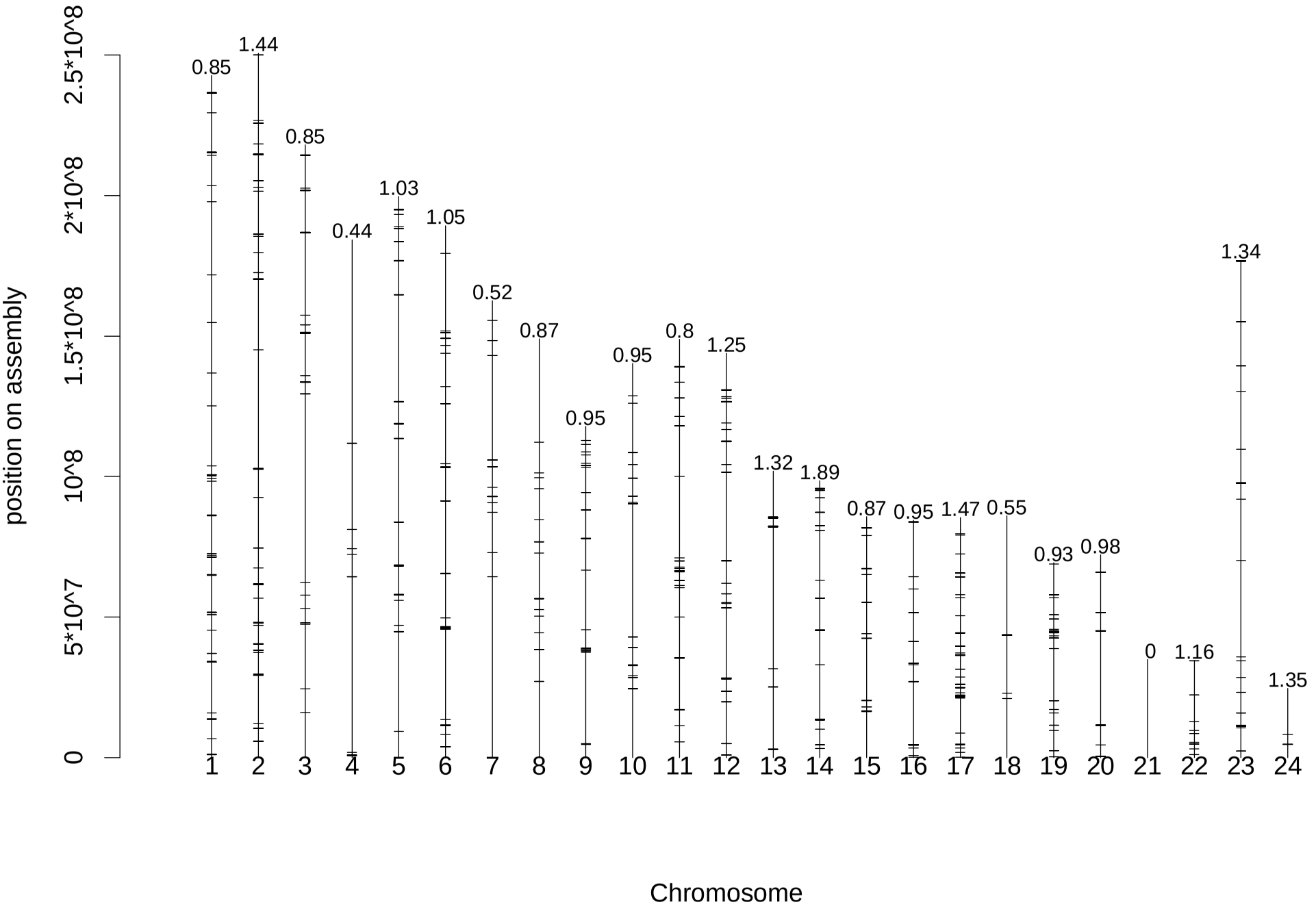
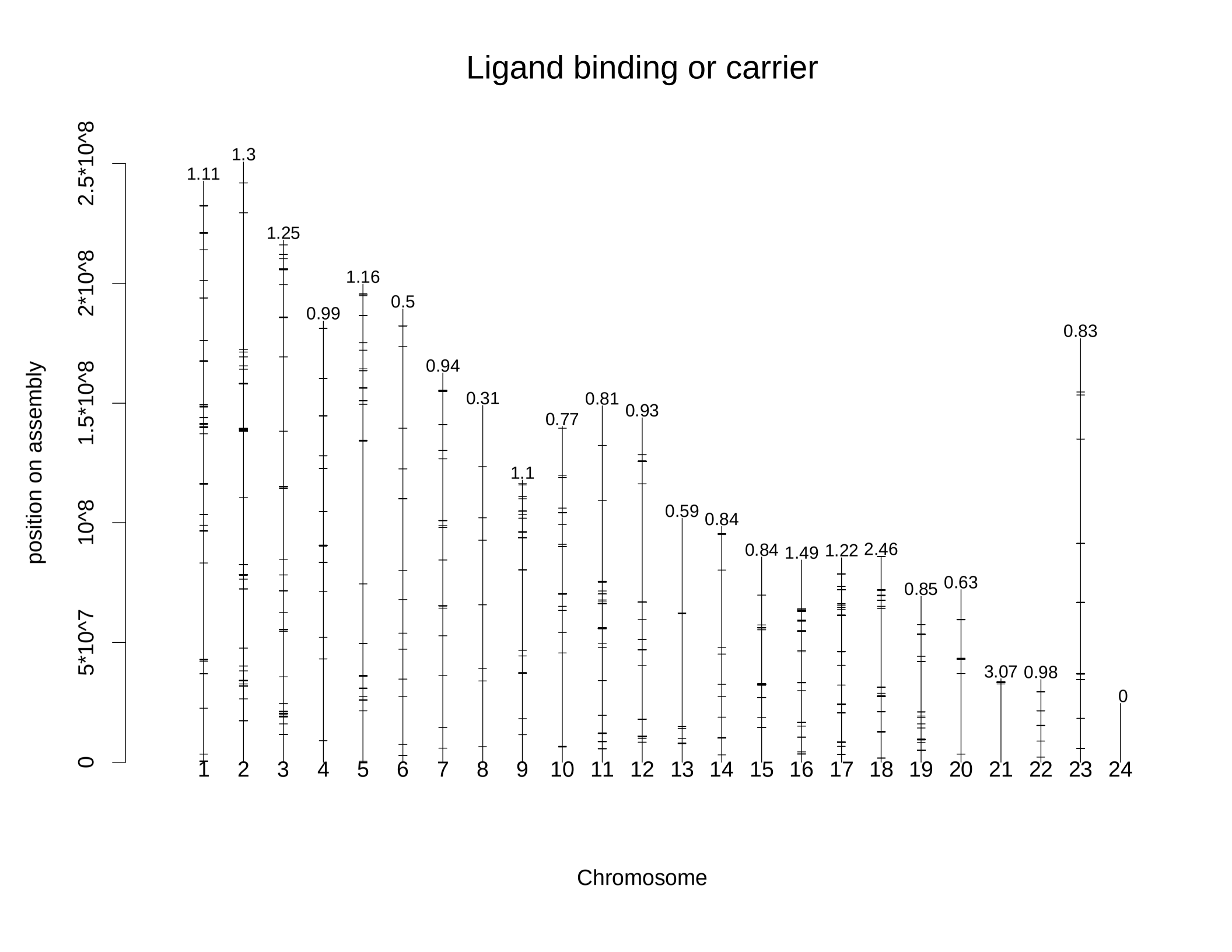
19
20
21
22
23
24
Chromosome

Phosphoryl transfer



Protein kinase




Ligand binding or carrier
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
1.11
1.3
1.25
0.99
1.16
0.5
0.94
0.31
1.1
0.77
0.81
0.93
0.59
0.84
0.84
1.49
1.22
2.46
0.85
0.63
3.07
0.98
0.83
0
1
2
3
4
5
6
7
8
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10
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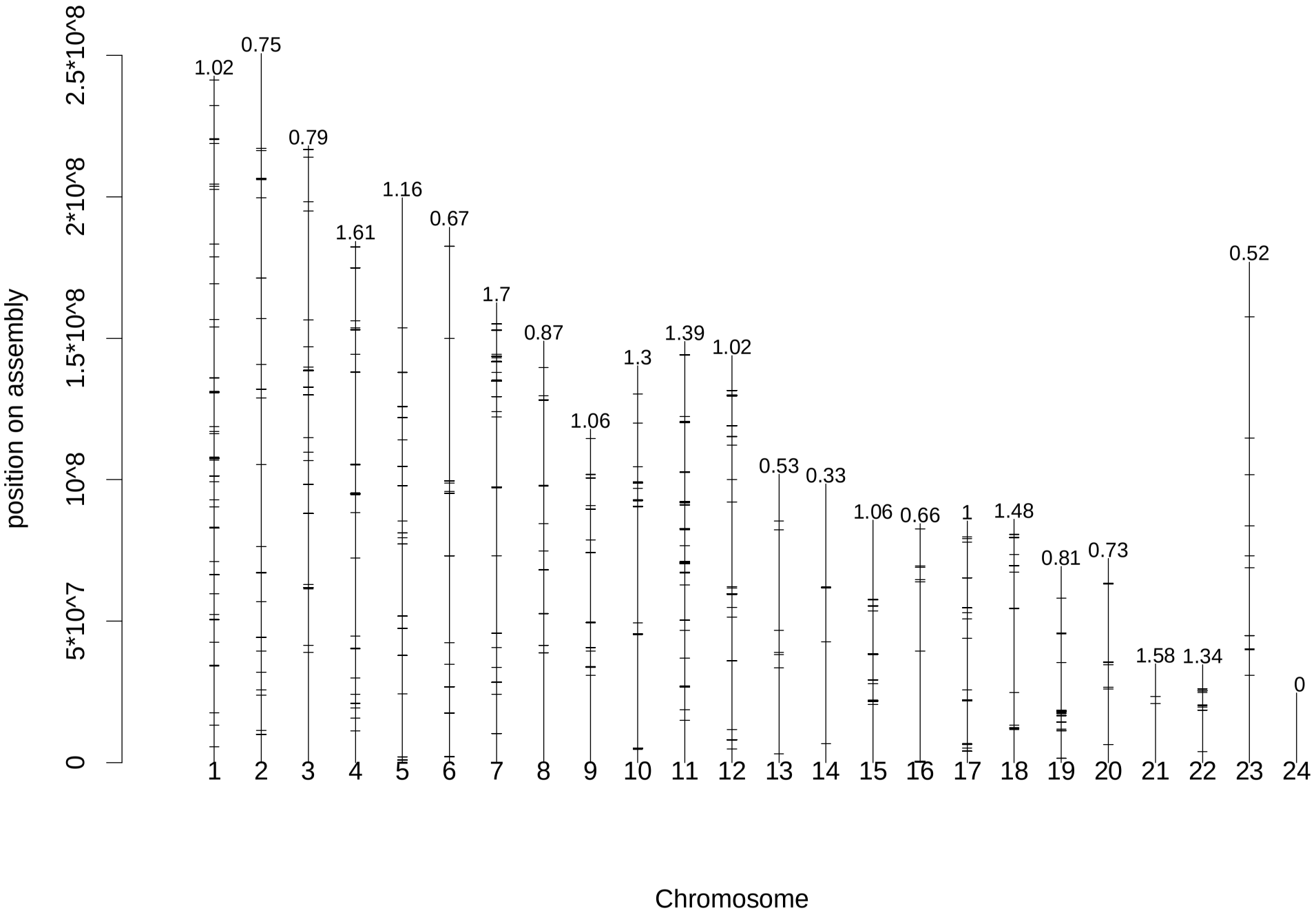
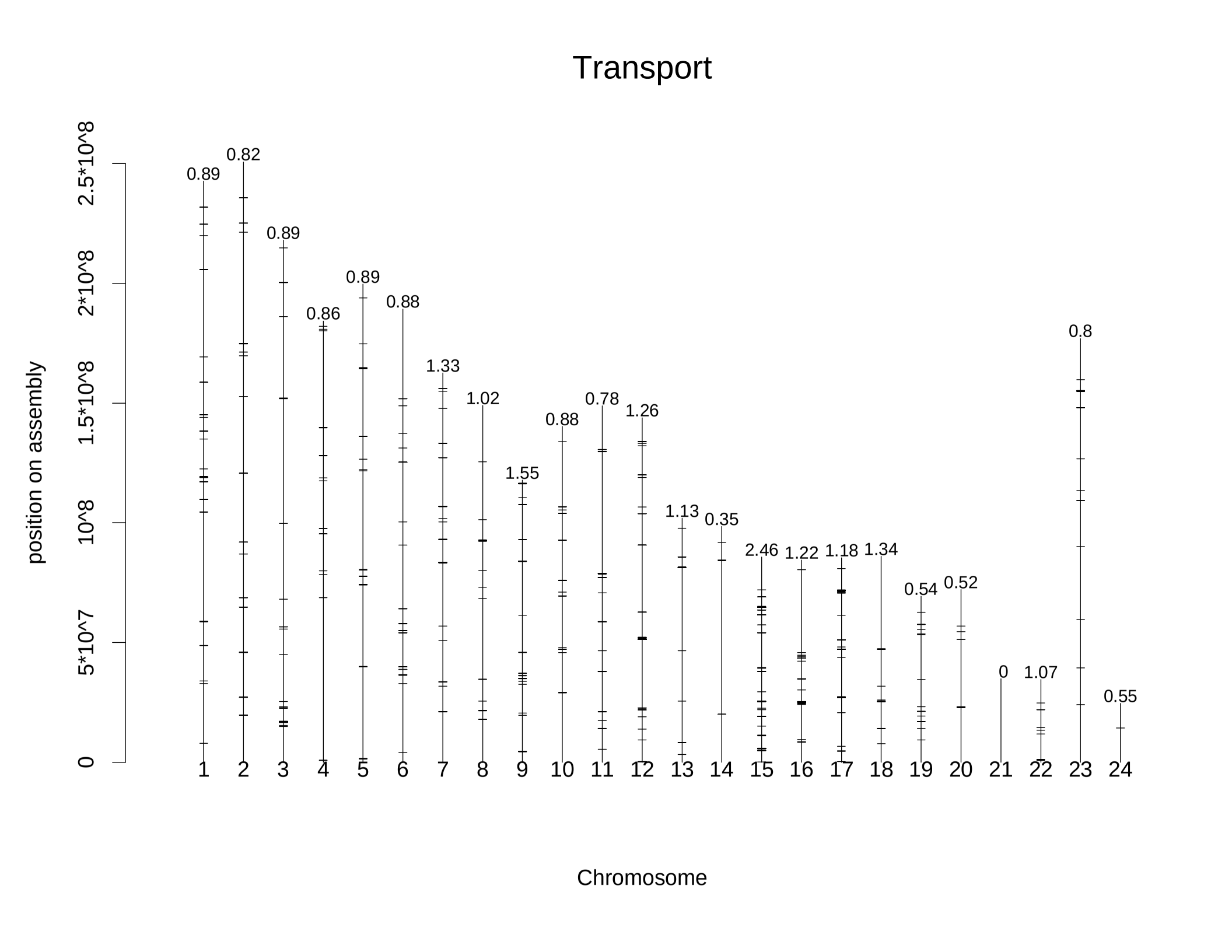
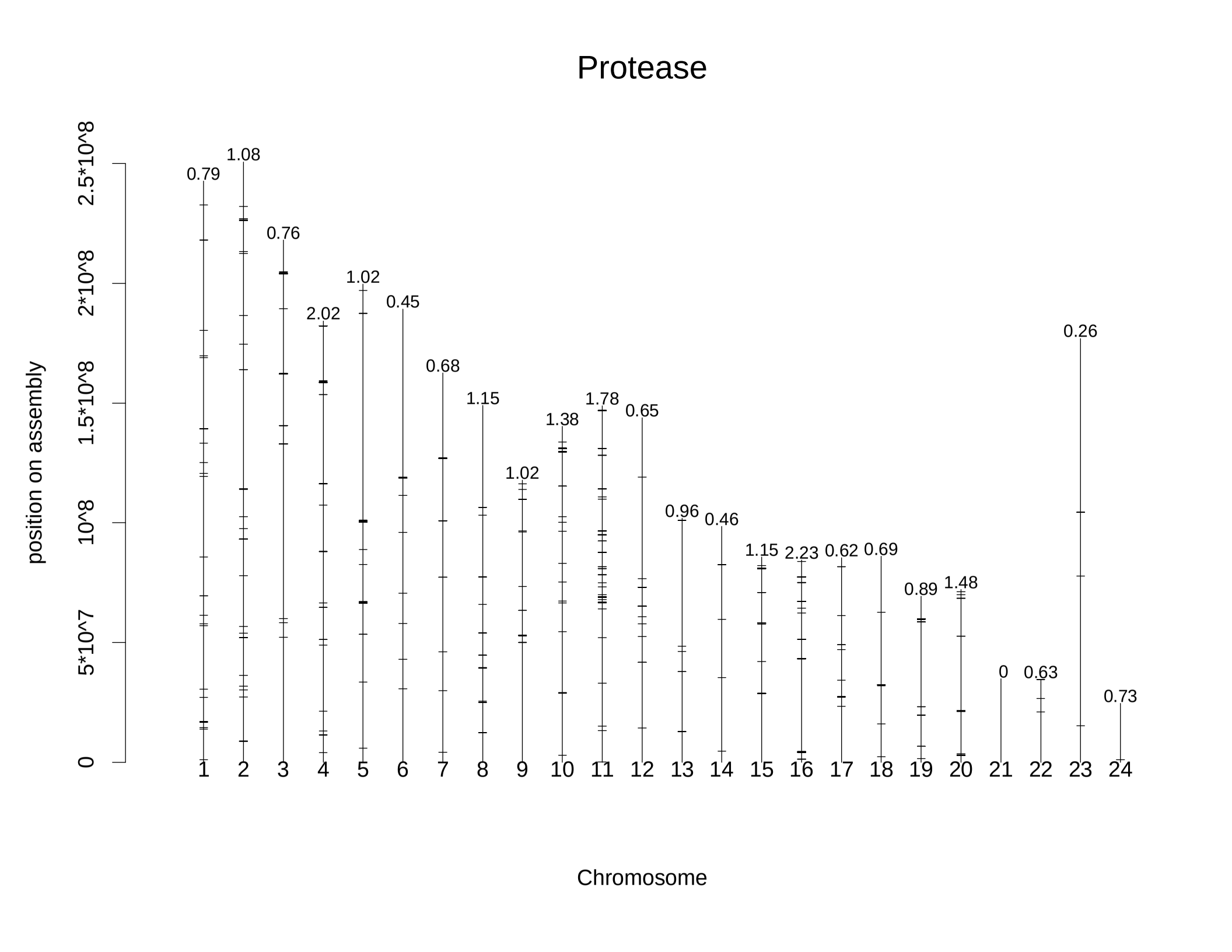
16
17
18
19
20
21
22
23
24
Chromosome

Electron transport




Transport
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0.89
0.82
0.89
0.86
0.89
0.88
1.33
1.02
1.55
0.88
0.78
1.26
1.13
0.35
2.46
1.22
1.18
1.34
0.54
0.52
0
1.07
0.8
0.55
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Chromosome


Protease
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0.79
1.08
0.76
2.02
1.02
0.45
0.68
1.15
1.02
1.38
1.78
0.65
0.96
0.46
1.15
2.23
0.62
0.69
0.89
1.48
0
0.63
0.26
0.73
1
2
3
4
5
6
7
8
9
10
11
12
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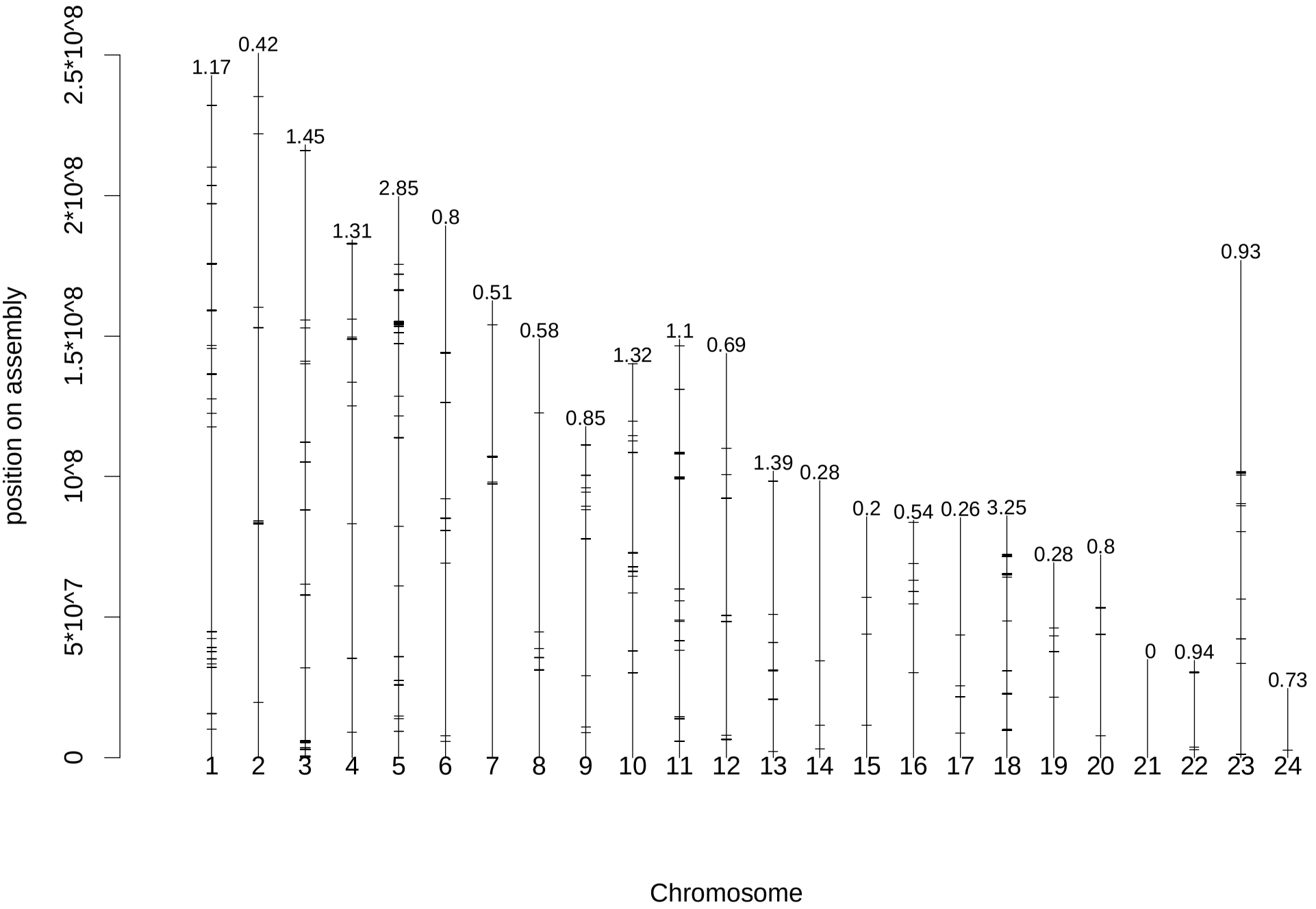
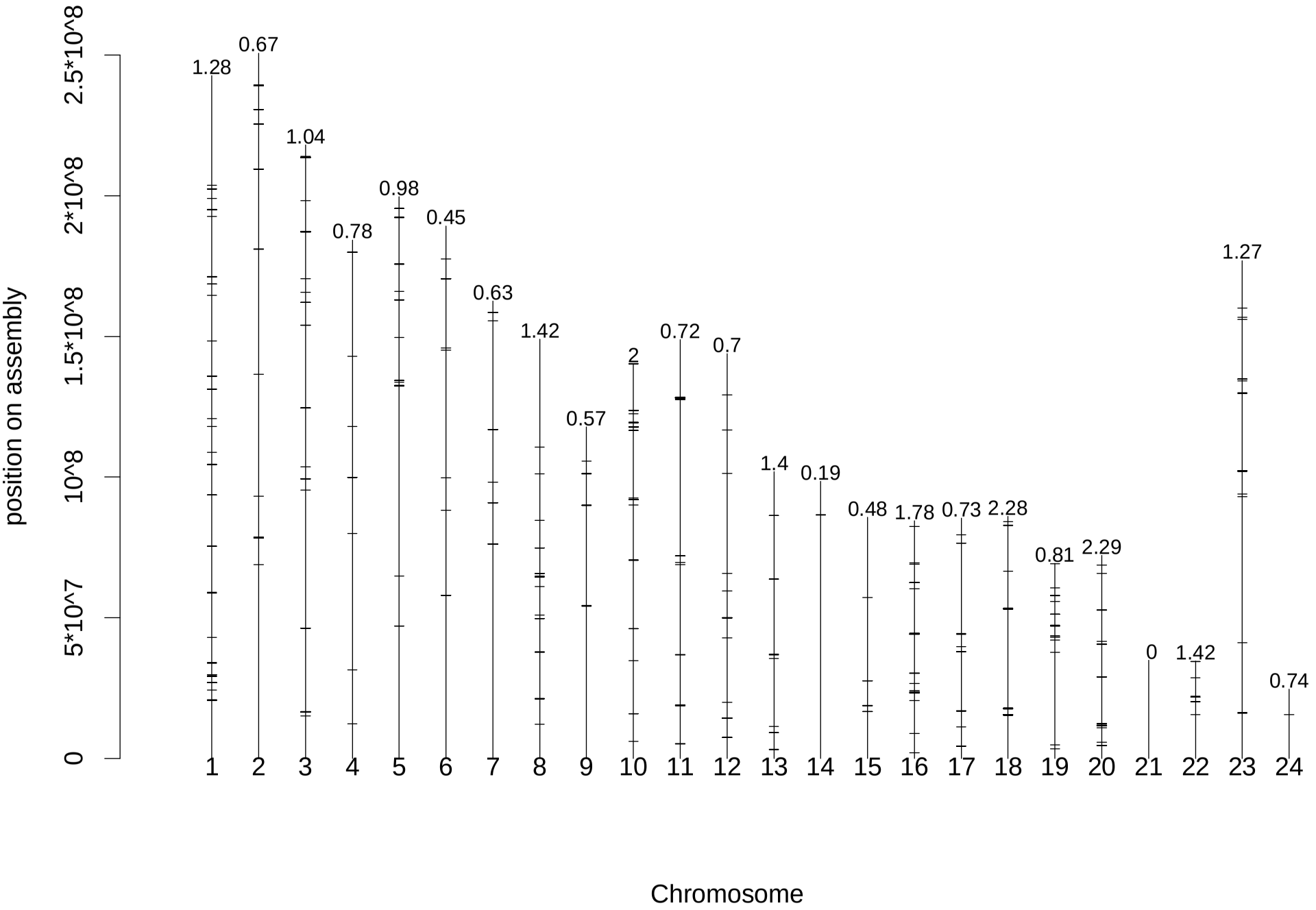
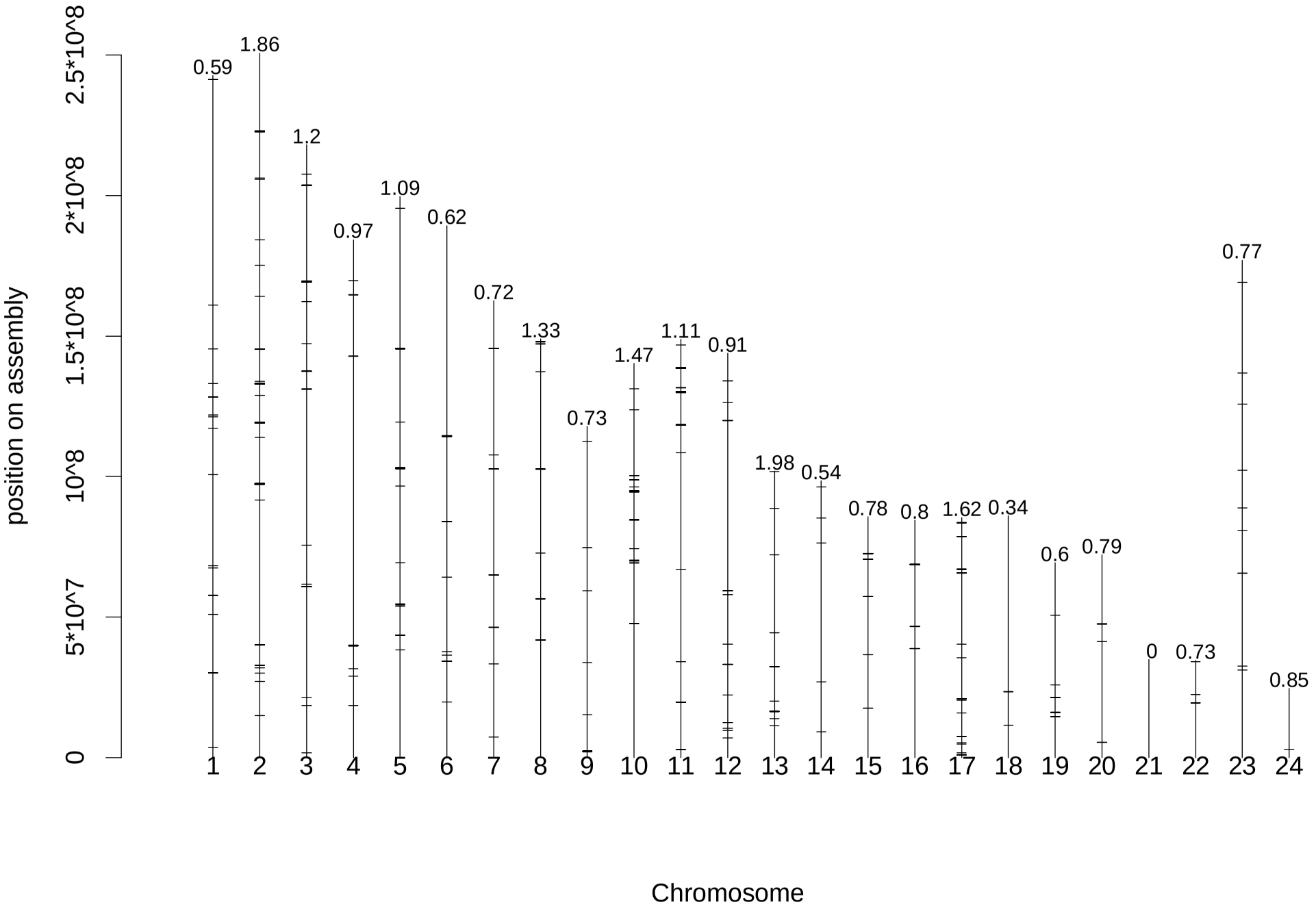
16
17
18
19
20
21
22
23
24
Chromosome

