

KG

11366

099

9

Microphotometer
General

Stars not Completed in Catalogue

~~14~~	~~49.6~~	~~+ 86~~	~~22~~
16	56.8	+ 77	0
17	46.6	+ 87	51
18	7.3	+ 84	25
~~19~~	~~27.8~~	~~+ 79~~	~~24~~
21	39.9	+ 77	30
~~21~~	~~46.4~~	~~+ 86~~	~~33~~
~~22~~	~~30.9~~	~~+ 88~~	~~44~~

Stars not Completed in Catalogue

$$\begin{array}{r} \text{L} \\ \text{14} \end{array} \begin{array}{r} \text{m} \\ 49.6 \end{array} + 86 \begin{array}{r} \text{o} \\ 22 \end{array}$$

$$16 \quad 56.8 \quad + 77 \quad 0$$

$$17 \quad 46.6 \quad + 87 \quad 51$$

$$18 \quad 7.3 \quad + 84 \quad 25$$

$$\text{19} \quad 27.8 \quad + 79 \quad 24$$

$$21 \quad 39.9 \quad + 77 \quad 30$$

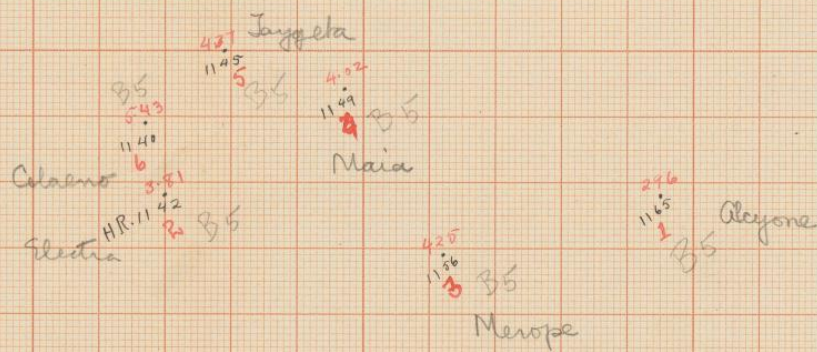
$$\text{21} \quad 46.4 \quad + 86 \quad 33$$

$$\text{22} \quad 30.9 \quad + 88 \quad 44$$

84
34
108

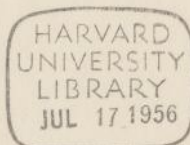
84
108
108

84
108
108



50'
40'
30'
20'
24° 10'
24°
23° 50'
30'
23° 10'
23°

K.G. 11366.099



Series	Microphotometer	Tracings
	$\mu\rho$	Miscellaneous
	$\mu\beta$	B stars
	$\mu\theta$	MC plates, apertured
	$\mu\phi$	c plates, apertured, & related tracings

Microphotometer tracings. Series μp

Tracing

Plate Star Aperture Slit Mag.

Series	1 μp	X 5887	8 Cyg
μp	μp_2	I 38203	H.R. 3951
	"	B 2210	H.R. 3951
	"	I 37311	
	μp_3		α Lyrae
	μp_4		α Cyg
	μp_5	654C	α Lyrae
	"		α Aquilae
	μp_6		α Orionis
	μp_7	C 570	α Lyrae
	μp_8	1102-H (Michigan)	α Lyrae
	μp_9	C 1559.3.1	12 Lyn
	"	C 16007.1	15 Vul
	"	C 15546.1	8 Dra
	"	C 15151.1	20 Cep
	μp_{10}	72 B (Michigan)	α Aquilae
	μp_{11}	MF 7852	B.D.-23° 5338
			B.D.-24° 5399
			B.D.-17° 1955
			B.D.-21° 1884
			B.D.-20° 1878
			B.D.-18° 1807
			B.D.-20° 1878
			B.D.-23° 5382
	μp_{12}	X 13488	
	μp_{13}	MF 7852	B.D.-20° 4951
			B.D.-19° 1856
			B.D.-20° 2236

Measured	Reduced	Means	Remarks
p. Obs.	p.	p.	