Cell adhension



Lipid metabolism




DNA replication
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0.59
1.86
1.2
0.97
1.09
0.62
0.72
1.33
0.73
1.47
1.11
0.91
1.98
0.54
0.78
0.8
1.62
0.34
0.6
0.79
0
0.73
0.77
0.85
1
2
3
4
5
6
7
8
9
10
11
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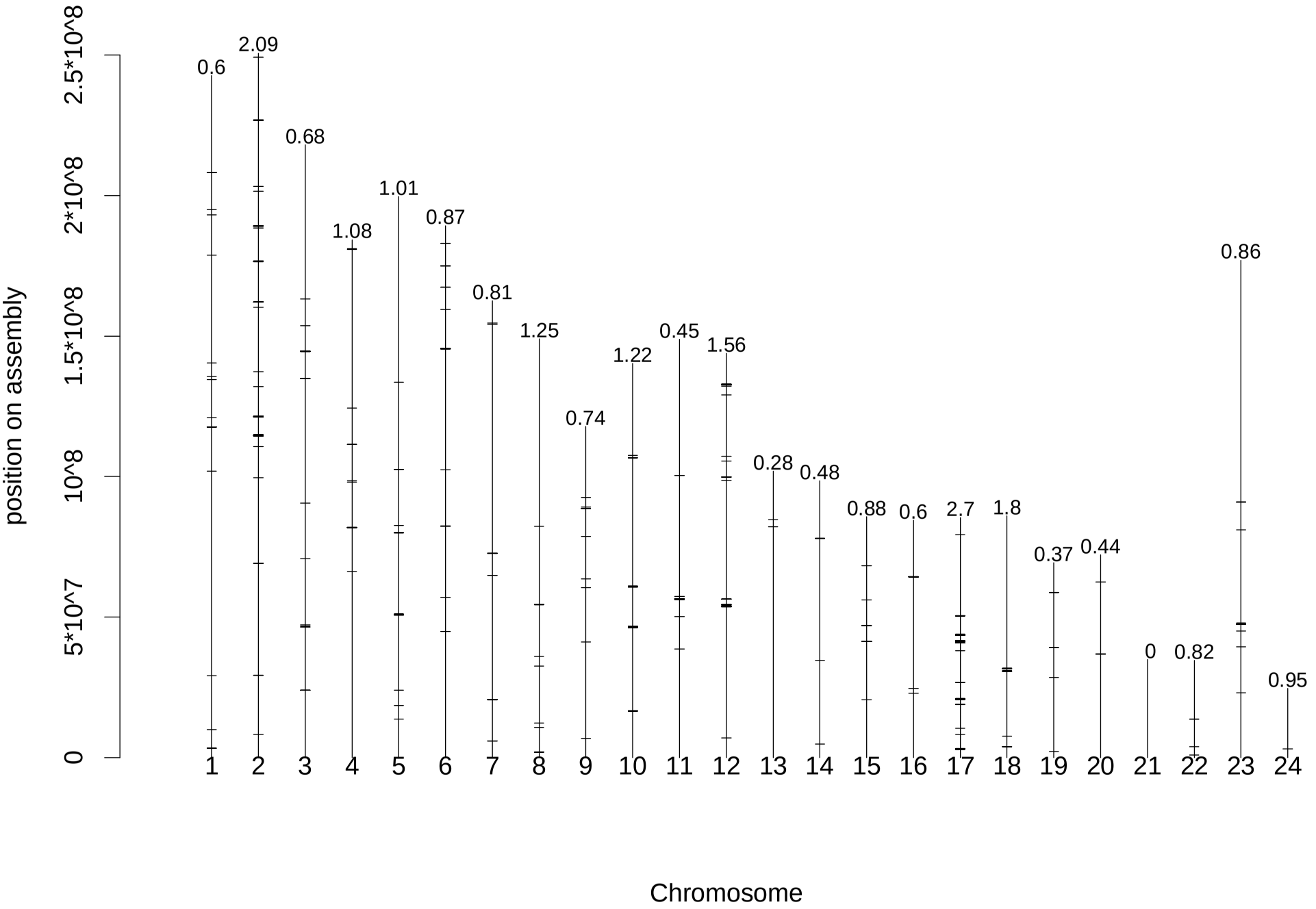
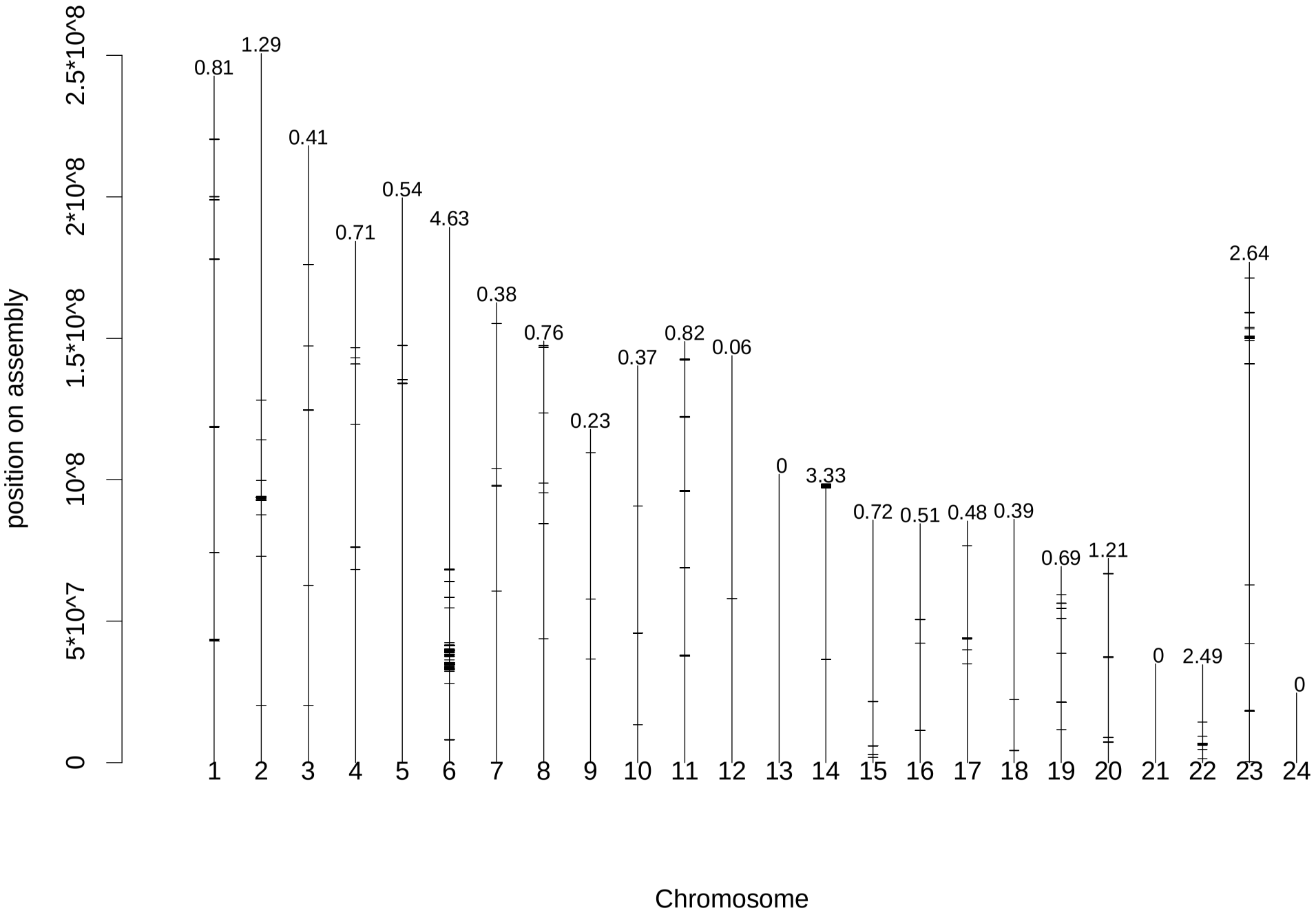
20
21
22
23
24
Chromosome

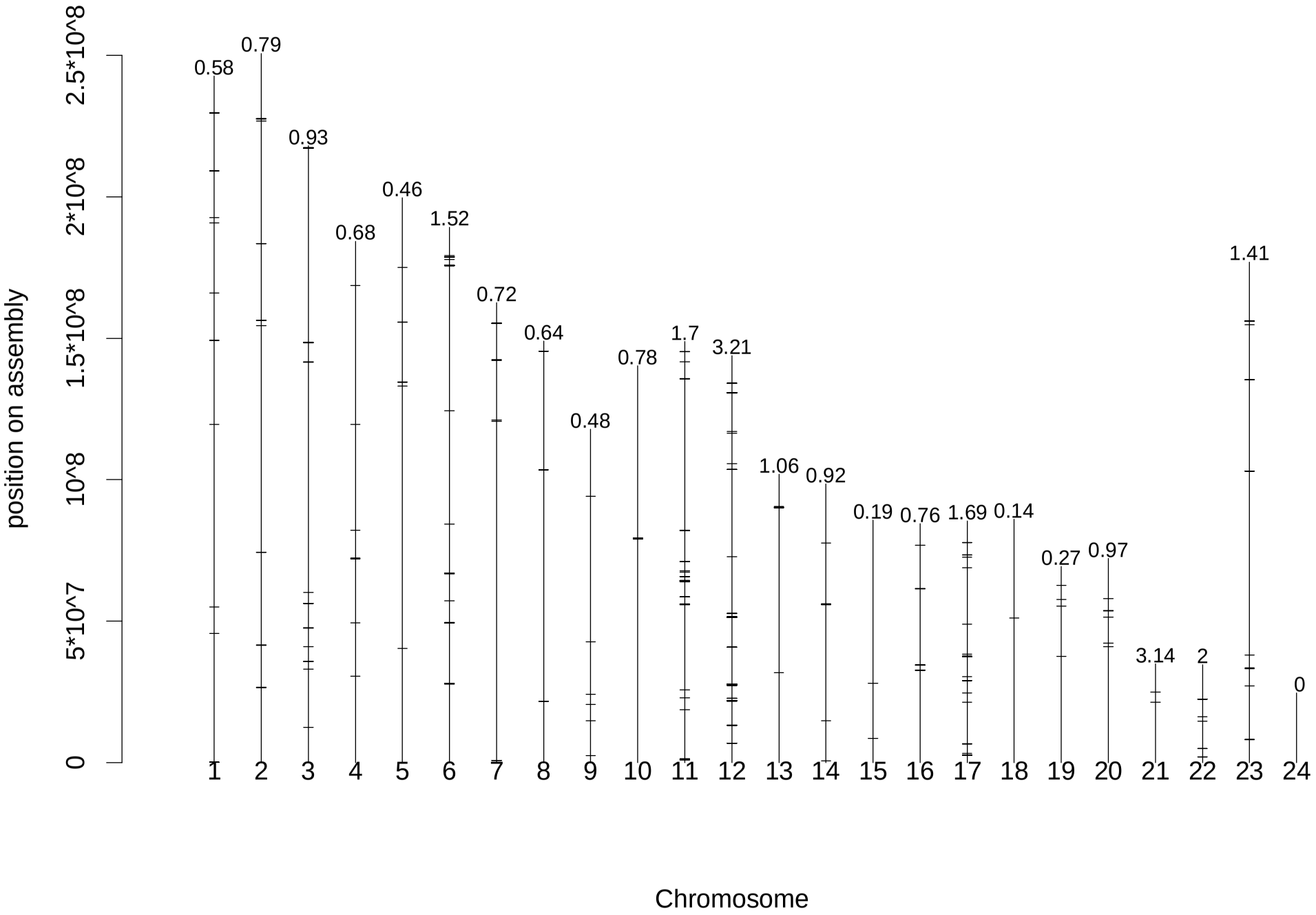
Cytoskeleton structrual protein



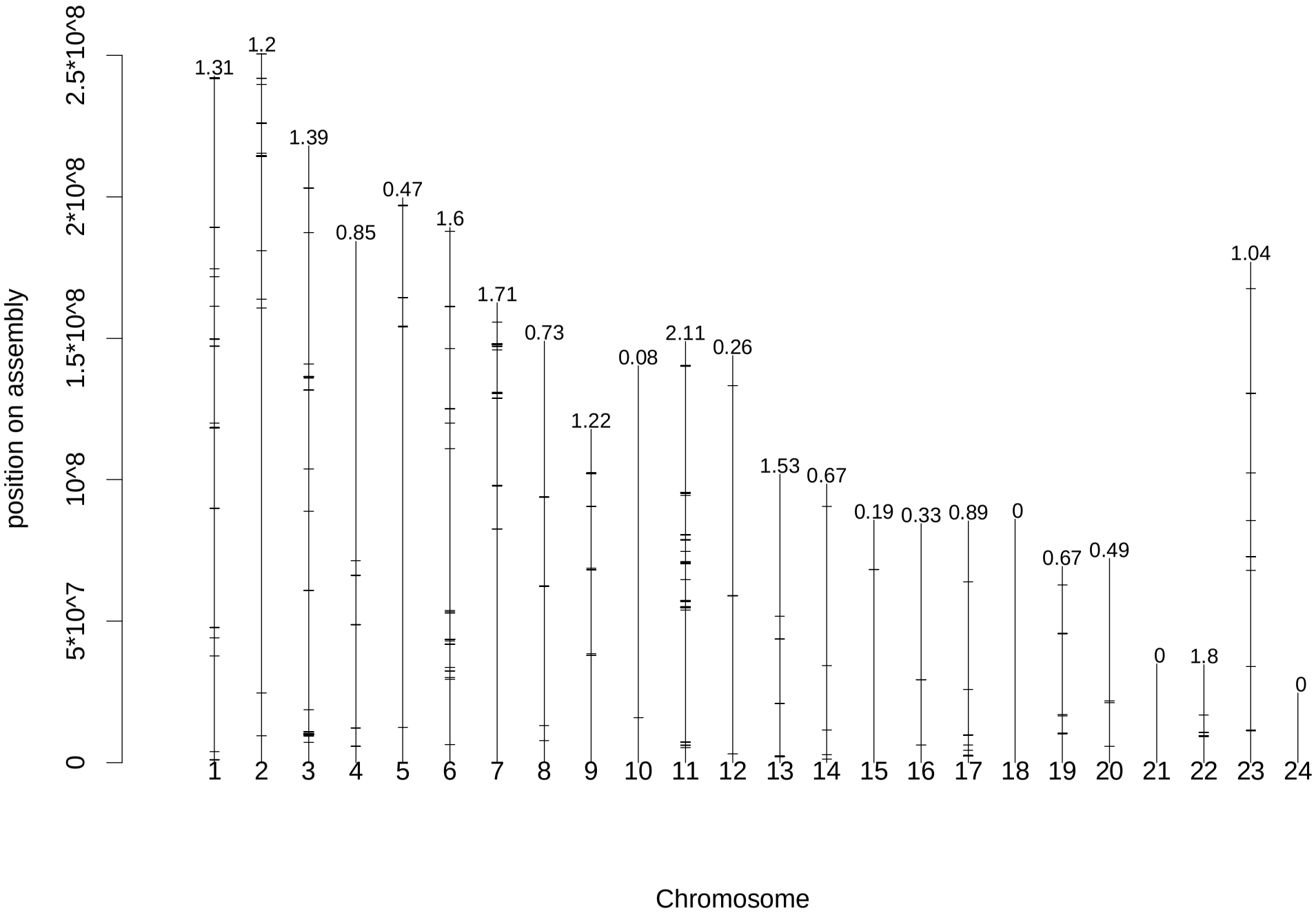
Defense/immunity protein



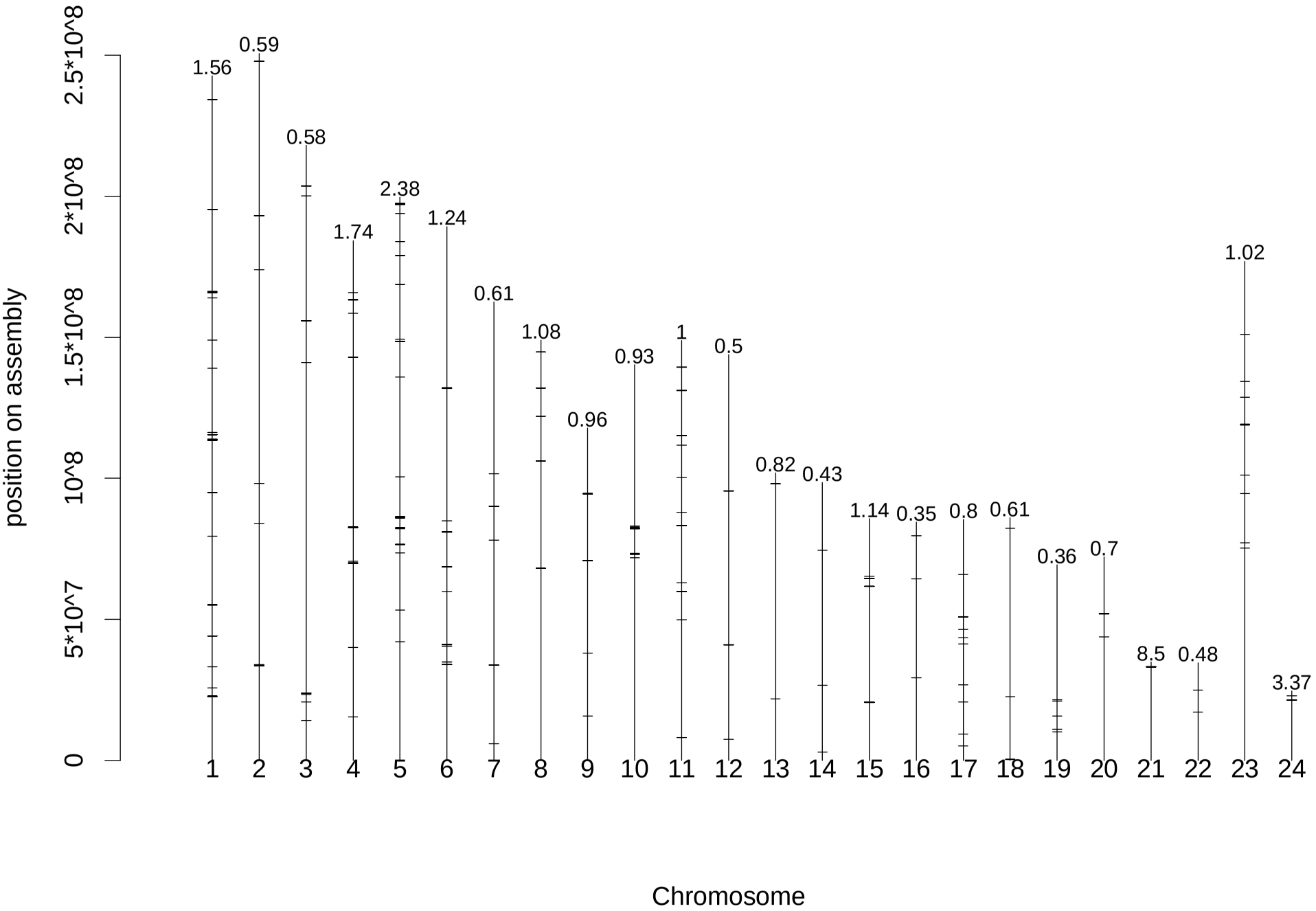
Ion transport

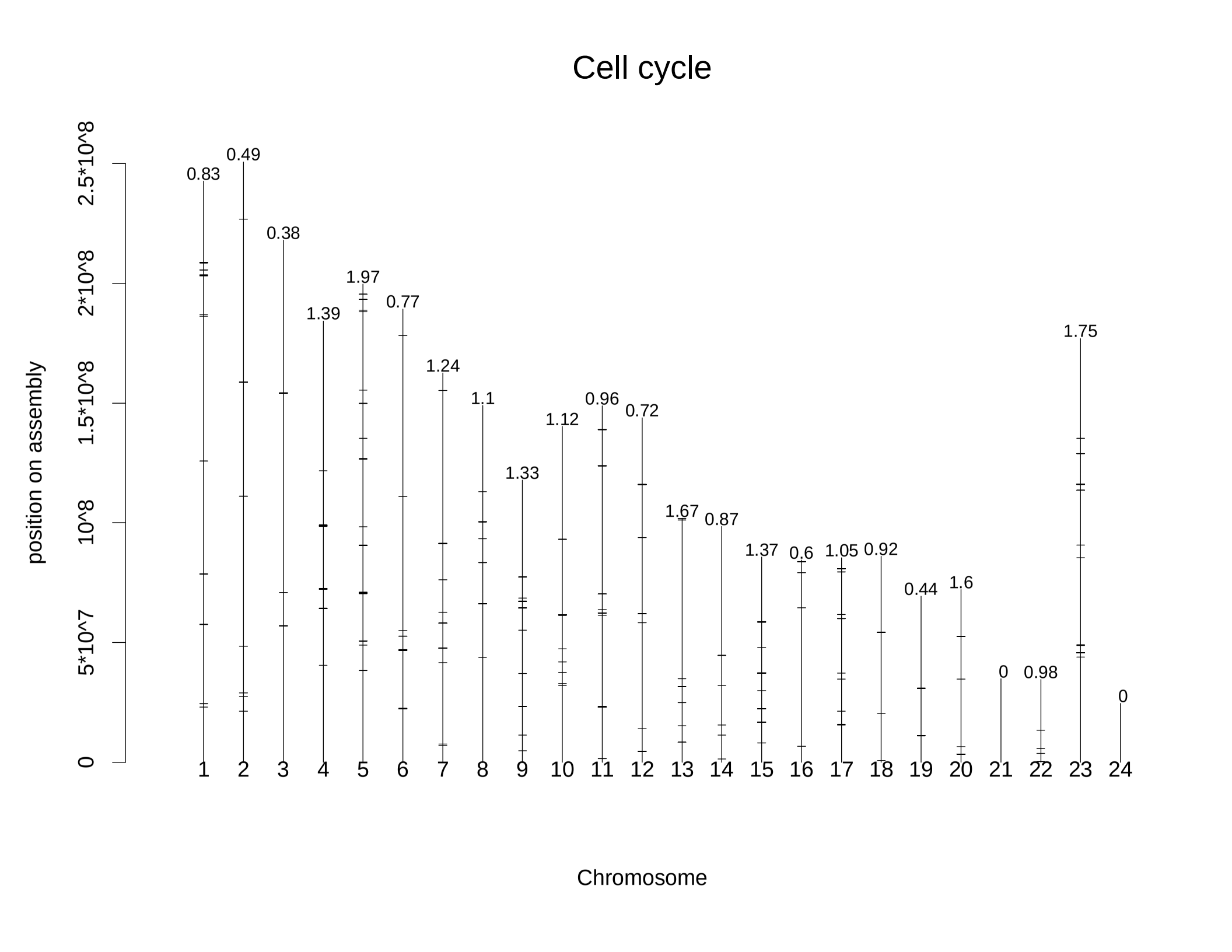


Sensory perception



Extracellular matrix




Cell cycle
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0.83
0.49
0.38
1.39
1.97
0.77
1.24
1.1
1.33
1.12
0.96
0.72
1.67
0.87
1.37
0.6
1.05
0.92
0.44
1.6
0
0.98
1.75
0
1
2
3
4
5
6
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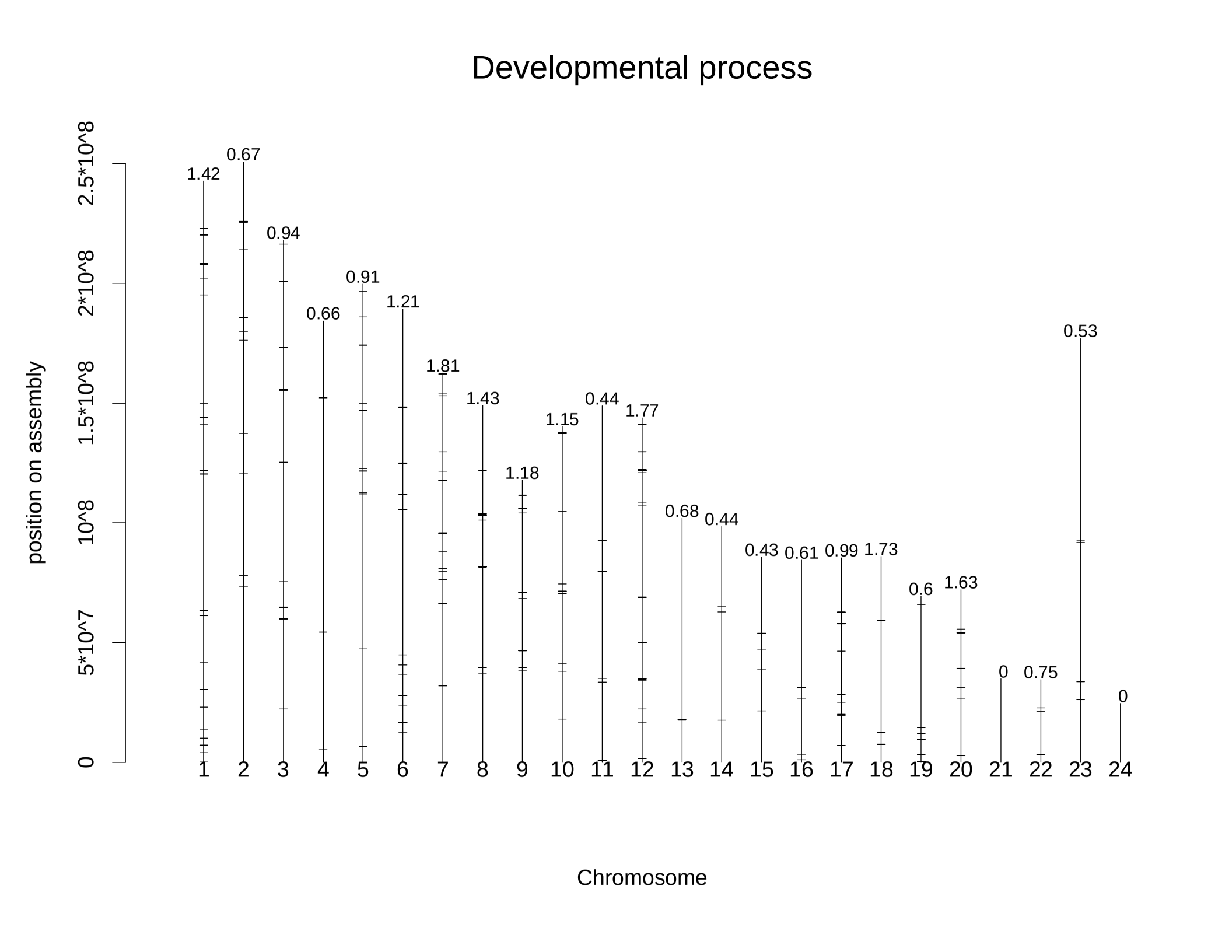
18
19
20
21
22
23
24
Chromosome


Developmental process
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
1.42
0.67
0.94
0.66
0.91
1.21
1.81
1.43
1.18
1.15
0.44
1.77
0.68
0.44
0.43
0.61
0.99
1.73
0.6
1.63
0
0.75
0.53
0
1
2
3
4
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21
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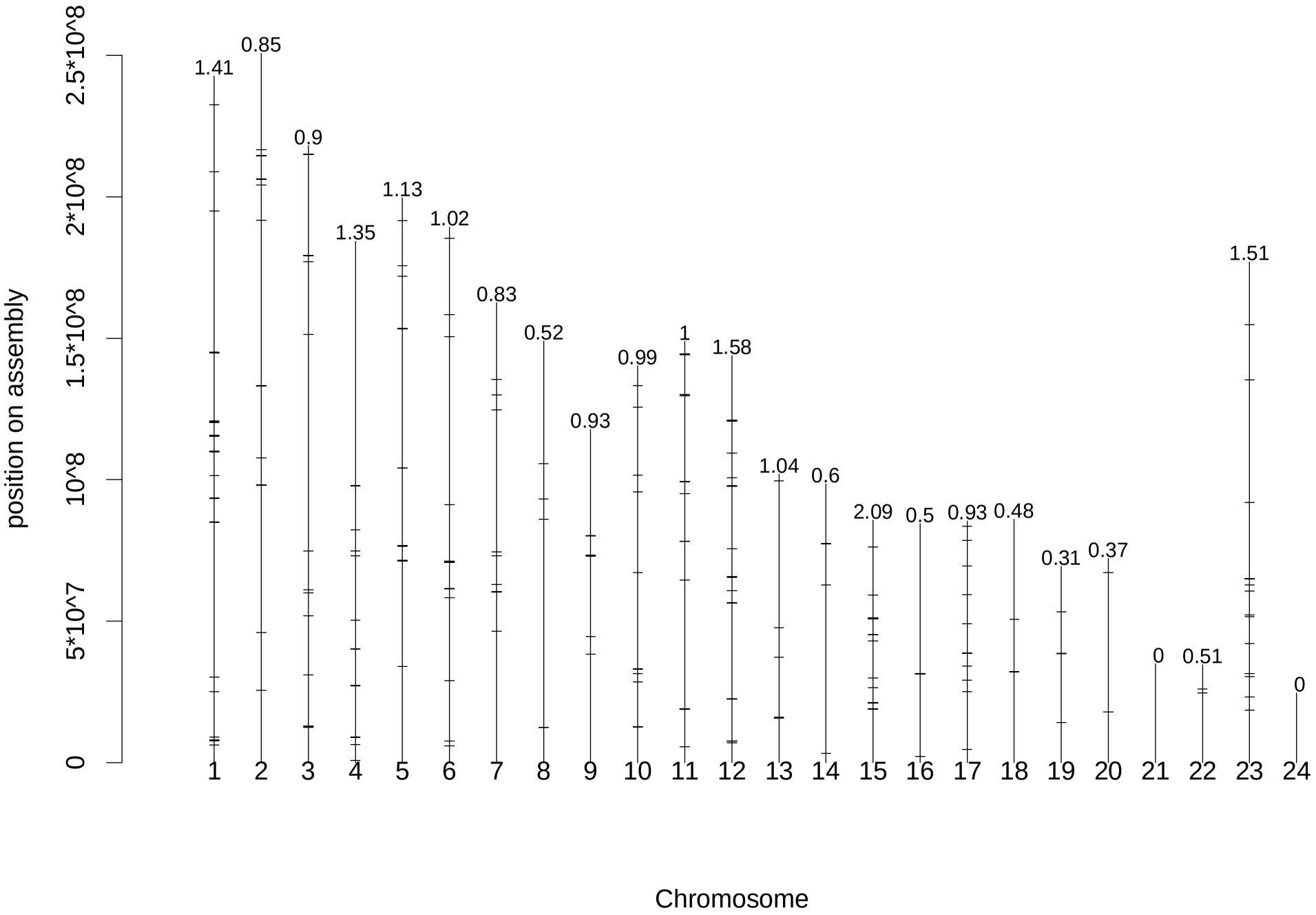
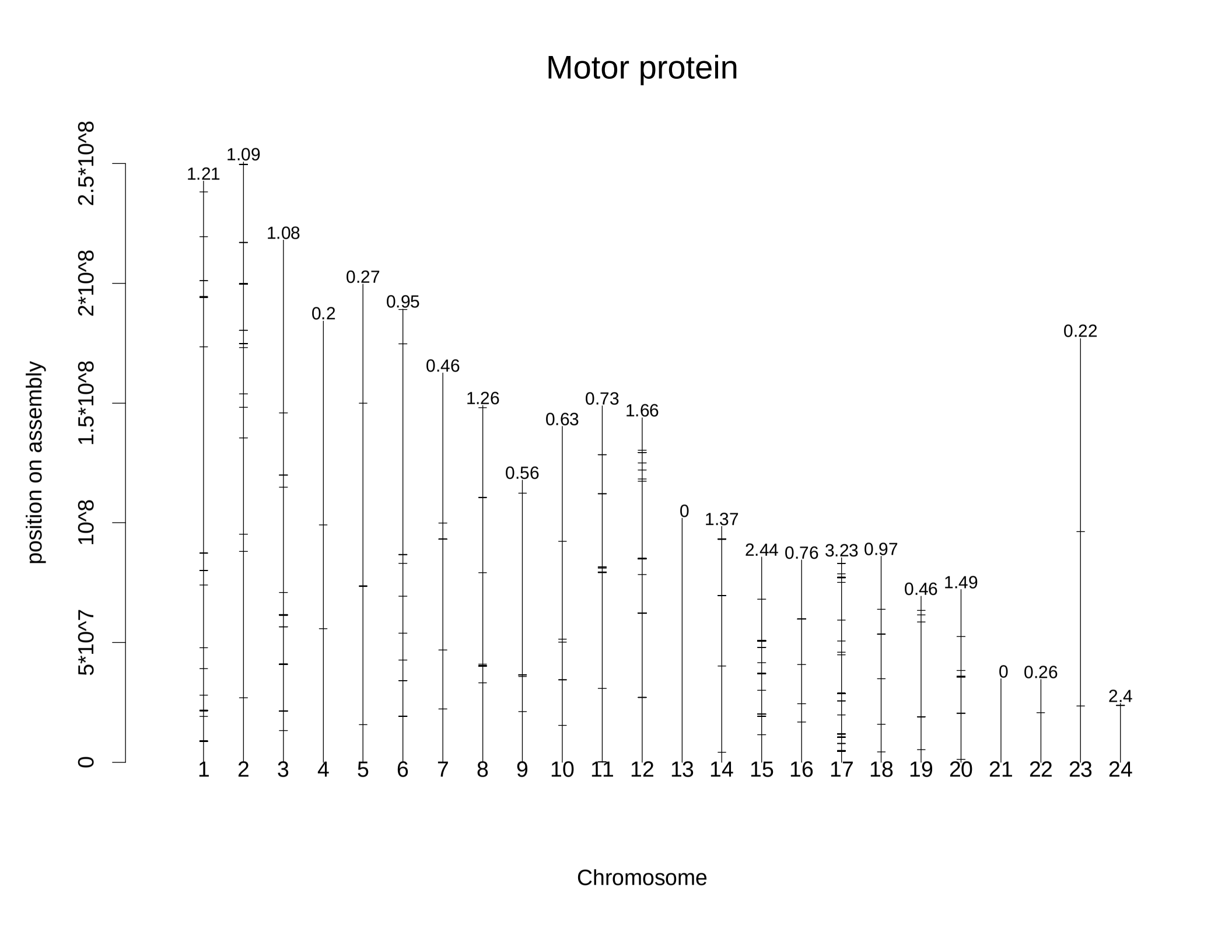
23
24
Chromosome

Carbohydrate metabolism




Motor protein
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
1.21
1.09
1.08
0.2
0.27
0.95
0.46
1.26
0.56
0.63
0.73
1.66
0
1.37
2.44
0.76
3.23
0.97
0.46
1.49
0
0.26
0.22
2.4
1
2
3
4
5
6
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12
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16
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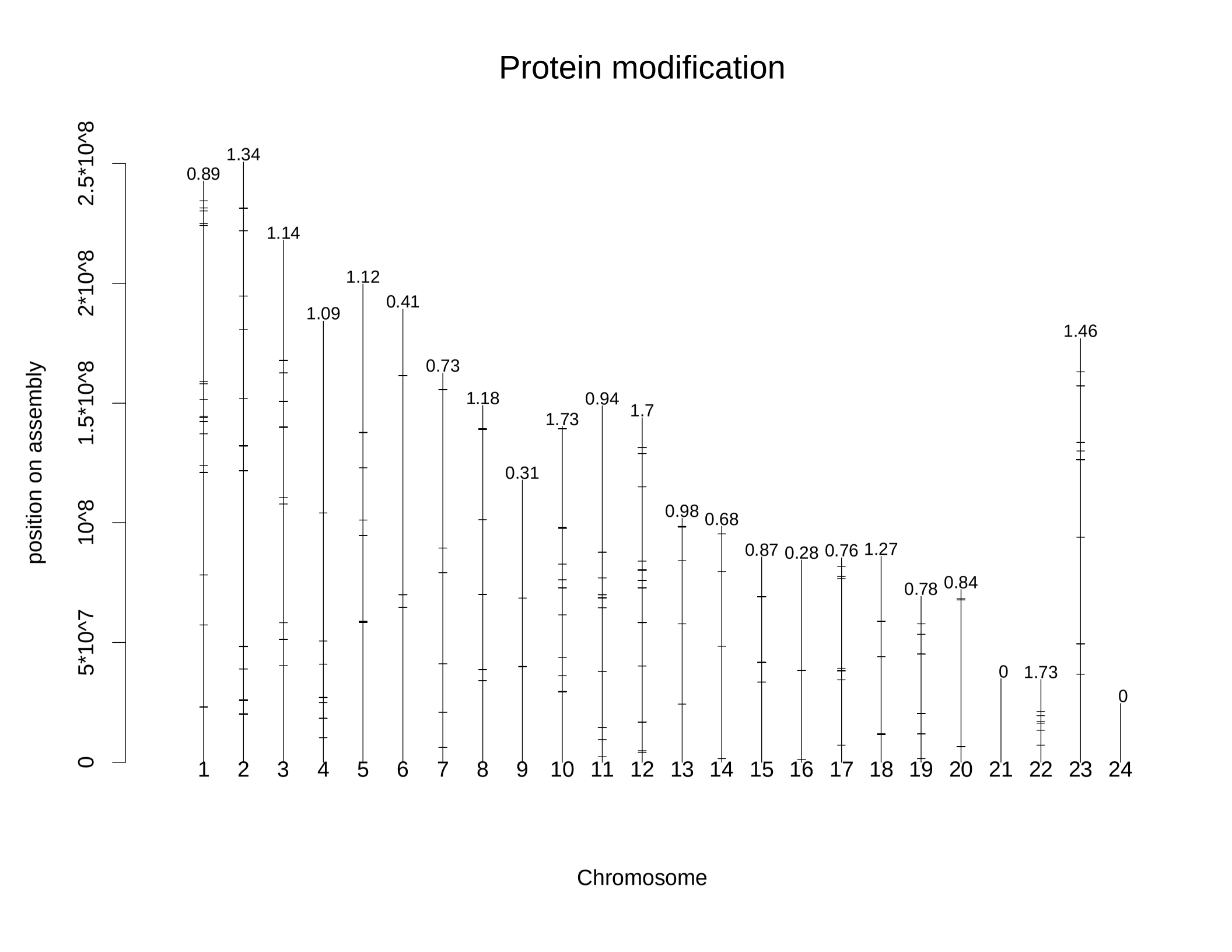
18
19
20
21
22
23
24
Chromosome


Protein modification
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0.89
1.34
1.14
1.09
1.12
0.41
0.73
1.18
0.31
1.73
0.94
1.7
0.98
0.68
0.87
0.28
0.76
1.27
0.78
0.84
0
1.73
1.46
0
1
2
3
4
5
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21
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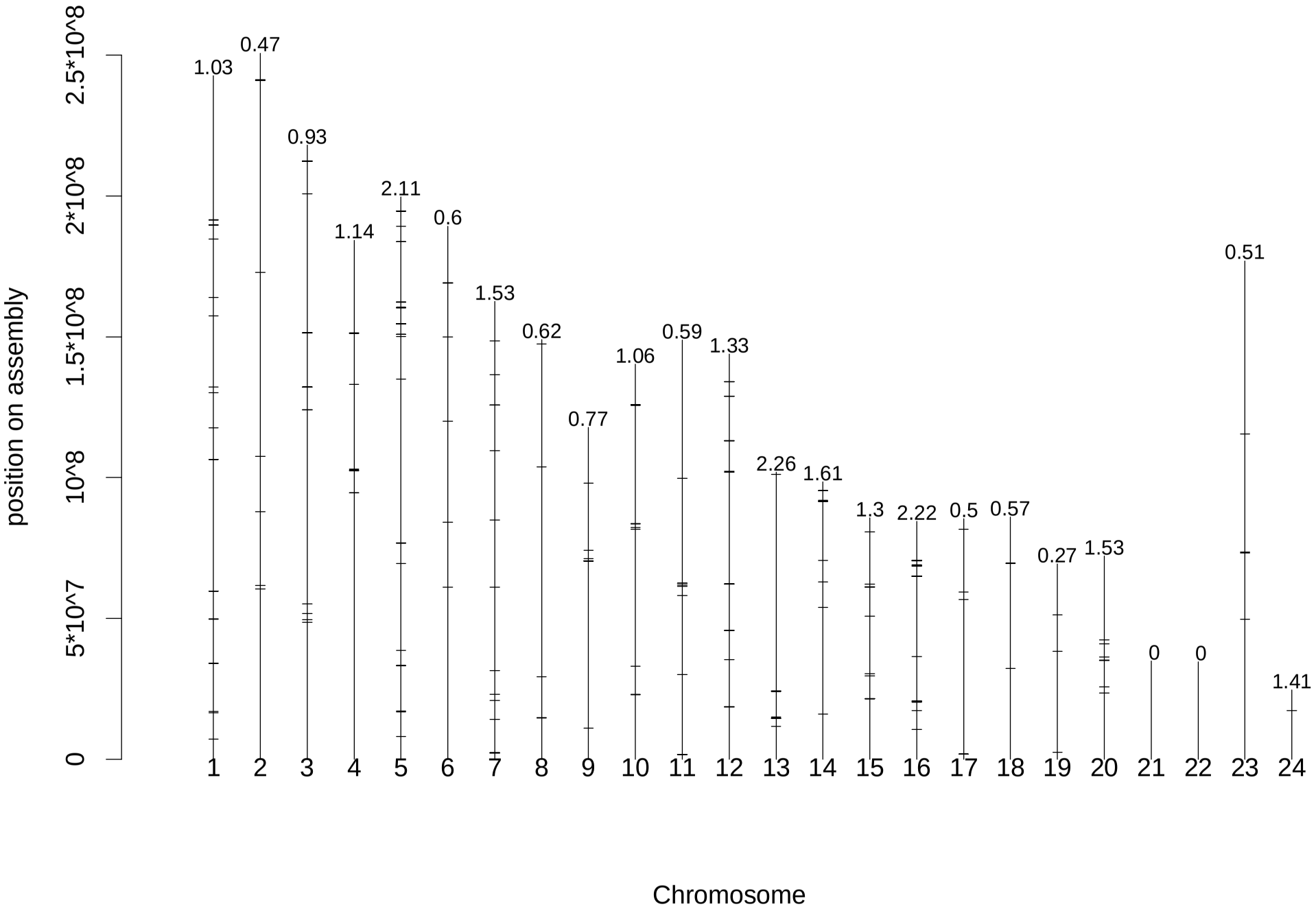
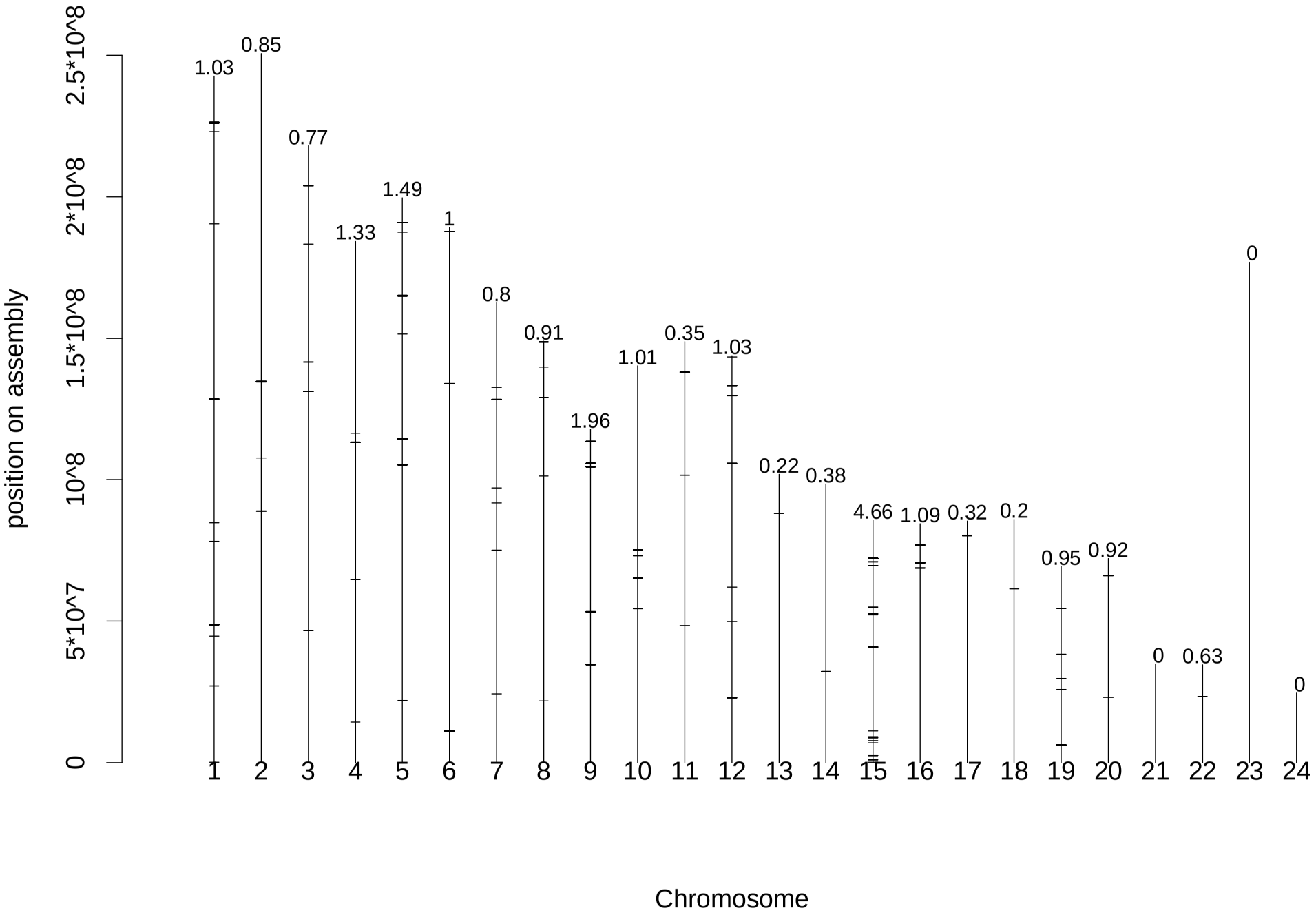
23
24
Chromosome