Series μp MP_{13} (cont'd)

B.D. - 19° 18' 78

B.D. - 24° 6' 66

B.D. - 24° 5' 279

 MP_{14} X 13488

Oe

 MP_{15} X 13408 MP_{16} X 13488

Oa

 MP_{17} γ Orionis MP_{18} X 10153 γ Velorum MP_{19} X 7558

" X 8376

" X 8189

" X 8370

" X 8228

" X 8089

 MP_{20} γ Orionis MP_{21} 86 B (Michigan) L Aquilae MP_{22} 101 D (Michigan) L Aquilae

Series $\mu\beta$

$\mu\beta_1$	~~γ Canis Majoris~~ C 6358	γ Canis Majoris
$\mu\beta_2$	X 8468	μ Scorpii
$\mu\beta_3$	X 8955	
$\mu\beta_4$	X 9503	
$\mu\beta_5$	X 8481	π Sco
$\mu\beta_6$	X 8088	α Pav
$\mu\beta_7$	X 8617	α Pavonis
$\mu\beta_8$	X 7539	α Muscae
$\mu\beta_9$	X 9186	
$\mu\beta_{10}$	X 8479	α Muscae
$\mu\beta_{11}$	X 8212	α Vel
$\mu\beta_{12}$	X 8362	μ Cen
$\mu\beta_{13}$		α Cyg
$\mu\beta_{14}$		α Cyg
$\mu\beta_{15}$		α Cyg
$\mu\beta_{16}$		α Cyg
$\mu\beta_{17}$		α Cyg
$\mu\beta_{18}$	C 6508	γ Orionis
$\mu\beta_{19}$	C 4539	β Canis Majoris.
$\mu\beta_{20}$	C 6513	γ Canis Majoris
$\mu\beta_{21}$	C 6735	μ Scorpii
$\mu\beta_{22}$	C 4328	π^4 Orionis
$\mu\beta_{23}$	X 8490	ν Sco
$\mu\beta_{24}$		α Cyg
$\mu\beta_{25}$	X 7776	
	X 8490	
	X 8441	
	X 8464	
$\mu\beta_{26}$	C 6678	δ Persei
$\mu\beta_{27}$	X 9670	δ Arae

MP₂₈ X 8203 3 Canis Majoris
MP₂₉ X 8376 β Cen
X 7558 α Lup
X 8189 K vel
X 8370 μ Sco
X 8089 α Pav.
X 8228 J Pup.
MB₃₀ C 4323(a) ν Eridani
C 4323(b) ν Eridani
MB₃₁ X 8347 ν Centauri

10

Series $\mu\theta$

MO

6 Mc 21642 Sirius

7 Mc 21642 Sirius

8 Mc 21642 Sirius

9 Mc 21642 Sirius

10 Mc 21642 Sirius

11 Mc 21642 Sirius

12 Mc 21642

13

Sent to TD, Jr.

16

17

18

19

20

23 Mc 21640

24 Mc 21640

25 Mc 21640

26 Mc 21640

- 23 MC 21722 δ Can Maj.
 34 MC 21721 Capella
 35 MC 21721 Capella
 36 MC 21721 Capella
 37 MC 21721 Capella
 38 MC 21721 Capella
 39 MC 21721 Capella
 40 MC 21721 Capella
 41 MC 21721 Capella
 42 MC 20797 Arcturus
 43 MC 20797 Arcturus
 44 MC 20797 Arcturus

 46 MC 21645 δ Cassiopeiae
 47 MC 21645 α Aquilae
 48 MC 21645 α Aquilae
 49 MC 21645 α Aquilae } T.D., Jr.
 50 MC 20790 }
 51 MC 20790 } T.D., Jr.
 52 MC 21638
 53 MC 21638 γ Cas.
 54 MC 21638 γ Cas.
 55 MC 20800 Altair
 56 MC 20800 Altair
 57 MC 20790 Vega
 58 MC 20790 Vega
 59 MC 20790 Vega } T.D., Jr.
 60 MC 20790 Vega
 61 MC 21647 Sirius

62 MC 21648 3a
 63 MC 21648 3b
 64 MC 21648 3c
 65 M 21648 3d
 66 MC 21648 3e
 67 MC 21648 3f
 68 MC 21648 3g
 69 MC 21648 3h
 70 MC 21648 3i
 71 MC 21647

76 MC 21802 Sirius
 77 MC 21802 Sirius
 78 MC 21802 Sirius
 79 MC 21802 Sirius
 80 MC 21743
 81 MC 21743
 82 MC 21743
 83 MC 21743
 84 MC 21803 Sirius
 85 MC 21803 Sirius
 86 MC 21803 Sirius
 87 MC 21803 Sirius
 88 MC 21803
 89 MC 21803 Sirius
 90 MC 21803
 91 MC 21803
 92 MC 21803 Sirius

T.D., Jr.

93 MC 21813

{94

{95

96 MC 21789 ϵ Ori

97 MC 21789 ϵ Ori

98 MC 21789 ϵ Ori

99 MC 21789 ϵ Ori

100 MC 21743

101 MC 21743

102 MC 21743

103 MC 21743

Series μ & 1. C 1270 Solar Spectrum

- 2 Arcturus C 18 416 violet end
- 3 C 18 416 Arcturus - red to middle
- 4 C 18 416 Arcturus - middle to violet and red end
- 4 C 18 416 Arcturus - middle to violet
- 5 C 18 416 Arcturus - red end
- 6^a C 18 416 ~~Arcturus~~ λ Bootes (a)
- 7 λ 7904 λ Bootes (b)
- 8 λ 7945 β Orionis (a)
- 9 λ 7945 β Orionis (b)
- 10 λ 7957 λ Orionis
- 11 Vega C no. 1
- 12 Vega C no. 2
- 13 Vega C
- 14 Vega
- 15 Vega
- 16 Vega
- 17 Vega
- 18 Vega
- 19 Vega
- 20^a Vega
- 21^a Vega
- 22 C 18429 Vega
- 23 C 18429 Vega
- 24 C 18429 Vega
- 25 Vega
- 26 Vega
- 27 λ Ophiuchi
- 28 λ Ophiuchi
- 29 λ Ophiuchi
- 30 λ Ophiuchi

Measured

Reduced Means

Remarks

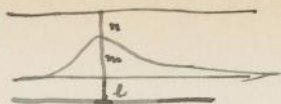
Series $\mu\phi$

31		α Ophiuchi
32		Altair
33		Altair
34		Altair
35		Altair
36		Altair
37		Altair
38		Altair
39	C 6045	γ Cassiopeiae a
40	C 6045	γ Cassiopeiae b
41	C 6045	γ Cassiopeiae c
42	C 6405	γ Cassiopeiae d
43	C 6195	α Tauri
44	C 6195	α Tauri
45	C 6195	α Tauri
46	C 5241	β Andromedae
47	C 5241	β Andromedae
48	C 5241	β Andromedae
49	C 4564	ϵ Aurigae (b)
50	C 4564	ϵ Aurigae (c)
51	C 4564	ϵ Aurigae (d)
52	C 4564	ϵ Aurigae (a)
53		α Canis Minoris
54	C 6294	α Canis Minoris
55	C 6294	α Canis Minoris
56		
57		
58		
59		
60	X 6275	γ Canis Majoris