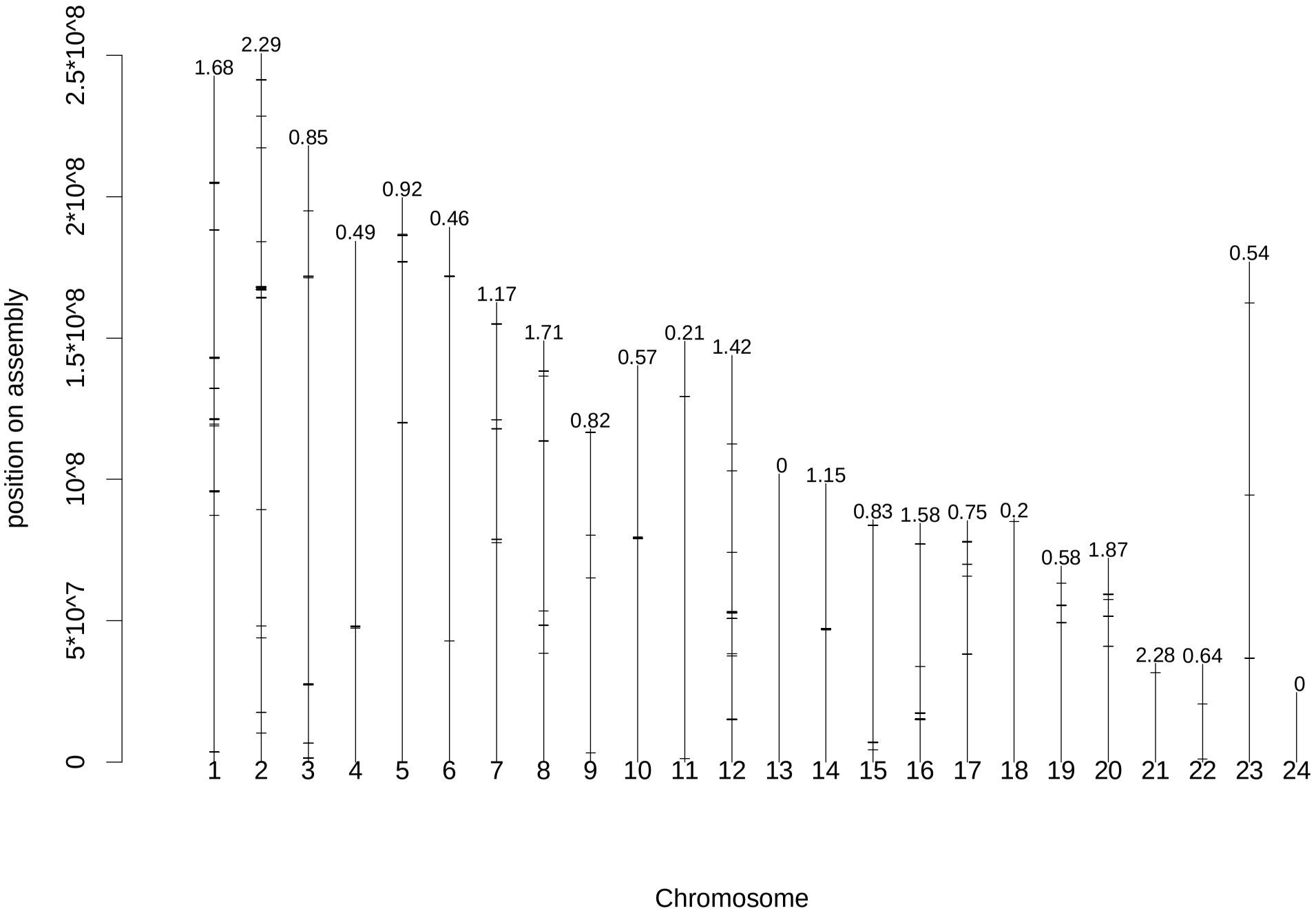
Protein biosynthesis

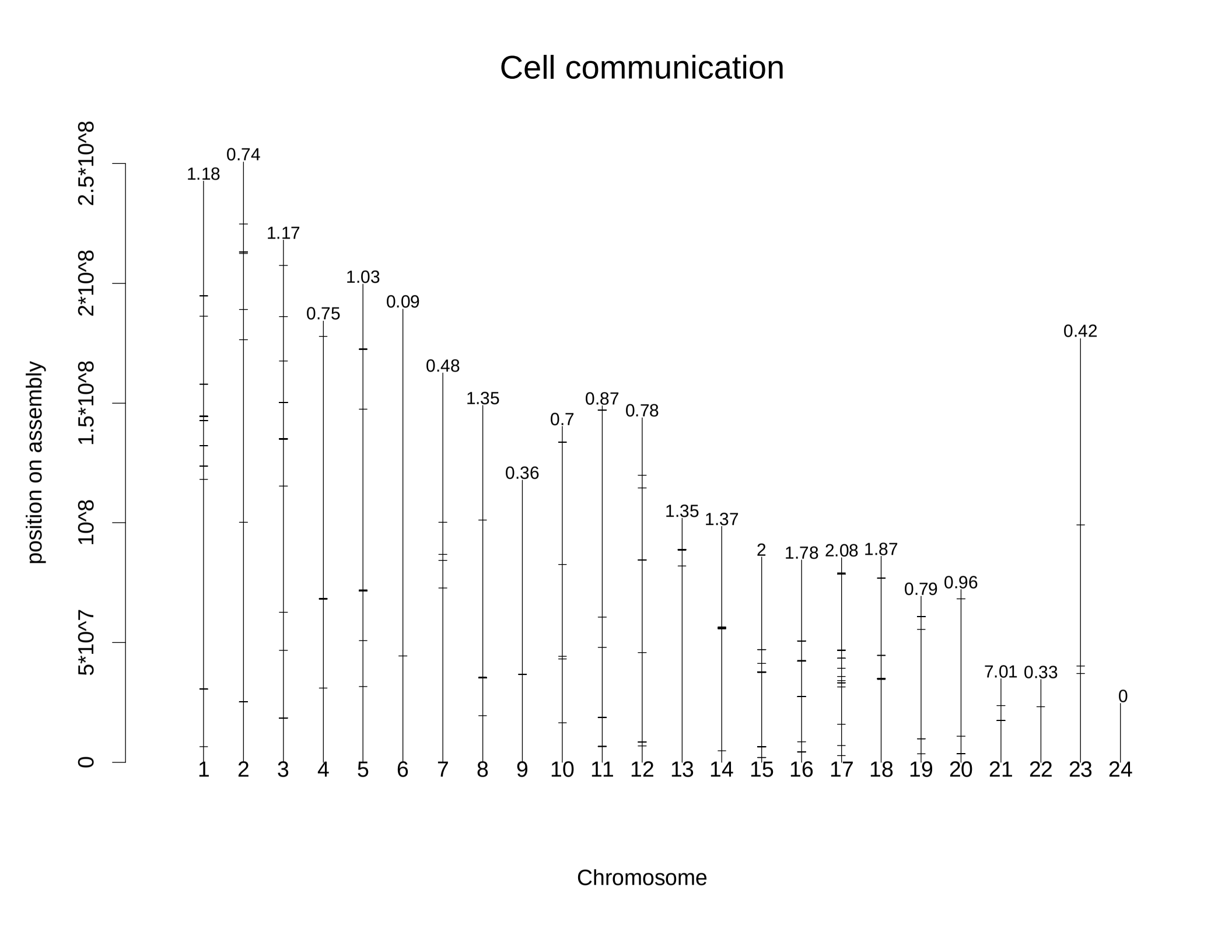


Organelle organization and biogenesis

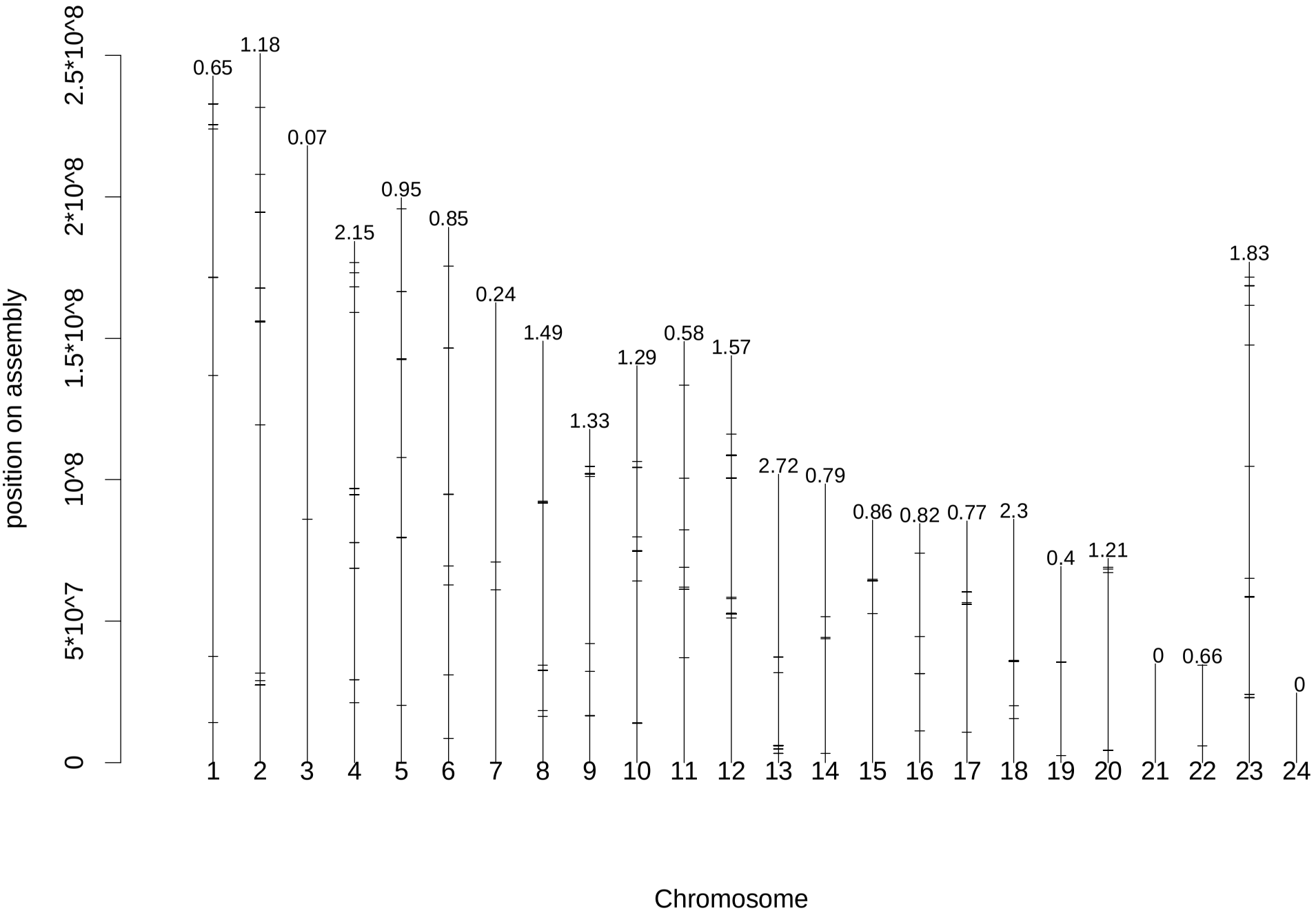


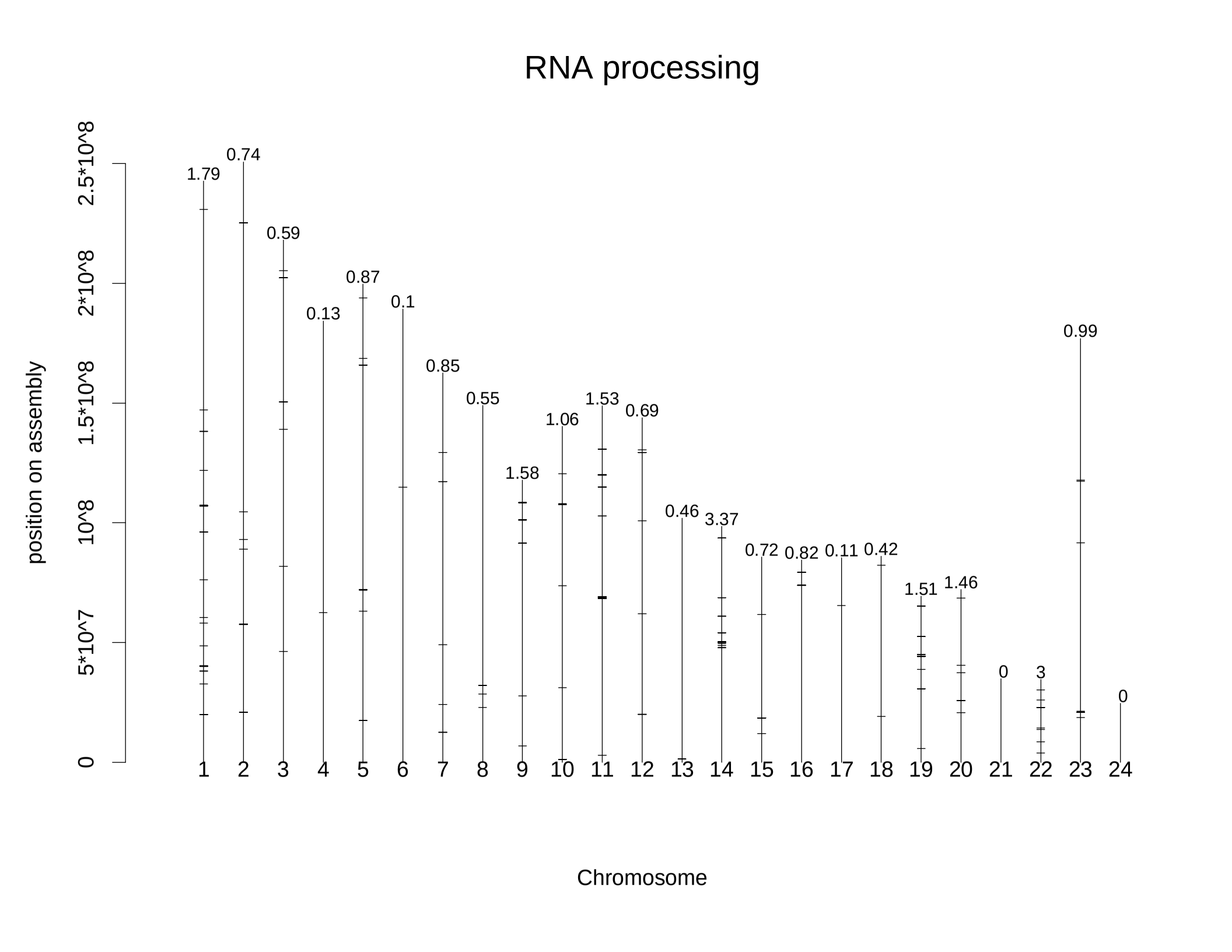
Ion channel


position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
1.68
2.29
0.85
0.49
0.92
0.46
1.17
1.71
0.82
0.57
0.21
1.42
0
1.15
0.83
1.58
0.75
0.2
0.58
1.87
2.28
0.64
0.54
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Chromosome


Cell communication
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
1.18
0.74
1.17
0.75
1.03
0.09
0.48
1.35
0.36
0.7
0.87
0.78
1.35
1.37
2
1.78
2.08
1.87
0.79
0.96
7.01
0.33
0.42
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Chromosome

Ion homeostasis




RNA processing
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
1.79
0.74
0.59
0.13
0.87
0.1
0.85
0.55
1.58
1.06
1.53
0.69
0.46
3.37
0.72
0.82
0.11
0.42
1.51
1.46
0
3
0.99
0
1
2
3
4
5
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14
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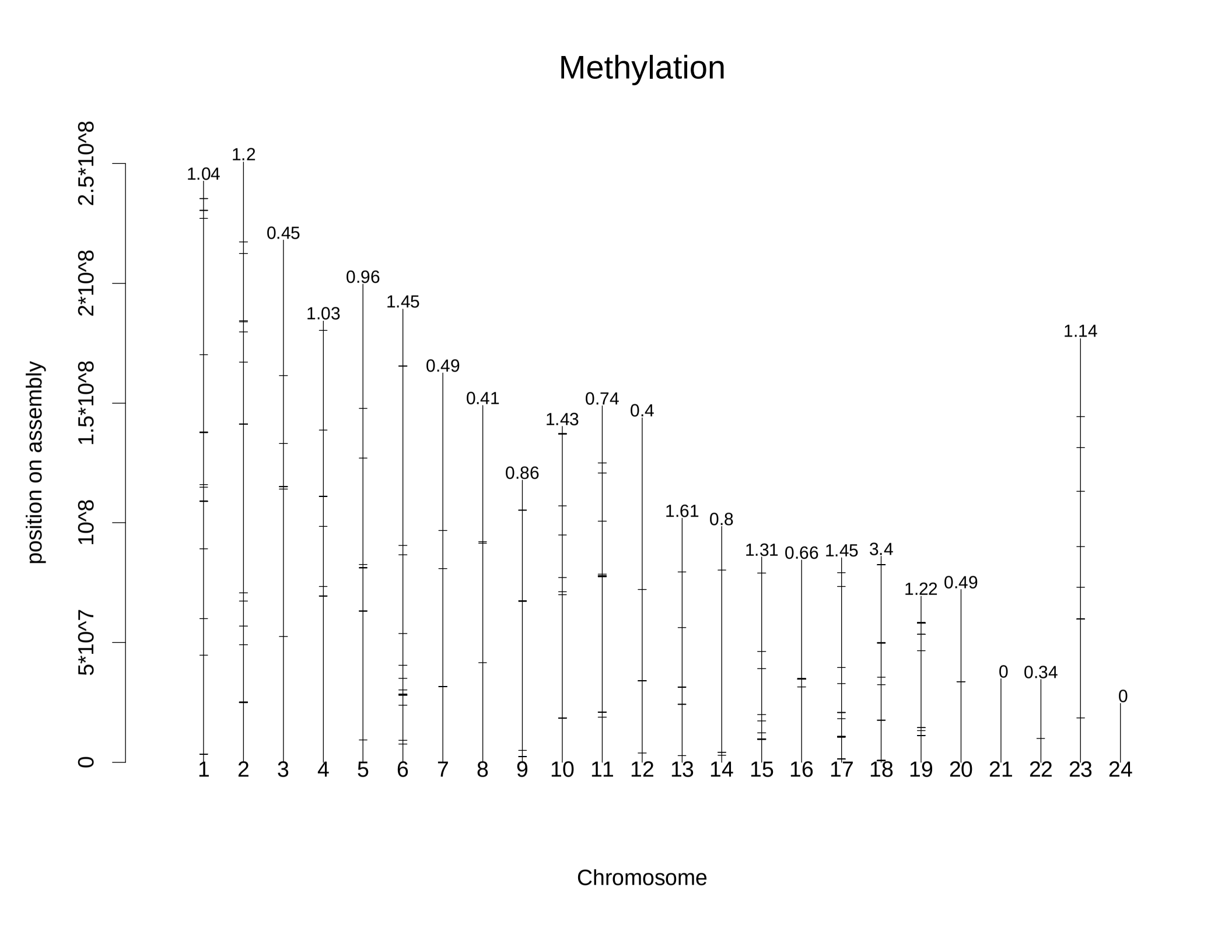
18
19
20
21
22
23
24
Chromosome


Methylation
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
1.04
1.2
0.45
1.03
0.96
1.45
0.49
0.41
0.86
1.43
0.74
0.4
1.61
0.8
1.31
0.66
1.45
3.4
1.22
0.49
0
0.34
1.14
0
1
2
3
4
5
6
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8
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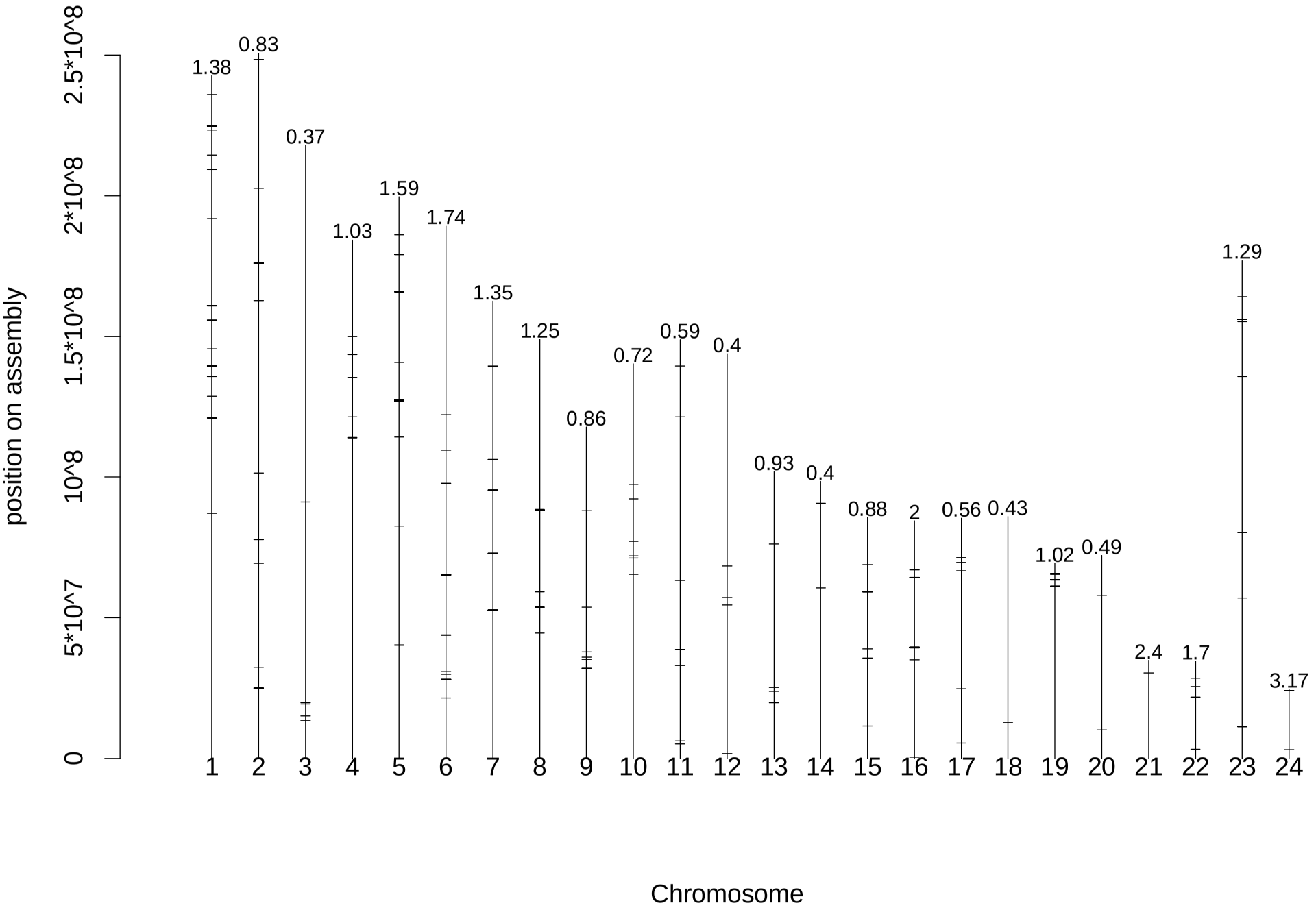
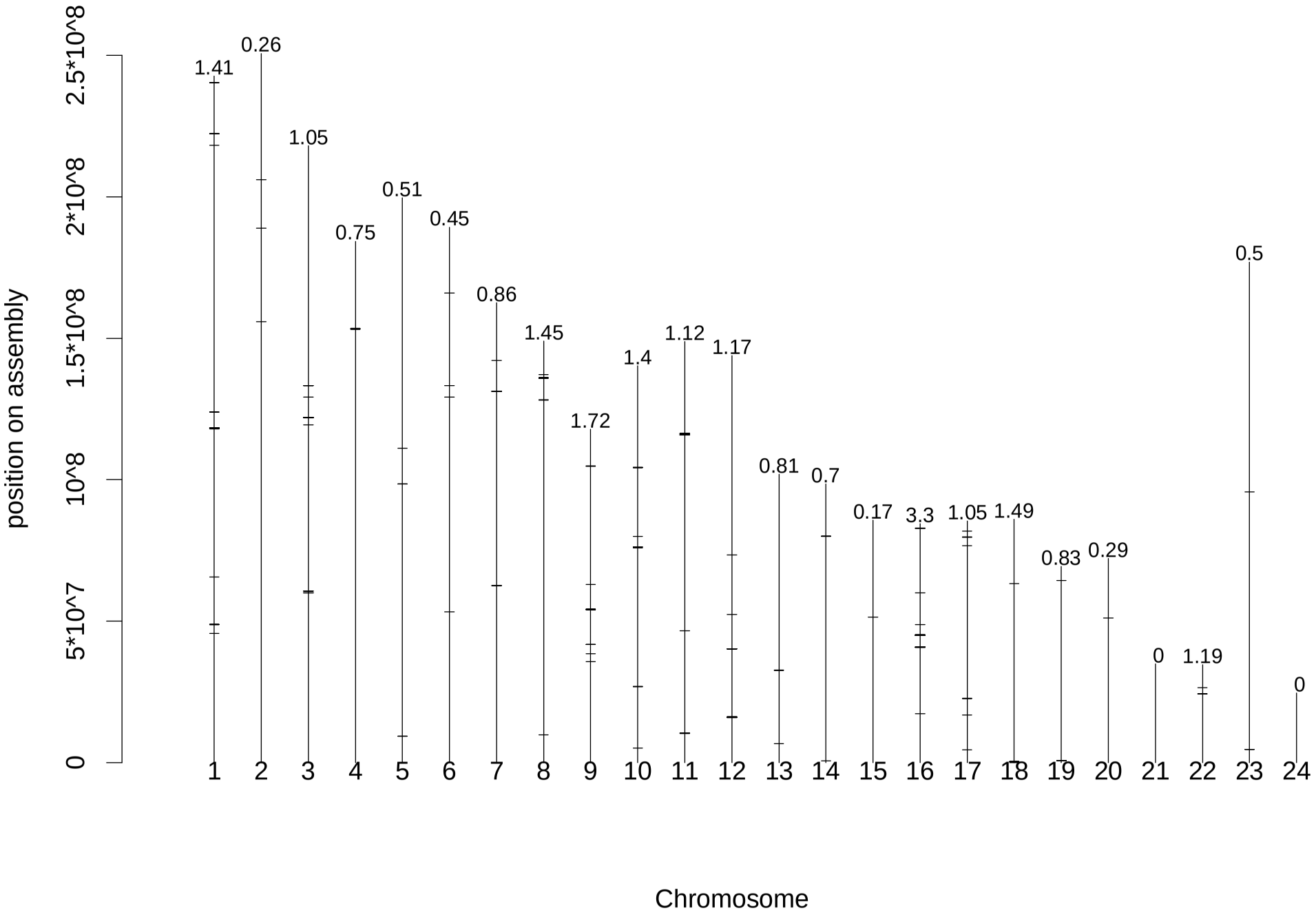
21
22
23
24
Chromosome