Series *μ*

61	X6275	♂ Canis Majoris
62	X6275	♂ Canis Majoris
63	C 18482	♂ Cygni
64		♂ Cygni (b)
65		♂ Cygni (a)
66	X6275	♂ Canis Majoris
67	C 18482	♂ Cygni
68	C 18483	♂ Cygni
69	C 18482	♂ Cygni
70	C 18482	♂ Cygni
71	C 18483	♂ Cygni
72	C 18483	♂ Cygni
73	C 18483	♂ Cygni
74	C 18483	♂ Cygni
75	C 18483	♂ Cygni
76	C 18483	♂ Cygni
77	C 18483	♂ Cygni
78	C 18483	♂ Cygni
79	C 401	♂ Bootes (a)
80	C 401	♂ Bootes (b)
81	X8094	♂ Canis Majoris (a)
82	X8094	♂ Canis Majoris (b)
83	C 18483	♂ Cygni
84	X7984	♂ Aurigae (B)
85	X7984	♂ Aurigae (A)
86	C 280	♂ Ceti HP 370 (a)
87	C 280	♂ Ceti HP 370 (b)
88	X8083	♂ Aquilae (A)
89	X8083	♂ Aquilae (B)
90	X7964	♂ Tauri

91	X7965	α Lauri
92	X7922	α Lauri (a)
93	X7922	α Lauri (b)
94	X7968	α Aurigae
95	X8096	β Orionis (a)
96	X8096	β Orionis (b)



~~List of apertured C plates~~

l means $m < n$
 a = asymmetrical

Width, symmetry, and mean intensity for B stars.

Plate & Star	Line	l	m	n	w	v	H δ to H ϵ
X 8189 K Vel	4471	.4	.2	2	1.9	.8	
	H γ	.4	.4	1.5	3	1.9	
X 7558 } 2 dup }	4471	.2	.2	3.2	.9	.5	
	H γ	.3	.4	2.9	3	1.1	
X 8370 } μ_2 Sco }	4471	1.6	.4	.9	1	.4	
	H γ	1.7	.8	.5	3.5	2	
X 8089 } 2 Pav }	4471	.8	.5	2	2	1	
	4387	.9	.4	2	1.5	1	
X 8228 } J Pup }	4471	1	.2	.6	1.6	.6	a
	H γ	.8	.3	.8	1.8	.8	a
5 Persei } C 6678 }	H δ	7.1	2.3	.6	1.1	.5	~~2.5~~
	H ϵ	3.8	3.8	2.3	1.5	.7	5.5
		2.8	.4	6.7	.5	.2	
		2.6	.8	6.6	.4	.2	
	H δ	2.3	3.8	= 4	2	.8	a
X 8347 } K Centauri }		7	1.7	.5	2.2	.6	a
	H ϵ	4	3	= 2.9	1.8	1	a 6.1
	4009	3	.7	5.5	.9	.5	
	4026	2.8	1.2	5.5	.8	.4	
	H δ	2.3	2.6	4.4	1.8	.8	a
	H γ	1.9	2.6	5	1	.5	
		2.1	.6	6.6	.5	.2	
	4387	1.9	.4	7.2	.4	.2	
	4471	1.7	.8	7.1	.8	.3	a
X 7776	H γ	1	1	5.7	1.4	.7	
	4388	1	.3	6.3	.4	.2	
	4471	1	.4	6.3	.5	.3	