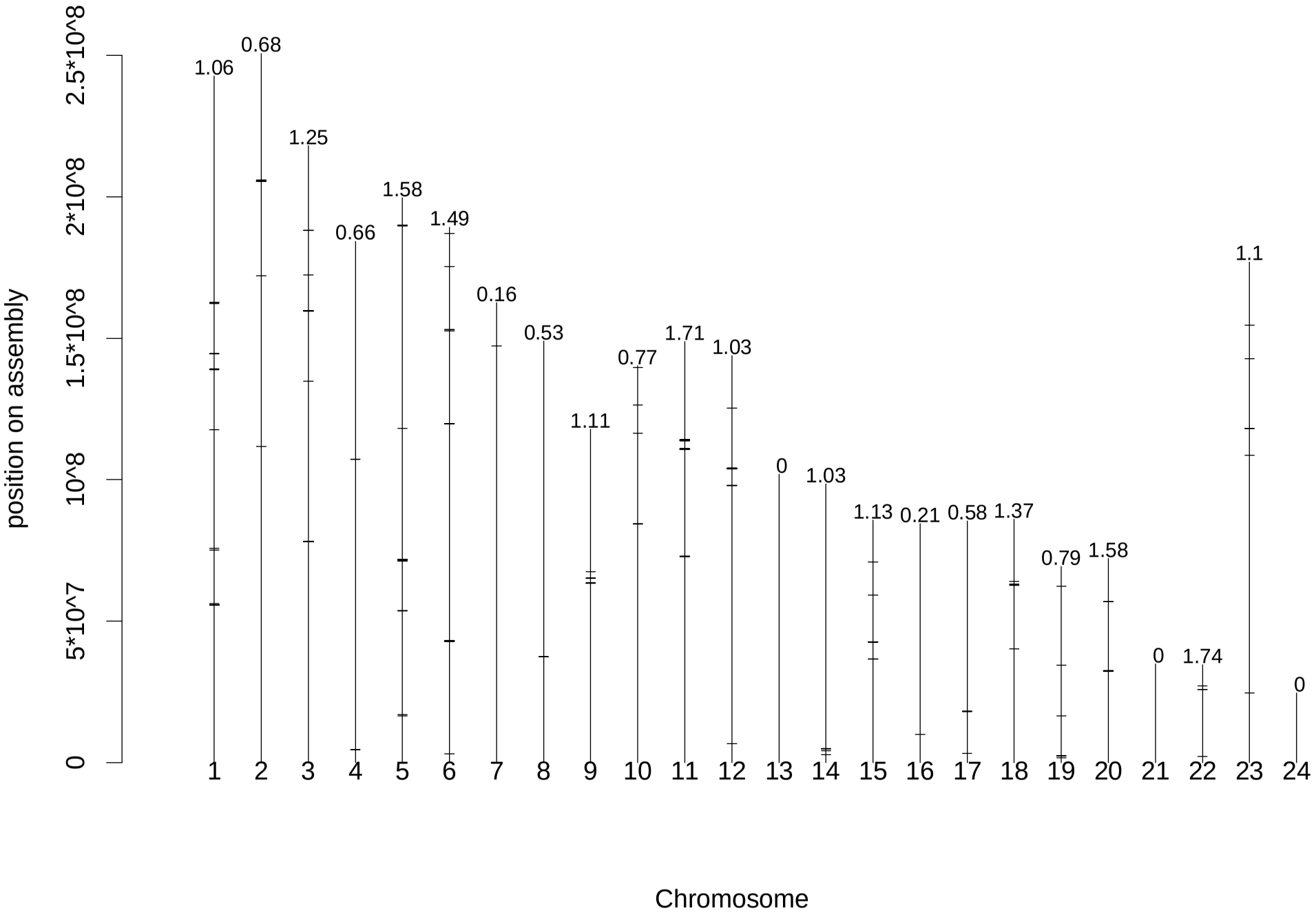
Carbonyl transfer



Nucleotide and nucleic acid metabolism



Apoptosis


position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
1.06
0.68
1.25
0.66
1.58
1.49
0.16
0.53
1.11
0.77
1.71
1.03
0
1.03
1.13
0.21
0.58
1.37
0.79
1.58
0
1.74
1.1
0
1
2
3
4
5
6
7
8
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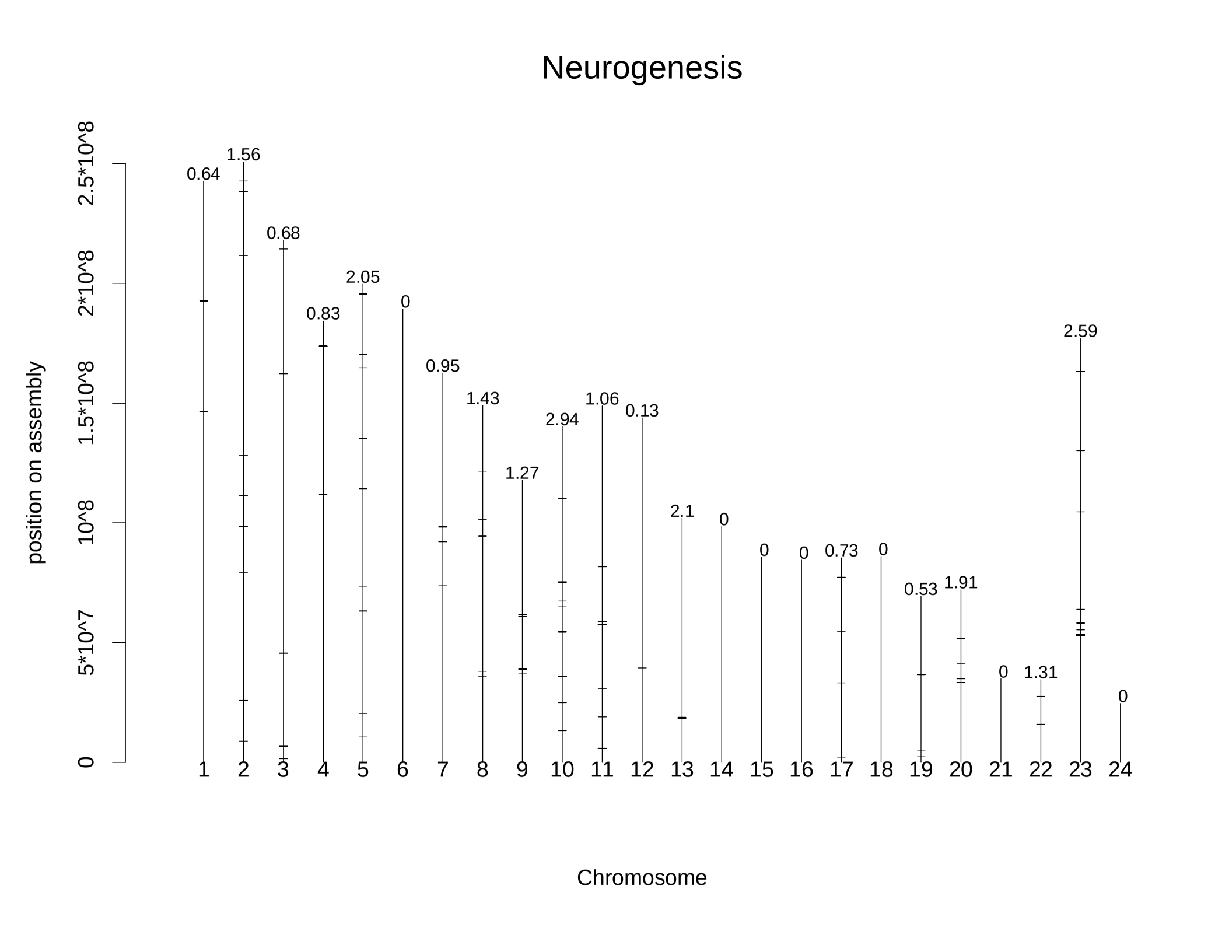
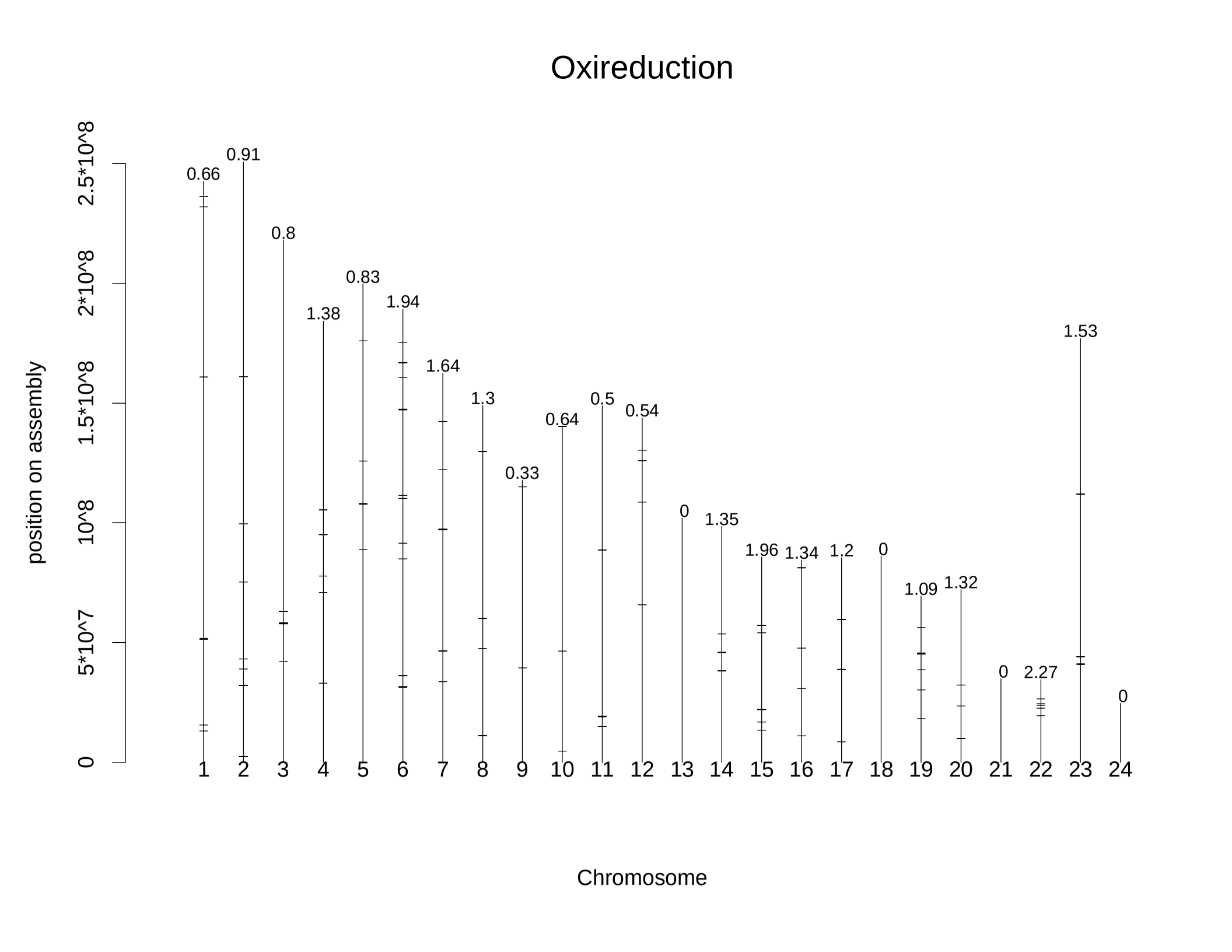
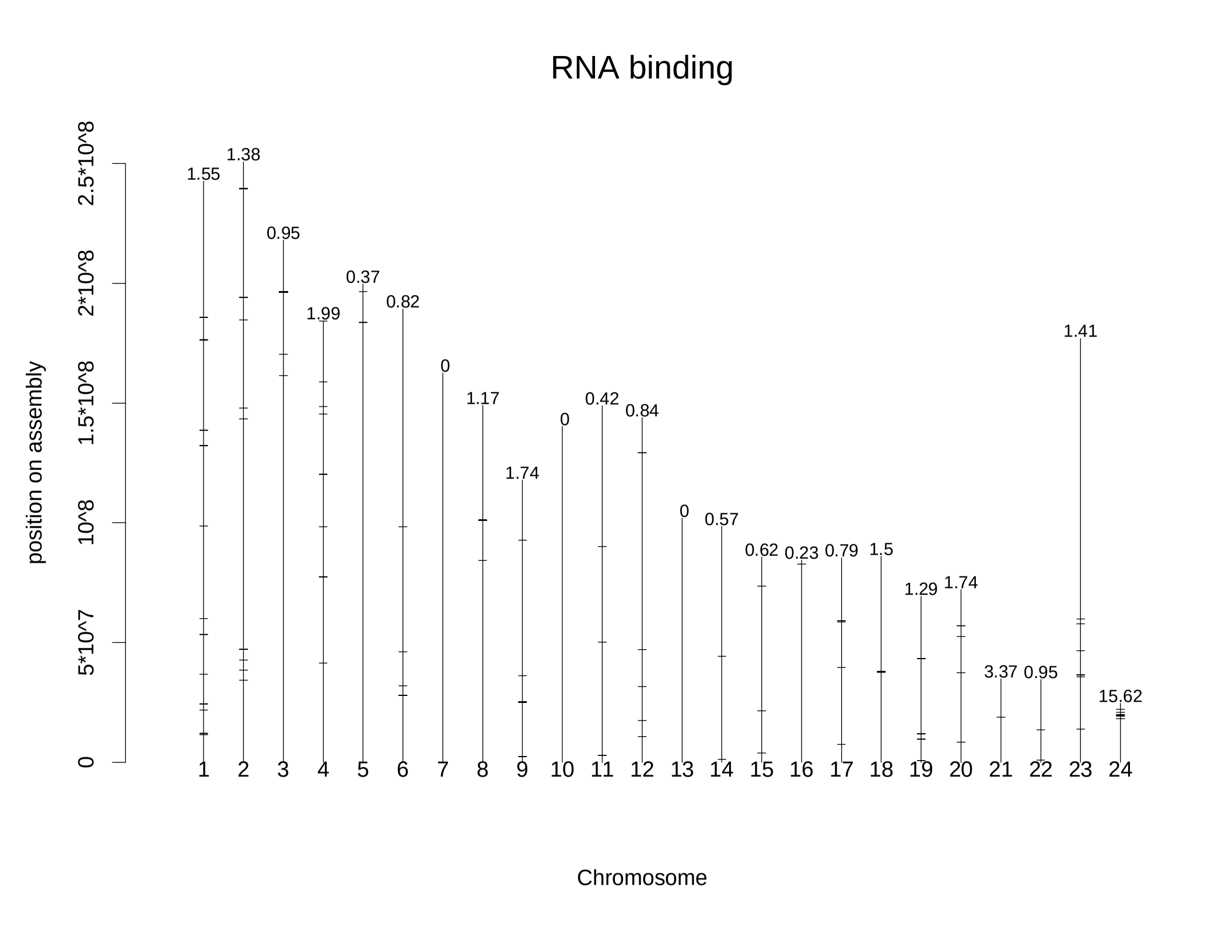
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Chromosome


Neurogenesis
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0.64
1.56
0.68
0.83
2.05
0
0.95
1.43
1.27
2.94
1.06
0.13
2.1
0
0
0
0.73
0
0.53
1.91
0
1.31
2.59
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Chromosome


Oxireduction
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0.66
0.91
0.8
1.38
0.83
1.94
1.64
1.3
0.33
0.64
0.5
0.54
0
1.35
1.96
1.34
1.2
0
1.09
1.32
0
2.27
1.53
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Chromosome


RNA binding
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
1.55
1.38
0.95
1.99
0.37
0.82
0
1.17
1.74
0
0.42
0.84
0
0.57
0.62
0.23
0.79
1.5
1.29
1.74
3.37
0.95
1.41
15.62
1
2
3
4
5
6
7
8
9
10
11
12
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14
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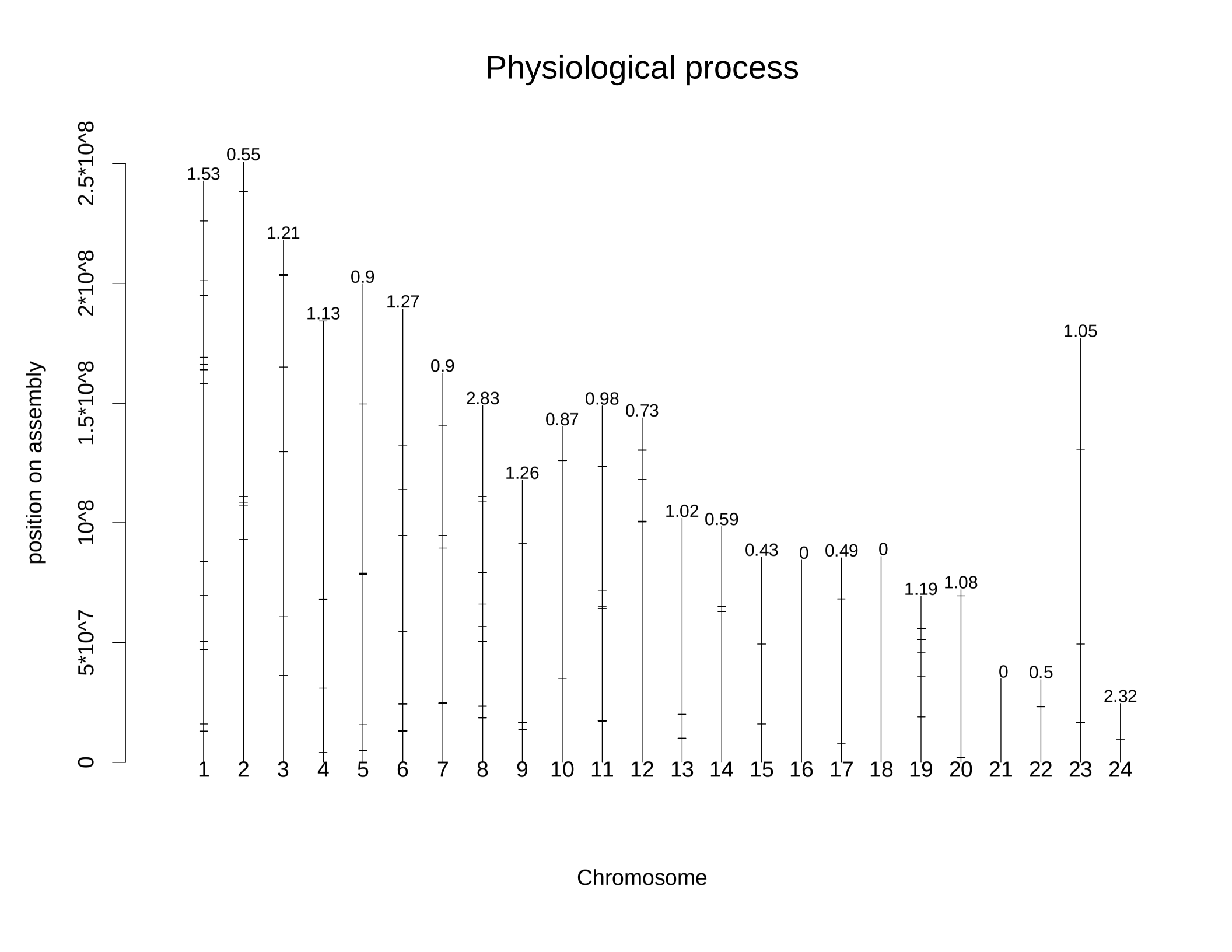
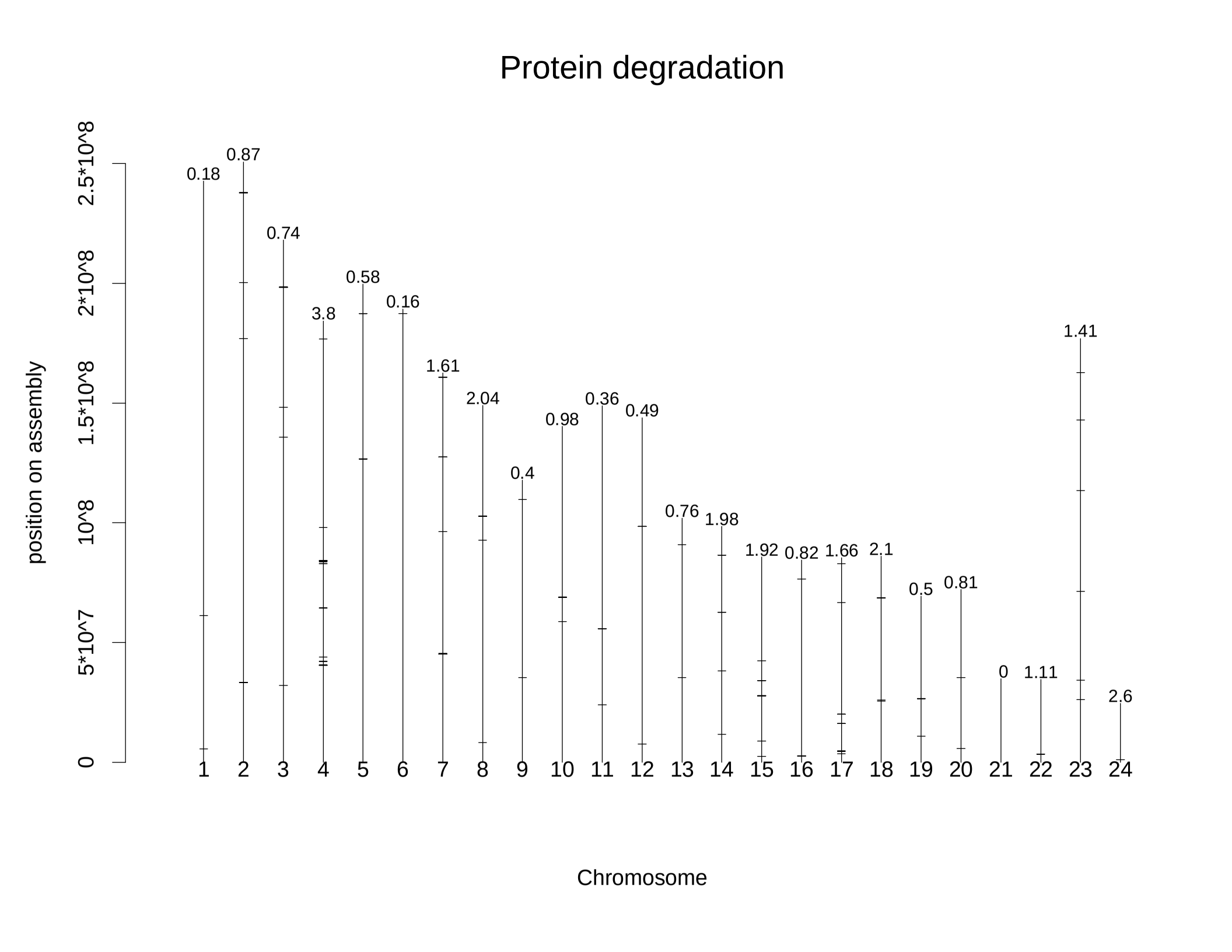
16
17
18
19
20
21
22
23
24
Chromosome