	Star	Line	λ	m	n	w	v	H&A HE
	X8490	H γ	.7	1.1	5.4 l	1	.6	a.
		4471	.6	.5	6.2 l	.4	.2	
	X8449	H γ	.5	.8	5.7 l	1	.5	
		4471	.5	.3	6.2 l	.5	.3	
	X8464	H γ	.5	.9	5.5 l	1.4	.8	a
		4471	.4	.3	7 l	.3	.1	
	C4328	HE	3.9	3.4		1.3	.6	5.1
	π 4 Orionis		3.3	1		.6	.4	a
			3.1	2		.5	.3	
		H δ	2.8	3.2		1.3	.8	a
			2.8	.7		.3	.2	
		H δ	2.8	1.1		.5	.3	
			2.6	2.8		1	.5	
	α Cyg (III)	H ϵ	5.5	.5		.7	.35	
		H θ	5	1.4		.9	.5	
		H η	3.7	2.2		.7	.4	
		H ζ	1.2	2.4		.6	.3	
		H ϵ	.2	2		.5	.2	
	X8490	V Sco	1.5	.4	5.7 l	.8	.5	a
			4009					
			4026	.8	5.3 l	.6	.4	a
		438F	1	.4	6.2 l	.7	.4	
	C6508	HE	4.6	4.3	.7 g	1.9	.9	5.2
	γ Orionis		3.1	4.5	2.2 g	1.5	.8	
			2.6	3.9			.9	
	X8468	HE		2.5	= 2.3	1.9	1	
	η Scorp			.7	4.9 l	.8	.4	
				1.6	4.2 l	.9	.5	
		H δ		3	3.3 l	2	.9	a
				.8	5.7 l	.4	.2	
				1.3	5.2 l	.6	.4	a

52

Plate Star	Line	λ	m	n	w	v	$H\delta$ to $H\epsilon$
X 8955	H γ		3	3.7	2	1.6	.8
			1.5	5.4	2	.7	.3
			1.6	5.4	2	.7	.3
	H ϵ	5	2.9	~~5.9~~		.9	.4
		4.6	.4			.4	.2
		4	1.8			.5	.3
		3.7	1.6			.5	.3
	H δ	3.2	3.2			.7	.4
		3.2	.6			.5	.2
		3.2	1			.4	.2
X 84817 π Sco	H γ	3	3.2			.9	.5
		3.2	1.2			.4	.2
		3.2	1.8			.3	.2
		3.4	1.9			.3	.2
		3.4	1.4			.2	.1
	H β	11.6	.9			.4	.2
	H ϵ		1.6			1.2	.7
			.7			.7	.4
	H δ		1.4			1.4	.7
			.3			.4	.2
X 8088 2 Per			.4			.5	.2
	H ϵ	2.1	2.5			2.7	.8
		1.5	.6			.8	.5
		1.4	1.6			1.2	.5
	H δ	1.2	2.3			2.3	1.1
		1.2	.4			.4	.2
		1.1	.7			.6	.3
	H γ		2.4			1.9	1

Plate Star Line		<i>l</i>	<i>m</i>	<i>n</i>	<i>w</i>	<i>v</i>	Hδ to Hε
X8617 2 Par		1.5	2		1.9	1	
		1	.2	8.6 l	.8	.4	
		1	.6	8.3 l	.7	.4	
		.4	1	8.3 l	.6	.1	
		.14	.3	9.1 l	.5	.3	
		.4	.3	9.1 l	.4	.2	
X7539 2 Musae	Hε	2	2	7.2 l	1.9	~~1.0~~	6.3
		1.2	.3	9.4 l	.7	.4	
		1.1	.6	9.3 l	.6	.3	
		Hδ	.9	8.9 l	1.1	.6	
			.9	9.8 l	.7	.4	
			.9	9.8 l	.7	.3	
Hδ		.5	.9	9.5 l	1.3	.6	
		.8	.3	9.9 l	.4	.2	
		.6	.4	9.9 l	.4	.2	
		1.7	1.9	6.2 l	1.6	~~1.8~~	6.4
		1.1	.2	8.4 l	.5	.3	
		1.1	.6	7.6 l	.6	.3	
X8479 2 Musae	Hε	Hδ	.8	7.9 l	1.1	.5	
			.8	8.8 l	.5	.3	
		Hδ	.5	8 l	1.1	.5	
			.5	9.1 l	.3	.2	
			.5	9 l	.4	.2	
			.5	1.2 g	1.2	.6	5.1
C6735 6 Scapii	Hε	6.9	2		.5	.3	
		5.6	1.3		1	.7	
		Hδ	5		.4	.2	
			5		.4	.2	
			4.9	1	1	.5	
		Hδ	4.1	2.7			