Physiological process
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
1.53
0.55
1.21
1.13
0.9
1.27
0.9
2.83
1.26
0.87
0.98
0.73
1.02
0.59
0.43
0
0.49
0
1.19
1.08
0
0.5
1.05
2.32
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Chromosome


Protein degradation
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0.18
0.87
0.74
0.58
0.16
3.8
1.61
2.04
0.4
0.98
0.36
0.49
0.76
1.98
1.92
0.82
1.66
2.1
0.5
0.81
0
1.11
1.41
2.6
1
2
3
4
5
6
7
8
9
10
11
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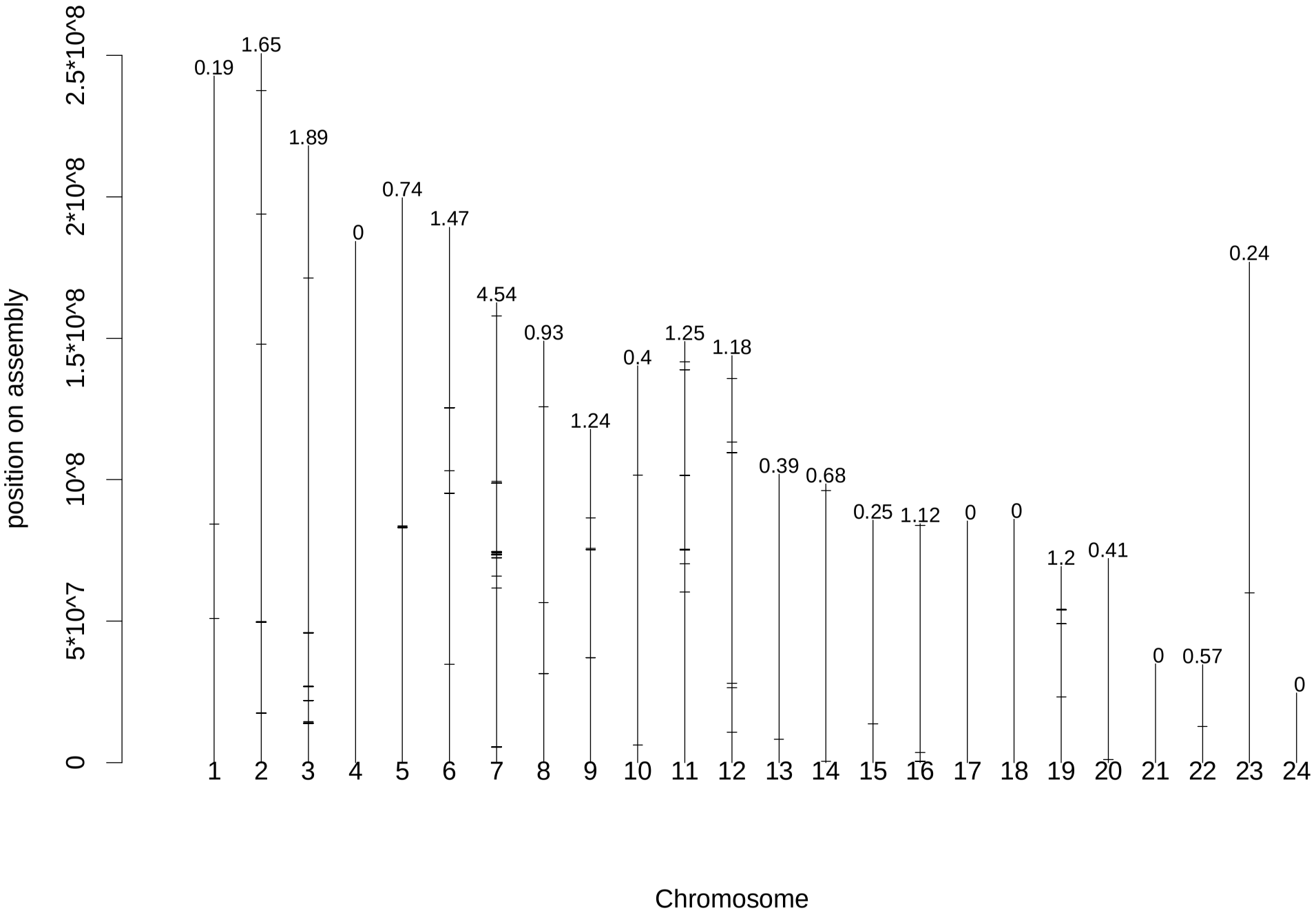
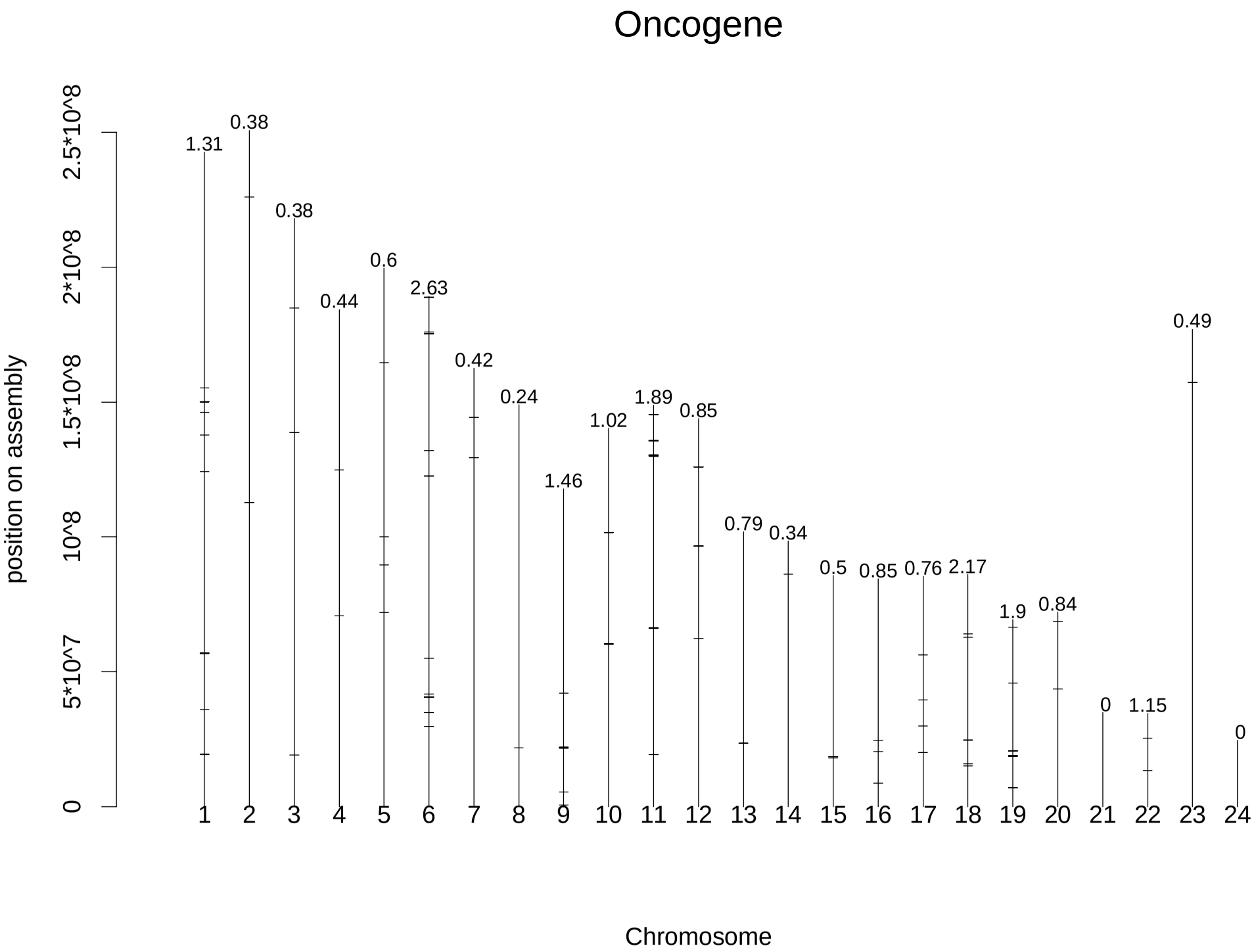
16
17
18
19
20
21
22
23
24
Chromosome

DNA repair


position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0.19
1.65
1.89
0
0.74
1.47
4.54
0.93
1.24
0.4
1.25
1.18
0.39
0.68
0.25
1.12
0
0
1.2
0.41
0
0.57
0.24
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Chromosome


Oncogene
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
1.31
0.38
0.38
0.44
0.6
2.63
0.42
0.24
1.46
1.02
1.89
0.85
0.79
0.34
0.5
0.85
0.76
2.17
1.9
0.84
0
1.15
0.49
0
1
2
3
4
5
6
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8
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11
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16
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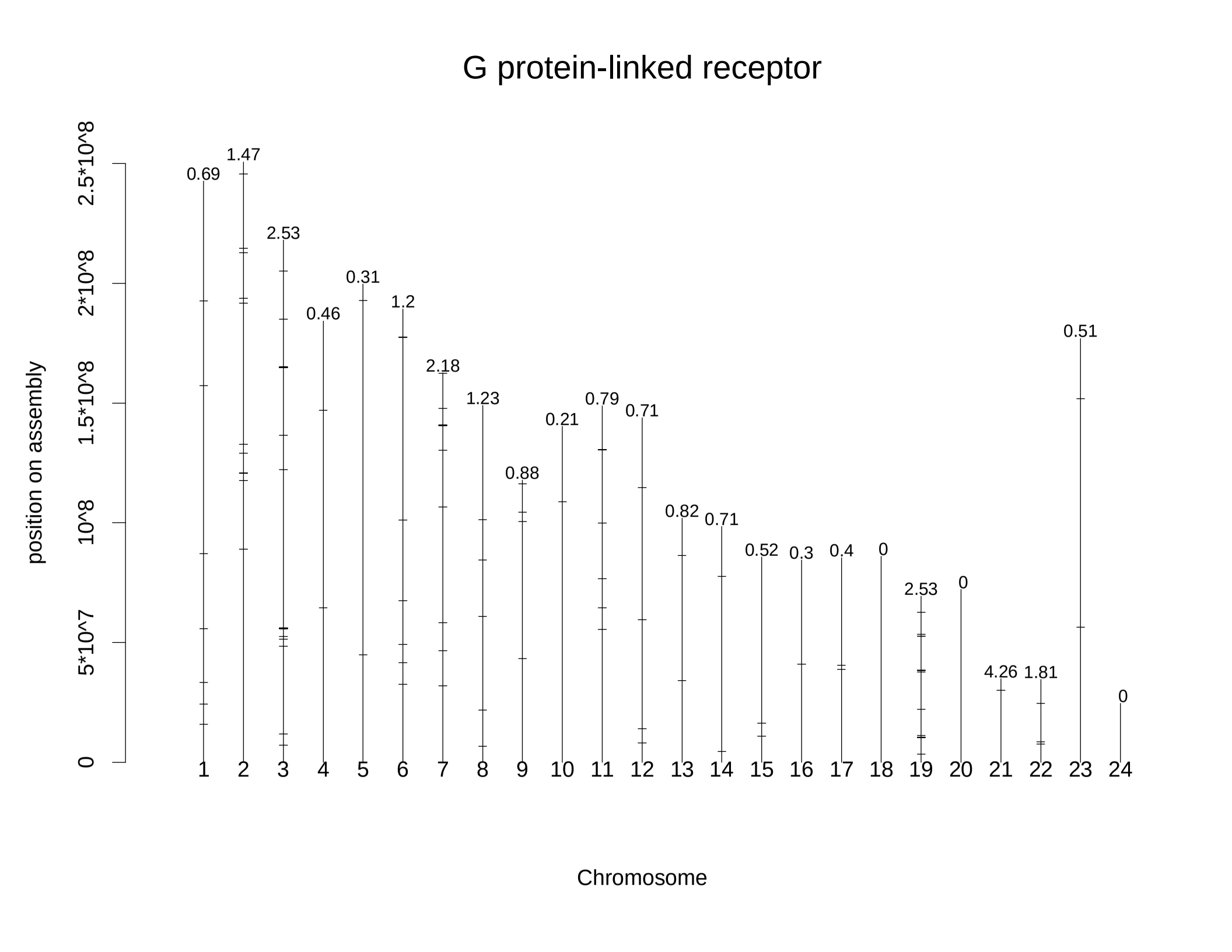
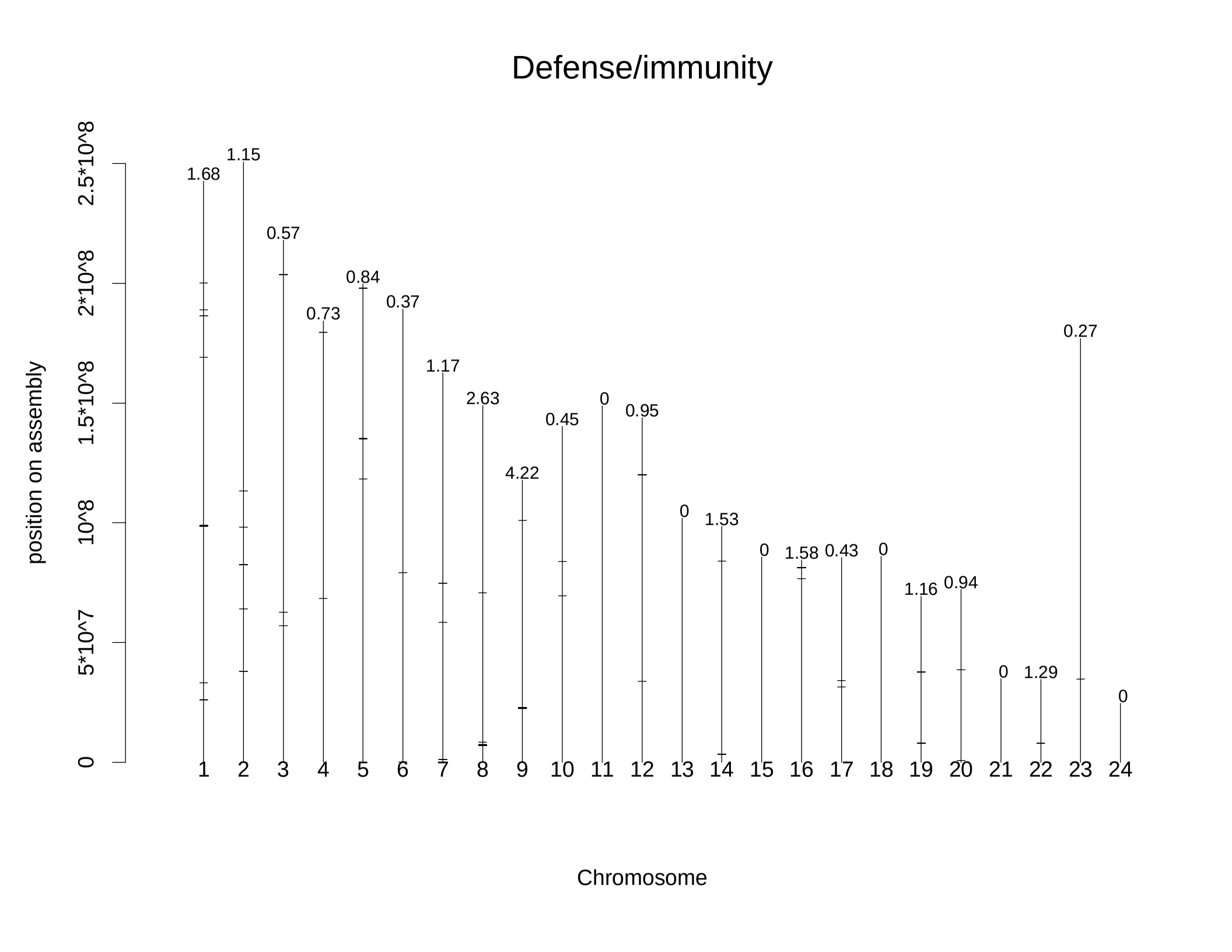
19
20
21
22
23
24
Chromosome


G protein-linked receptor
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0.69
1.47
2.53
0.46
0.31
1.2
2.18
1.23
0.88
0.21
0.79
0.71
0.82
0.71
0.52
0.3
0.4
0
2.53
0
4.26
1.81
0.51
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Chromosome


Defense/immunity
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
1.68
1.15
0.57
0.73
0.84
0.37
1.17
2.63
4.22
0.45
0
0.95
0
1.53
0
1.58
0.43
0
1.16
0.94
0
1.29
0.27
0
1
2
3
4
5
6
7
8
9
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11
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13
14
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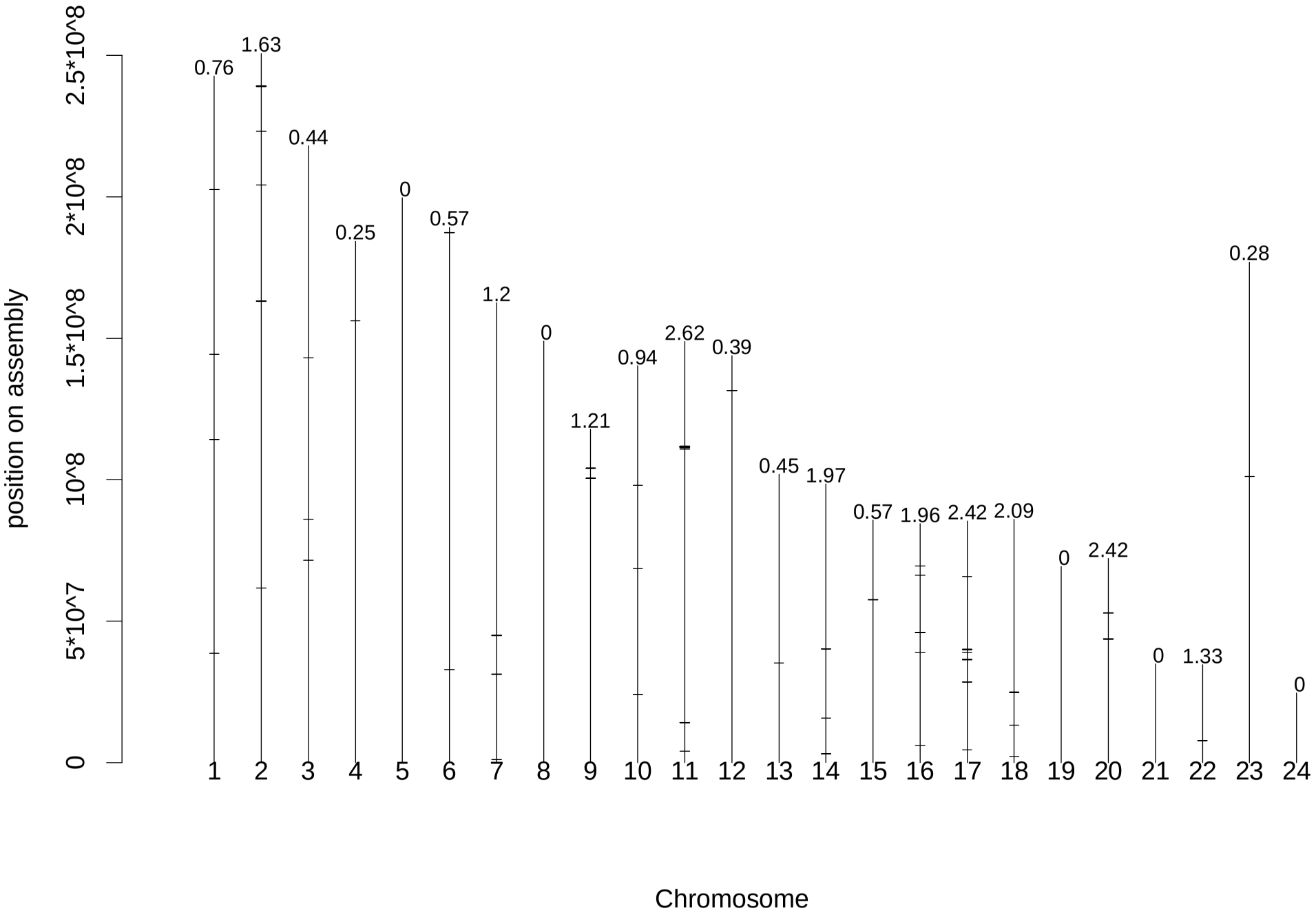
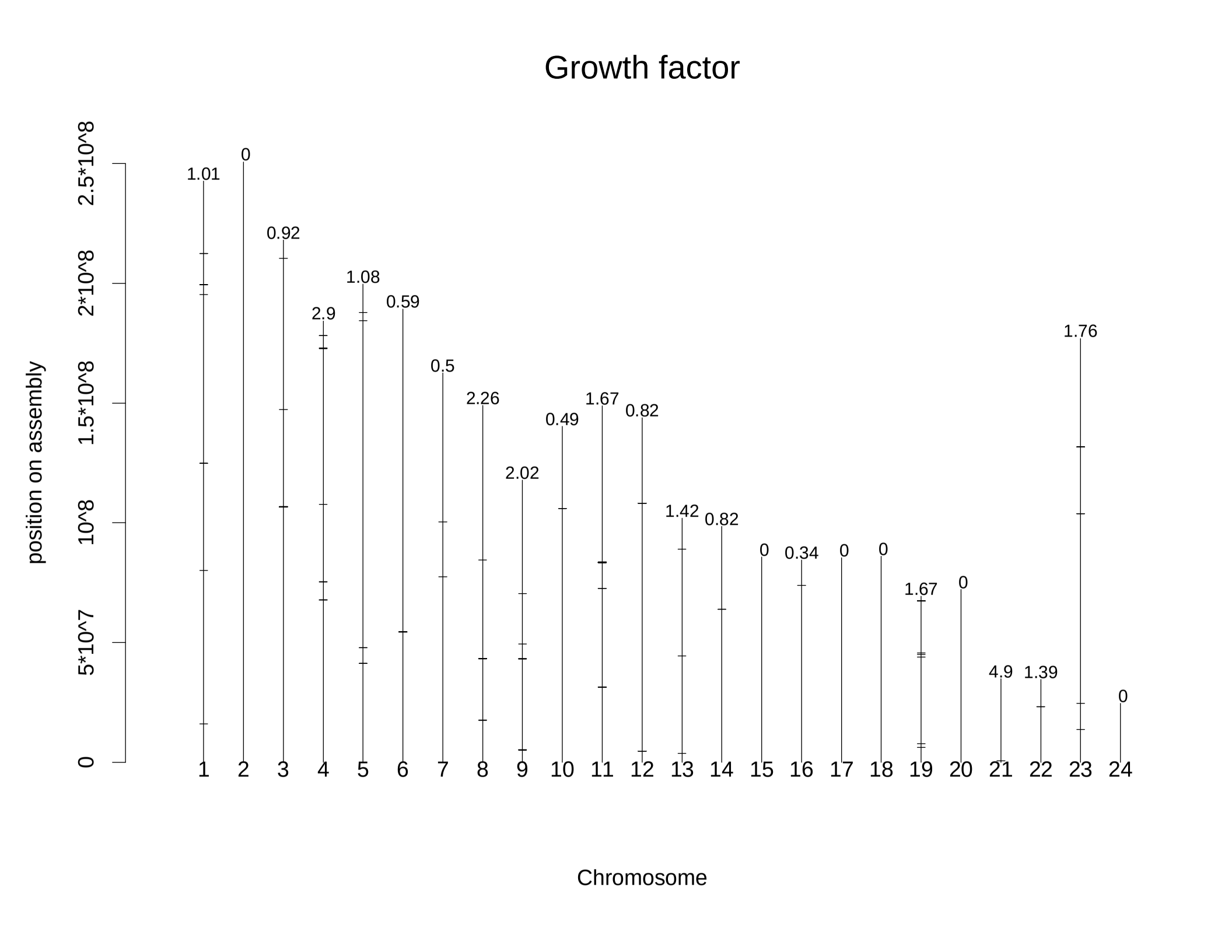
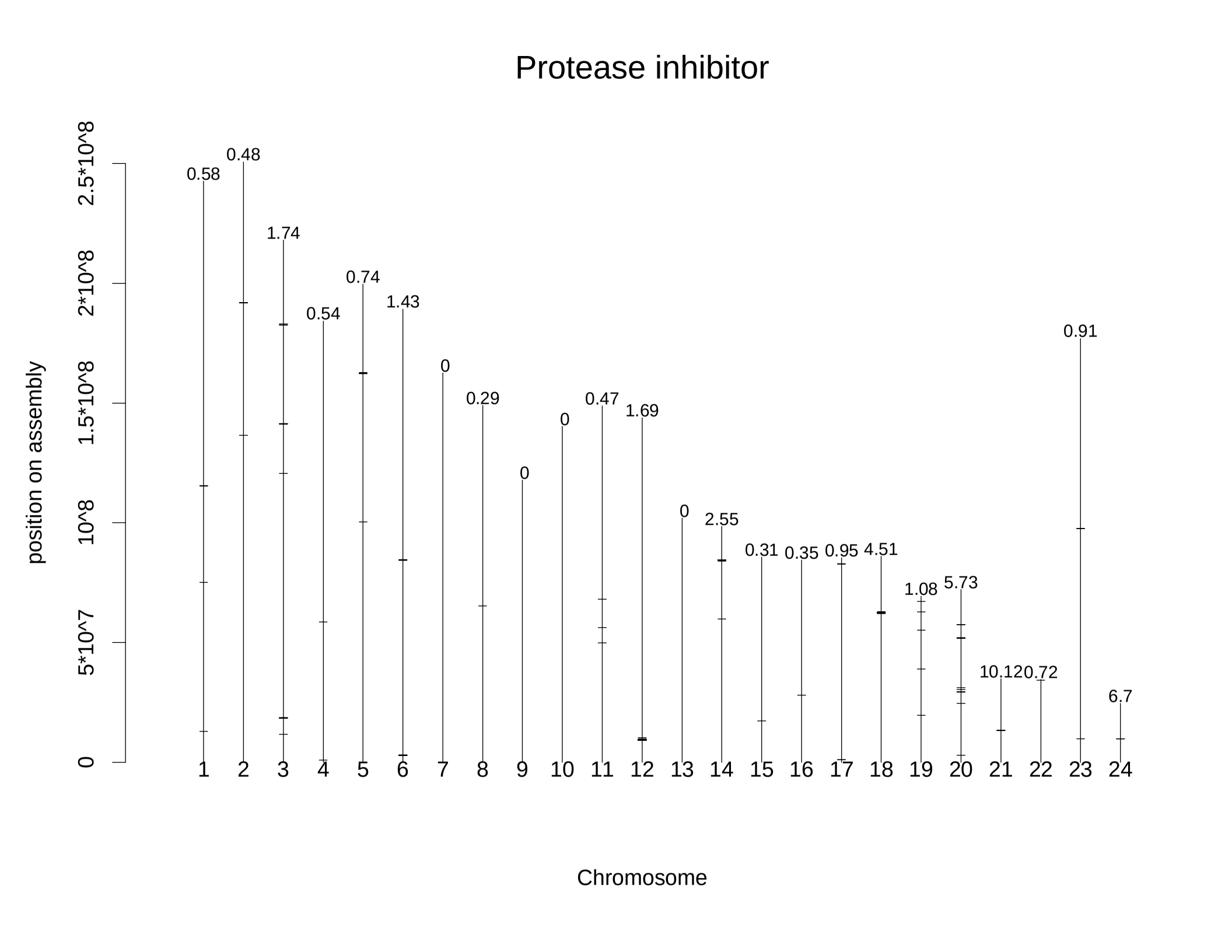
16
17
18
19
20
21
22
23
24
Chromosome

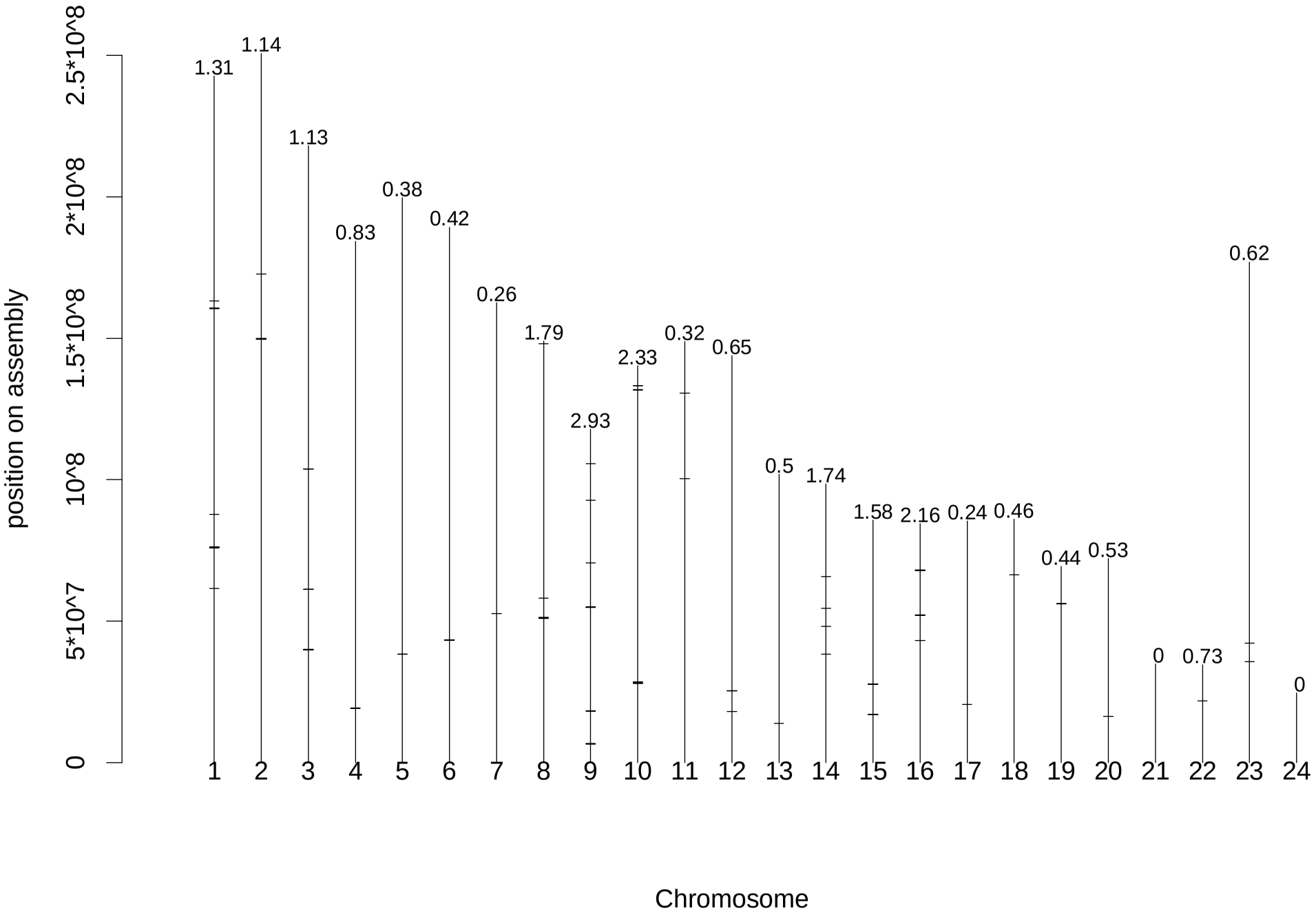
Proteolysis and peptidolysis

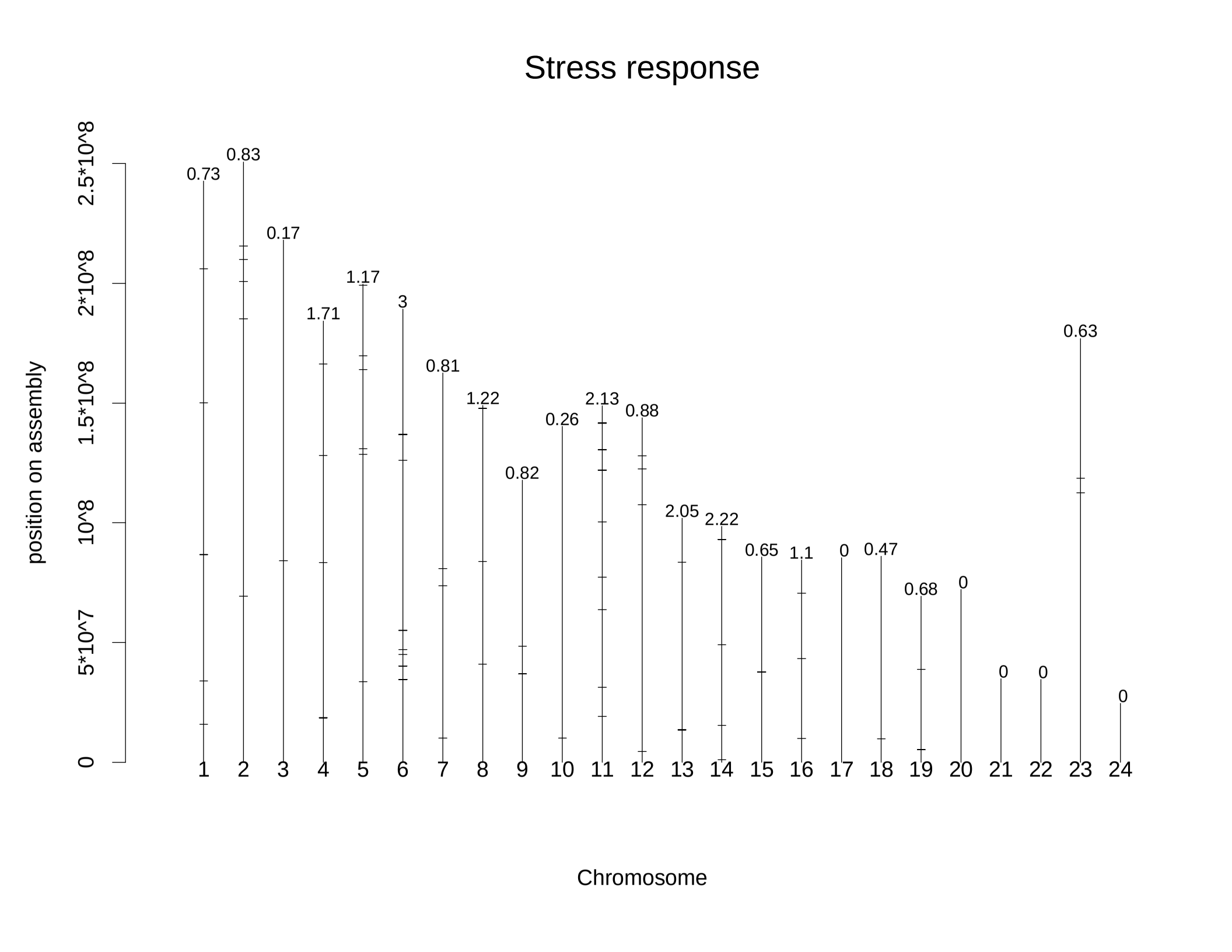



Growth factor
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
1.01
0
0.92
2.9
1.08
0.59
0.5
2.26
2.02
0.49
1.67
0.82
1.42
0.82
0
0.34
0
0
1.67
0
4.9
1.39
1.76
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Chromosome


Protease inhibitor
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0.58
0.48
1.74
0.54
0.74
1.43
0
0.29
0
0
0.47
1.69
0
2.55
0.31
0.35
0.95
4.51
1.08
5.73
10.12
0.72
0.91
6.7
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Chromosome

Coenzymes and prosthetic group metabolism




Stress response
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0.73
0.83
0.17
1.71
1.17
3
0.81
1.22
0.82
0.26
2.13
0.88
2.05
2.22
0.65
1.1
0
0.47
0.68
0
0
0
0.63
0
1
2
3
4
5
6
7
8
9
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11
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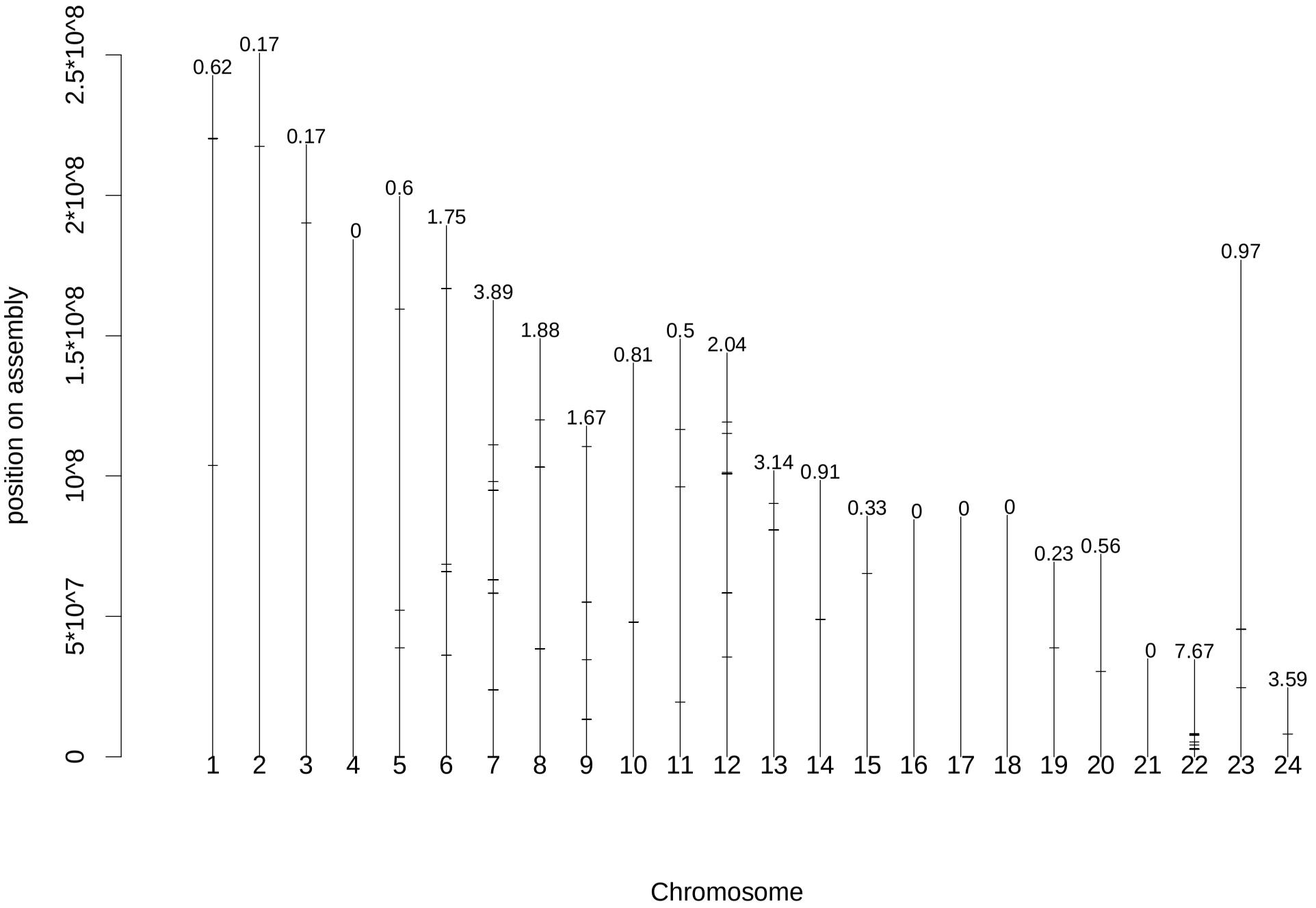
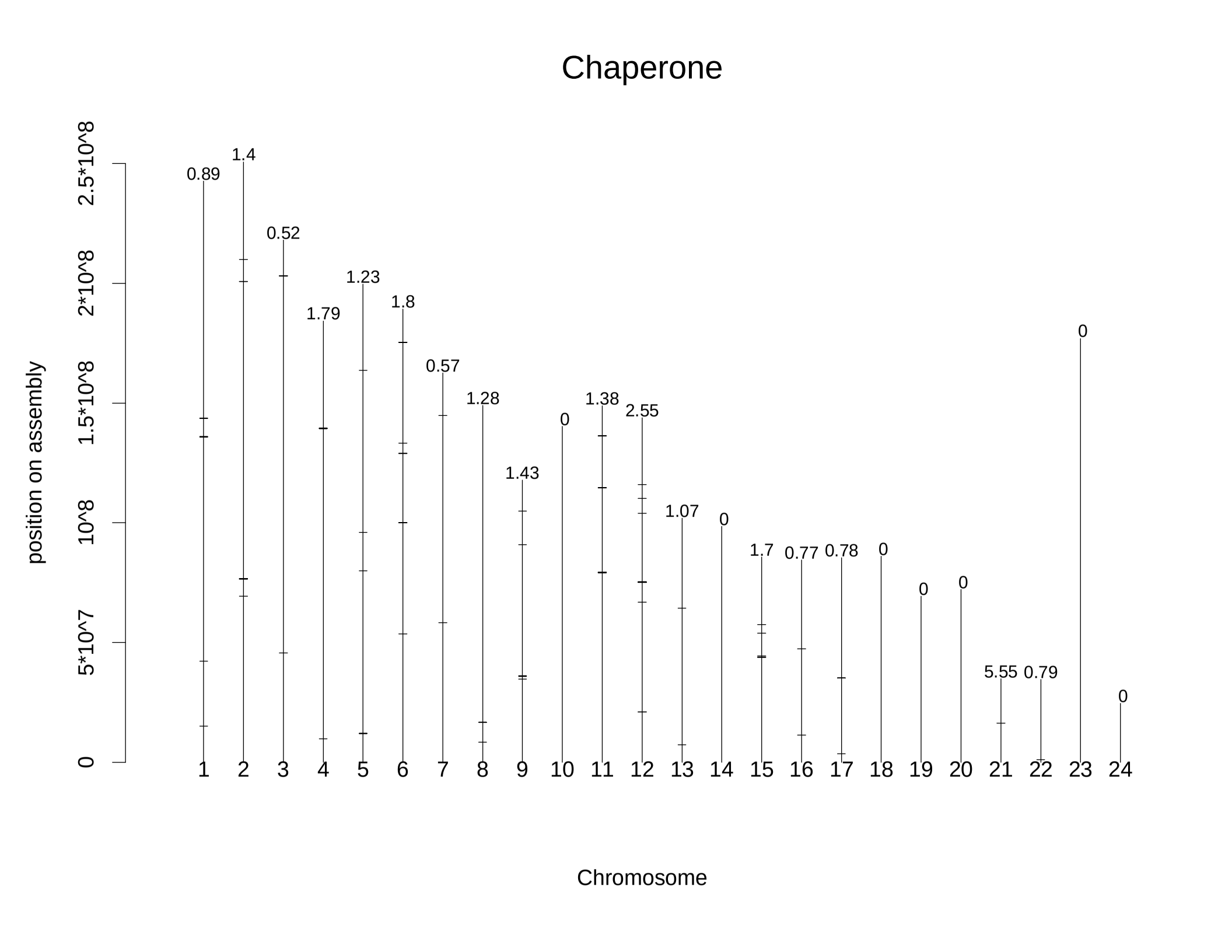
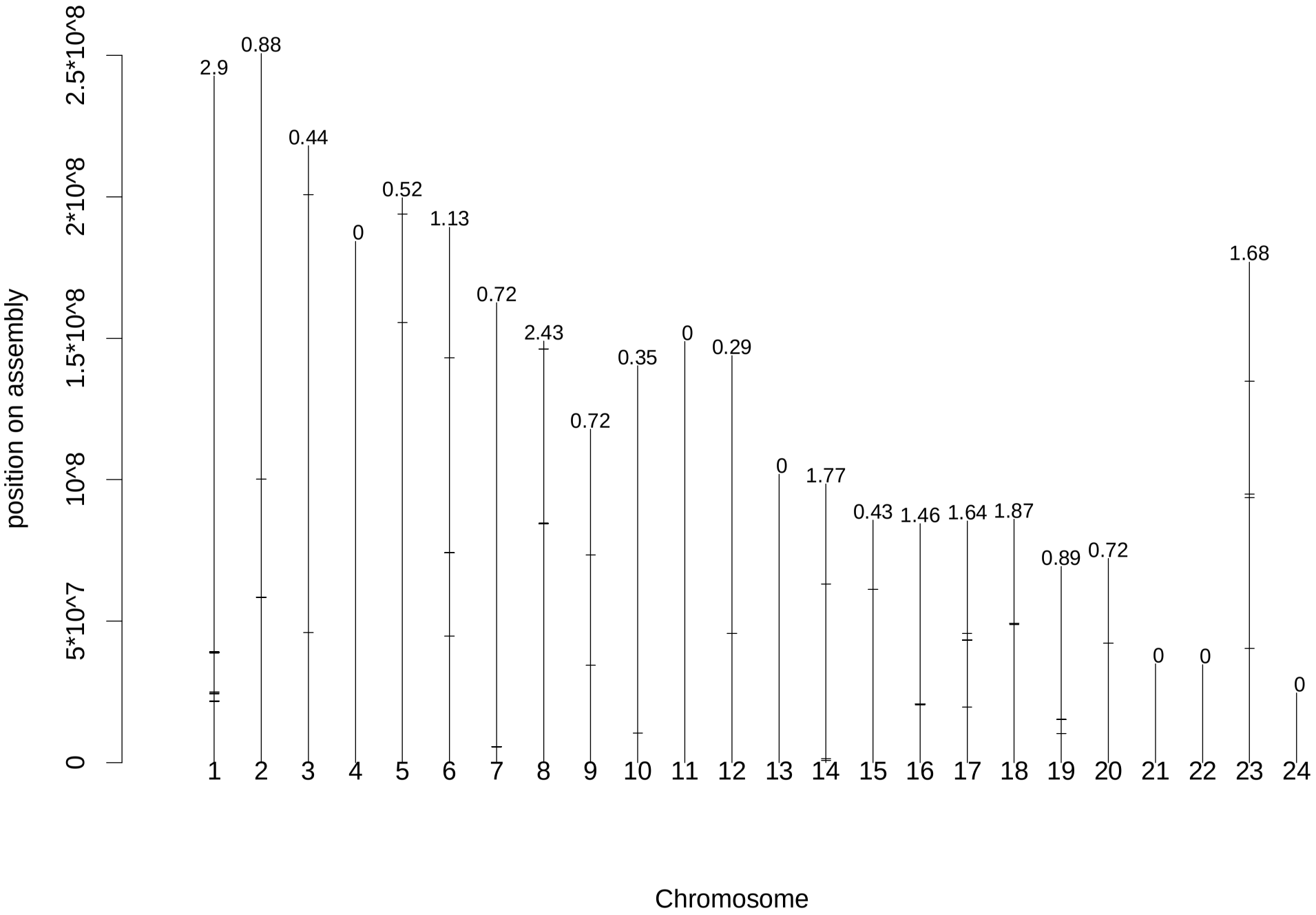
13
14
15
16
17
18
19
20
21
22
23
24
Chromosome