Plate Star 8362 in Cen	Line	λ	m	n	w	v	He with H δ
		1.9	.6		.5	.3	
		1.8	.4		.4	.2	
	H δ	1.8	1.2		1.2	.6	6.2
		2.1	1.1		.6	.3	
		2.2	.4		.5	.3	
	He	2.7	2.1		1.6	.7	
α Cyg (iii)	H β	.5	.9		2.1	1.4	
α Cyg (ii)	He + H	.5	2.1		1.7	.8	
	H δ	.3	.9		.9	.5	20.6
α Cyg (i)	He	6.5	.7	.9	2.4	1.2	
	H θ	5.8	1.3	1.1	2	1.2	
	H γ	4.2	2.2	1.7	2.2	.9	
α Cyg (ii)	H β	1.5	2.5	4	1.9	1	
	H γ	.4	.6		1	.4	
C4539 B Can. Maj.	H γ	5	1.8	= 1.7	1.1	.4	
	H β	1.2	1.8	4.5 l	1	.4	
	He	.7	1.2	6.5 l	.8	.3	5.1
4009 He		.4	.2	7.8 l	.4	.1	
4026 He		.4	.4	7.5 l	.4	.2	
	H δ	.2	.7	7.3 l	.5	.3	
C6513 7 Can. Maj.	H β	7	1.2	= 1.4	.6	.3	
		5.3	1.2	3.2 l	.4	.2	
	He	4.2	.2	3.8	.8	.5	5.2
		4	1	4.7 l	.5	.3	
	H δ	3.5	1.8	4.3 l	.5	.2	
		3.5	.4	5.7 l	.3	.2	
		3.5	.6	5.6 l	.4	.1	
	H γ	2.8	1.5	5.4 l	.6	.3	

Summary widths

X plates

	H β	⁴³⁸⁸ 4471 H γ	HS	4026	4009	He
8189 K Vel		19 - 30				
7558 α Lup		9 - 30				
8370 μ Sco		10 - 35				
8089 α Pav		20 15 -				
8228 J Pup		16 - 18				
8347 K Cen		8 4 10	18	8	9	18
776		5 4 14				
8490		4 10				
8449		5 10				
8464		3 14				
8490 ν Sco		7		6	8	
8468 μ Sco		3 3 8 6 4 20	9	8	19	
8955	20	2 2 5 2 2 4	3	3	4	
8481 τ Sco		2 6 3 2 7	4		7	
8088 α Pav		(19 6 4 23	12	8	27)	2m.
7539 α Mus		3 4 11 5 11	6	5	16	
8362 μ Cen	21	16 5 6 12	4	5		
Range	20	2-8 4-7 5-16	3-7 3-9 4-14			
Mean	20	4.0 3.7 11	4.2 4.0 10.0 5.7 6.3 13			

Mean range in H = 10 to 13

" " " He = 4 to 6

At 4100, take width = 12 for H

5 for He

Corresponding width in Angstroms = 1.2.1 for H
5.5 for He

0	~~1.66~~ 4.98	25	~~1.08~~ 3.24	50	~~2.46~~ ~~0.82~~	75	~~1.84~~ ~~0.61~~	100	~~0.36~~ 1.08
1	~~1.66~~ 1.58 4.74	26	1.06 3.18	51	~~2.44~~ ~~0.81~~	76	~~1.82~~ ~~0.61~~	101	~~0.35~~ 1.05
2	~~1.54~~ 4.62	27	1.04 3.12	52	~~2.43~~ ~~0.81~~	77	~~1.80~~ ~~0.60~~	102	~~0.34~~ 1.02
3	~~1.50~~ 4.50	28	~~1.03~~ 3.09	53	~~2.40~~ ~~0.80~~	78	~~1.79~~ ~~0.60~~	103	~~0.32~~ 0.96
4	~~1.48~~ 4.44	29	~~1.02~~ 3.06	54	~~2.38~~ ~~0.79~~	79	~~1.77~~ ~~0.59~~	104	~~0.31~~ 0.93
5	~~1.44~~ 4.32	30	~~1.01~~ 3.03	55	~~2.36~~ ~~0.79~~	80	~~1.74~~ ~~0.58~~	105	~~0.30~~ 0.90
6	~~1.41~~ 4.23	31	~~1.00~~ 3.00	56	~~2.34~~ ~~0.78~~	81	~~1.71~~ ~~0.57~~	106	~~0.29~~ 0.87
7	~~1.39~~ 4.17	32	~~0.99~~ 2.97	57	~~2.31~~ ~~0.77~~	82	~~1.68~~ ~~0.56~~	107	~~0.28~~ 0.84
8	~~1.38~~ 4.14	33	~~0.98~~ 2.94	58	~~2.28~~ ~~0.76~~	83	~~1.65~~ ~~0.55~~	108	~~0.28~~ 0.78
9	~~1.35~~ 4.05	34	~~0.96~~ 2.88	59	~~2.25~~ ~~0.75~~	84	~~1.62~~ ~~0.54~~	109	~~0.23~~ 0.69
10	~~1.32~~ 3.96	35	~~0.95~~ 2.85	60	~~2.22~~ ~~0.74~~	85	~~1.59~~ ~~0.53~~	110	~~0.22~~ 0.66
11	~~1.31~~ 3.93	36	~~0.95~~ 2.85	61	~~2.18~~ ~~0.72~~	86	~~1.56~~ ~~0.52~~	111	~~0.19~~ 0.57
12	~~1.29~~ 3.87	37	~~0.94~~ 2.83	62	~~2.16~~ ~~0.72~~	87	~~1.53~~ ~~0.51~~	112	~~0.15~~ 0.45
13	~~1.27~~ 3.81	38	~~0.94~~ 2.81	63	~~2.13~~ ~~0.71~~	88	~~1.50~~ ~~0.50~~	113	~~0.12~~ 0.36
14	~~1.25~~ 3.75	39	~~0.92~~ 2.78	64	~~2.11~~ ~~0.70~~	89	~~1.47~~ ~~0.49~~	114	Reduced Vega
15	~~1.24~~ 3.72	40	~~0.92~~ 2.75	65	~~2.09~~ ~~0.70~~	90	~~1.44~~ ~~0.48~~	115	
16	~~1.22~~ 3.66	41	~~0.91~~ 2.73	66	~~2.07~~ ~~0.69~~	91	~~1.38~~ ~~0.46~~	116	
17	~~1.20~~ 3.60	42	~~0.90~~ 2.70	67	~~2.04~~ ~~0.68~~	92	~~1.35~~ ~~0.45~~	117	
18	~~1.19~~ 3.54	43	~~0.89~~ 2.67	68	~~2.01~~ ~~0.67~~	93	~~1.32~~ ~~0.44~~	118	
19	~~1.16~~ 3.48	44	~~0.88~~ 2.64	69	~~1.98~~ ~~0.66~~	94	~~1.29~~ ~~0.43~~	119	
20	~~1.14~~ 3.42	45	~~0.87~~ 2.61	70	~~1.95~~ ~~0.65~~	95	~~1.26~~ ~~0.42~~	120	
21	~~1.12~~ 3.36	46	~~0.86~~ 2.58	71	~~1.92~~ ~~0.64~~	96	~~1.23~~ ~~0.41~~		
22	~~1.11~~ 3.33	47	~~0.85~~ 2.55	72	~~1.89~~ ~~0.63~~	97	~~1.20~~ ~~0.40~~		
23	~~1.10~~ 3.30	48	~~0.84~~ 2.52	73	~~1.87~~ ~~0.62~~	98	~~1.17~~ ~~0.39~~		
24	~~1.08~~ 3.27	49	~~0.83~~ 2.49	74	~~1.85~~ ~~0.61~~	99	~~1.11~~ ~~0.37~~		