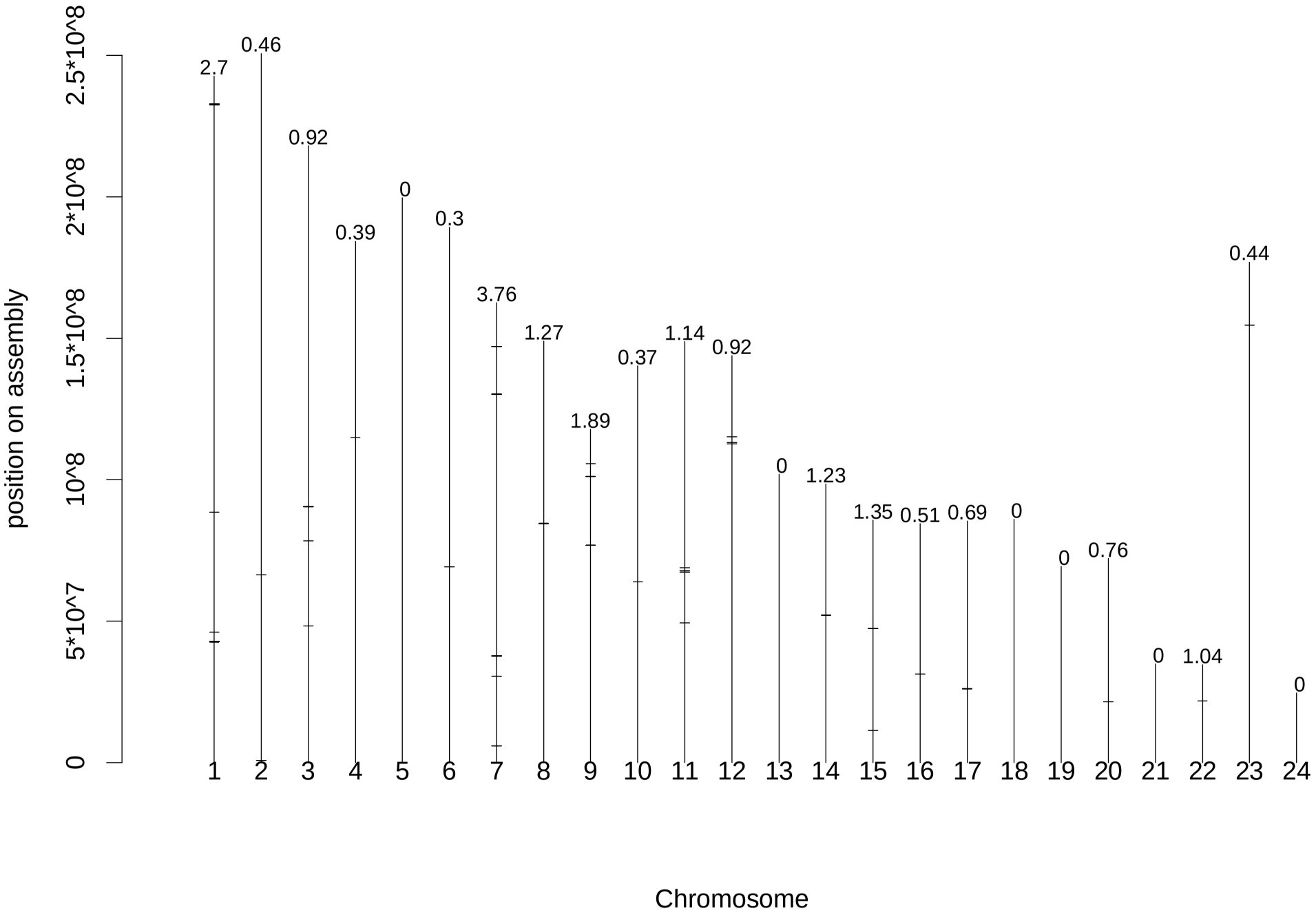
Amino acid and derivative metabolism

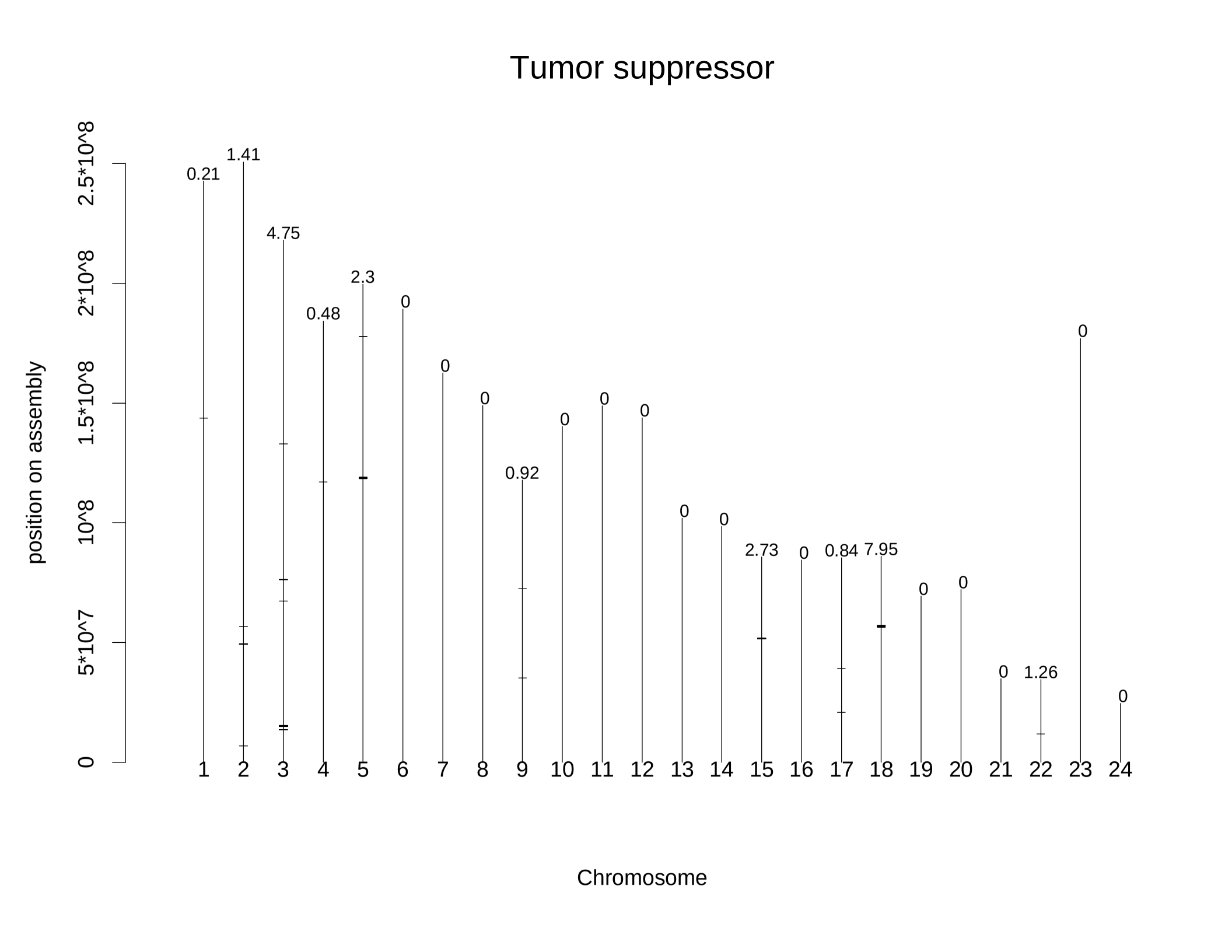



Chaperone
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0.89
1.4
0.52
1.79
1.23
1.8
0.57
1.28
1.43
0
1.38
2.55
1.07
0
1.7
0.77
0.78
0
0
0
5.55
0.79
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Chromosome

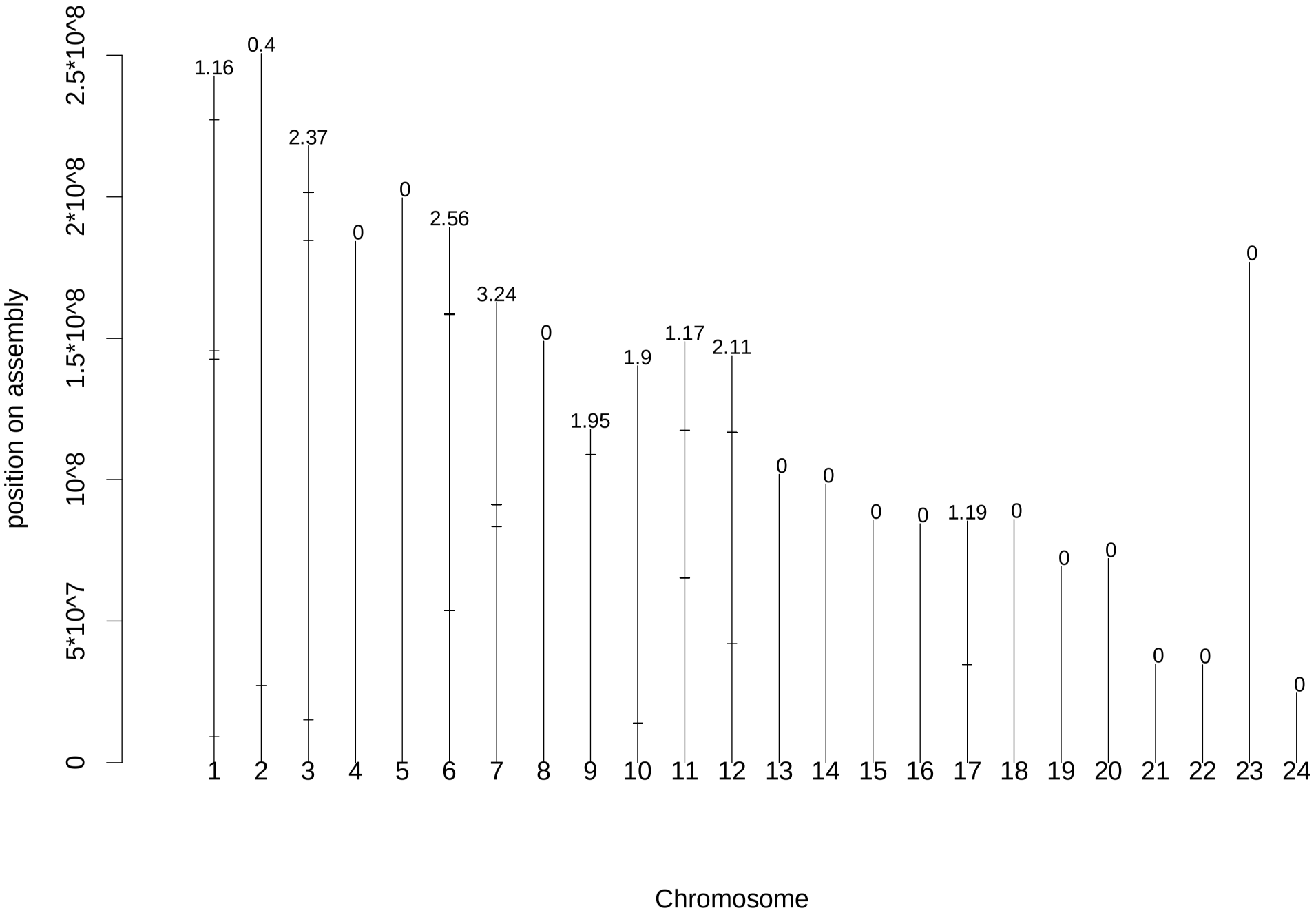

Translation factor
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
2.9
0.88
0.44
0
0.52
1.13
0.72
2.43
0.72
0.35
0
0.29
0
1.77
0.43
1.46
1.64
1.87
0.89
0.72
0
0
1.68
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Chromosome

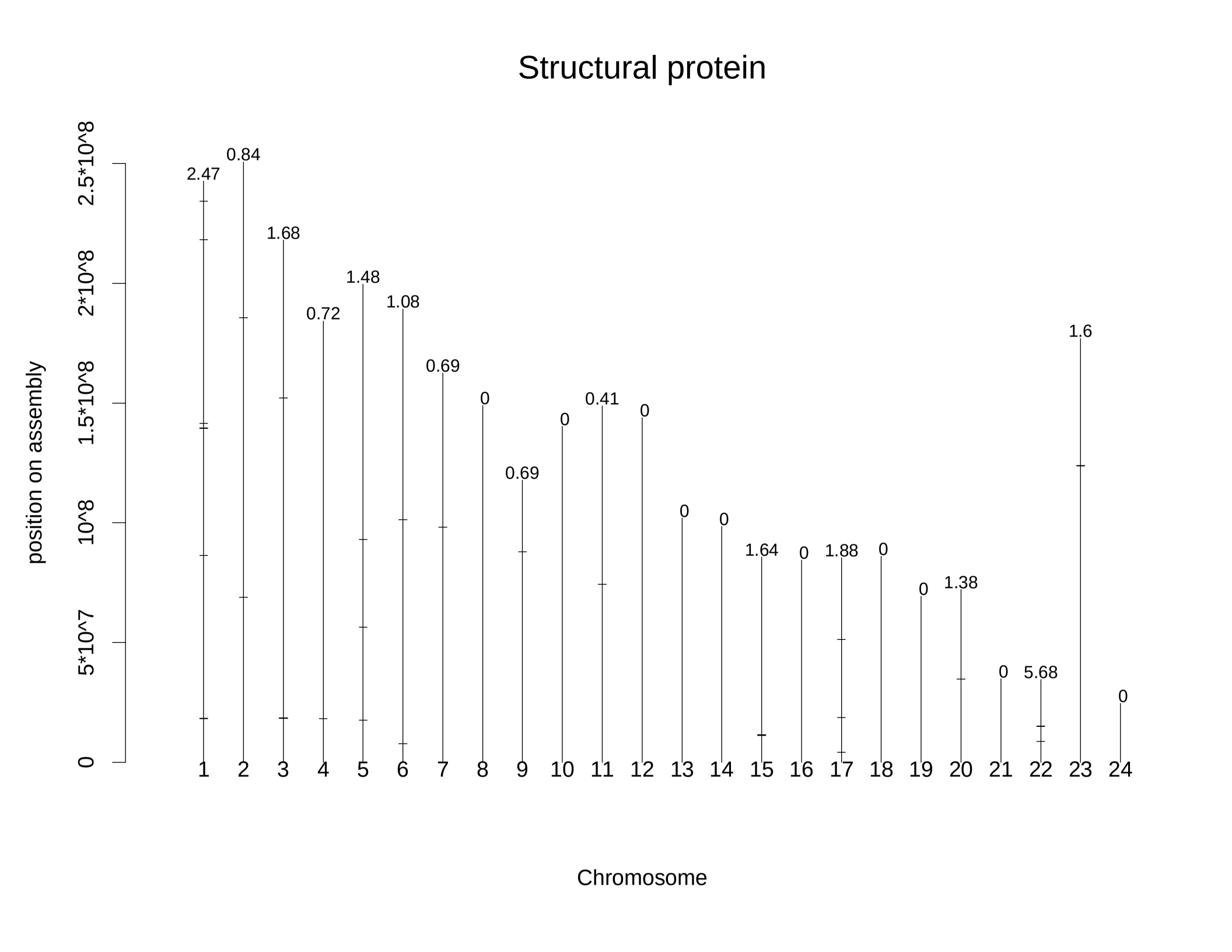
Actin binding

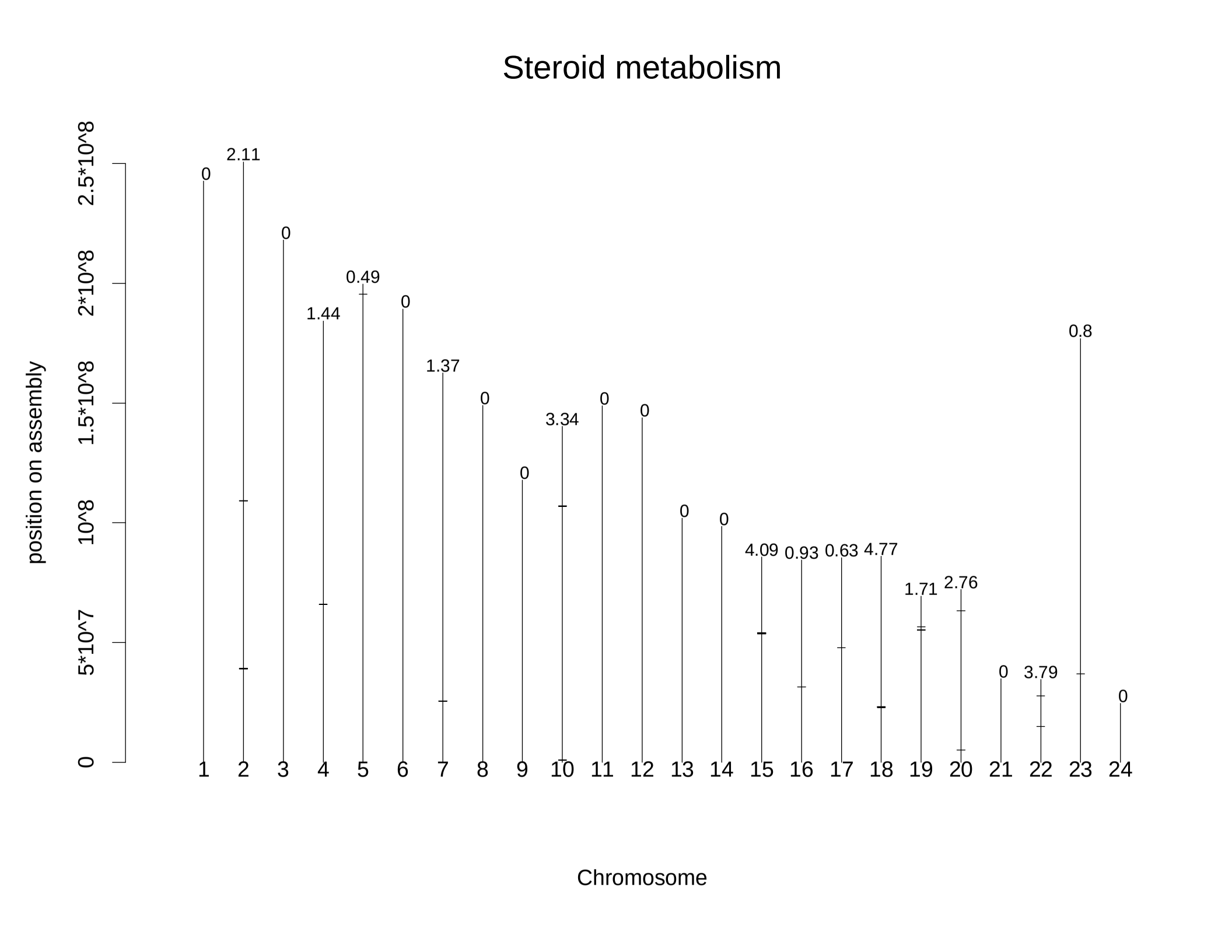



Tumor suppressor
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0.21
1.41
4.75
0.48
2.3
0
0
0
0.92
0
0
0
0
2.73
0
0.84
7.95
0
0
0
1.26
0
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
Chromosome

Cytoplasm organization and biogenesis




Structural protein
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
2.47
0.84
1.68
0.72
1.48
1.08
0.69
0
0.69
0
0.41
0
0
0
1.64
0
1.88
0
0
1.38
0
5.68
1.6
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Chromosome


Steroid metabolism
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0
2.11
0
1.44
0.49
0
1.37
0
0
3.34
0
0
0
0
4.09
0.93
0.63
4.77
1.71
2.76
0
3.79
0.8
0
1
2
3
4
5
6
7
8
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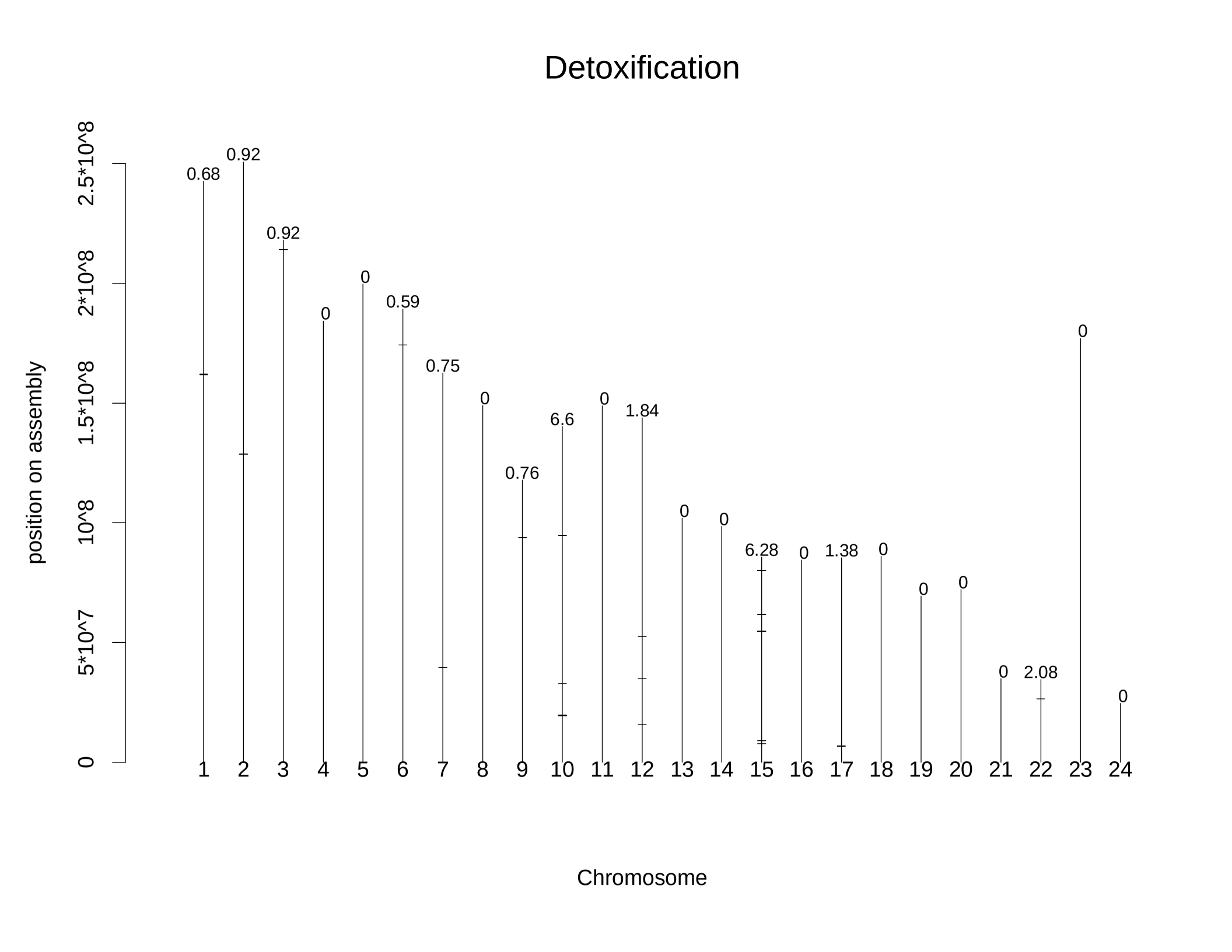
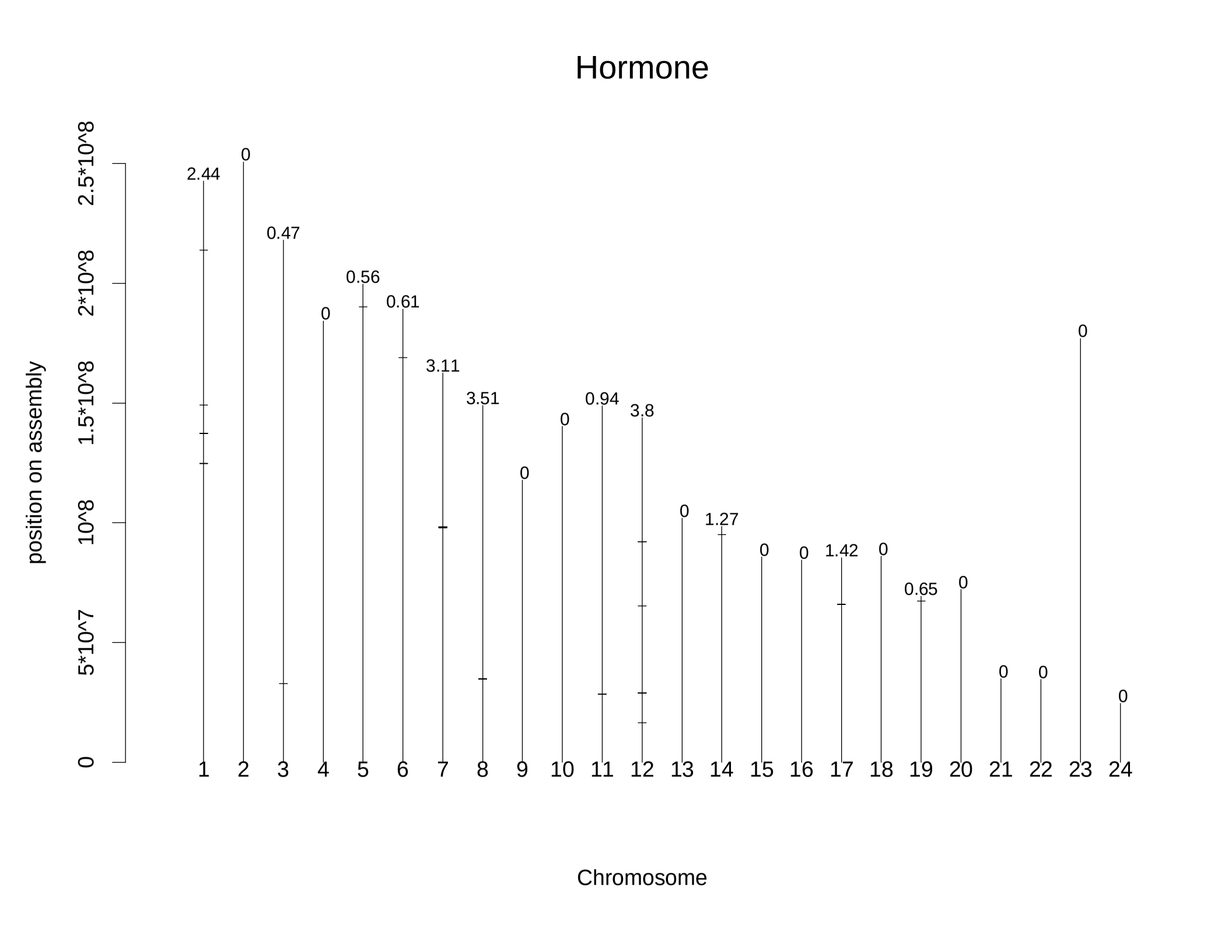
16
17
18
19
20
21
22
23
24
Chromosome


Detoxification
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
0.68
0.92
0.92
0
0
0.59
0.75
0
0.76
6.6
0
1.84
0
0
6.28
0
1.38
0
0
0
0
2.08
0
0
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
Chromosome


Hormone
position on assembly
0
5*10^7
10^8
1.5*10^8
2*10^8
2.5*10^8
2.44
0
0.47
0
0.56
0.61
3.11
3.51
0
0
0.94
3.8
0
1.27
0
0
1.42
0
0.65
0
0
0
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Chromosome