

The crystal structure of tuscanite

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Abstract

The crystal structure of tuscanite

$[K_{0.88}Sr_{0.04}(H_2O)_{1.08}](Ca_{5.25}Na_{0.51}Fe_{0.10}^{+3}Mg_{0.11})(Si_{6.34}Al_{3.66})O_{22}(SO_4)_{1.38}(CO_3OH)_{0.55}(O_4H_4)_{0.11}$ space group $P2_1/a$, $a = 24.03(2)$, $b = 5.11(1)$, $c = 10.88(2)$ Å, $\beta = 106.94(9)^\circ$, was determined by direct methods using diffractometric data. Anisotropic thermal refinement led to a final R value of 0.034 ($R_w = 0.038$). The crystal structure is characterized by the presence of double layers of (Si, Al) tetrahedra; the double layer can be described, as in latiumite, as made up by five-membered rings, nearly parallel to (010), but whereas in latiumite each tetrahedron in the ring points upward, in tuscanite three tetrahedra in every ring point upward and two downward. These layers are connected by calcium and sulphate ions, as in latiumite; whereas in latiumite successive layers are related by unit translation, in tuscanite they are related by a glide plane. The substitutions of (CO_3OH) and (H_4O_4) for SO_4 are proposed and discussed.

Introduction

Tuscanite was discovered by Orlandi *et al.* (1977) in some ejected blocks found in a pumice deposit in Pitigliano, Tuscany, Italy. They pointed out the close relationships between tuscanite and latiumite, a sheet silicate described by Tilley and Henry (1953) and whose crystal structure was studied by Cannillo *et al.* (1973). Orlandi *et al.* (1977) noted the similarity of the X-ray powder diffraction patterns of tuscanite and latiumite; in fact, the unit cell of tuscanite is very similar to that of latiumite, from which it is obtainable by doubling the a parameter. We easily made the hypothesis that tuscanite and latiumite differ only in the stacking sequence, namely unit translation in latiumite and glide plane in tuscanite, of the same structural unit. To understand the precise structural relationships between the two minerals, namely whether the relation is polytypic or polymorphic, and to discover possible differences, we undertook the present structural analysis. A preliminary report on the main features of the crystal structure of tuscanite

was presented at the 1975 meeting of Società Italiana di Mineralogia e Petrologia.

Experimental

A small ($0.15 \times 0.12 \times 0.27$ mm) tabular crystal of tuscanite from Pitigliano was used for the X-ray structure analysis. Unit-cell data of our specimen, determined by the Philips PW-1100 single-crystal automatic diffractometer, are $a = 24.03(2)$, $b = 5.11(1)$, $c = 10.88(2)$ Å, $\beta = 106.94(9)^\circ$, space group $P2_1/a$, in good agreement with the values found by Orlandi *et al.* (1977) by least-squares fitting of powder data. Intensity data were collected by the same diffractometer, using graphite-monochromatized $MoK\alpha$ radiation ($\lambda = 0.7107$ Å), ω scan, integration width 1.2° . 3724 independent reflections were collected from 2° to $30^\circ \vartheta$; the corresponding values of F_{obs} and $\sigma(F_{obs})$ were obtained by the procedure of Davies and Gatehouse (1973); no absorption correction was made owing to the small dimensions of the crystal ($\mu = 19.7$ cm $^{-1}$); also, no extinction correction was applied. 2420 reflections were classified as "observed,"

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H K L

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	H	K	I	/FO/	/FC/	H	K	L	/FO/	/FC/	H	K	L	/FO/	/FC/
4	0	0	0	50.9	-49.2	-4	0	75.0	69.7	-22	0	3	154.1	-157.6	
6	0	0	0	-1.0	-72.6	6	0	165.4	-108.7	23	0	3	23.8	23.9	
8	0	0	0	209.6	*292.5	-6	0	52.7	-53.7	-24	0	3	89.0	90.1	
10	0	0	0	96.3	01.2	47.8	45.5	26	0	3	94.8	*94.4			
12	0	0	0	35.6	33.8	-8	0	163.9	-166.1	-26	0	3	63.8	*62.7	
14	0	0	0	141.1	142.6	16	0	177.1	179.5	26	0	3	7.5	-5.1	
16	0	0	0	38.0	40.0	-10	0	31.5	-31.9	-26	0	3	5.9	-6.6	
18	0	0	0	58.0	-59.0	12	0	75.3	-74.8	-36	0	3	78.8	78.3	
20	0	0	0	20.9	-21.3	12	0	222.0	226.4	-32	0	3	17.7	18.4	
22	0	0	0*	5.7	4.9	14	0	141.4	145.2	0	0	4	112.5	-108.6	
24	0	0	0	47.8	-46.8	-14	4	83.7	-82.6	0	0	4	44.6	*41.0	
26	0	0	0	66.4	67.2	16	0	11.3	-8.9	-2	0	4	76.3	78.0	
28	0	0	0	44.8	-43.1	-16	0	99.7	102.6	4	0	4	7.9	8.4	
30	0	0	0*	6.4	4.9	18	0	62.6	-62.7	-4	0	4	60.0	*53.9	
32	0	0	0*	8.6	10.3	-18	0	29.2	-28.0	6	0	4	16.5	*17.8	
2	0	0	1	9.4	5.9	20	0	28.2	*8.6	-6	0	4	60.8	*57.3	
-2	0	0	1	20.7	-19.5	-20	0	35.4	-29	6	0	4	24.6	22.5	
4	0	0	1	126.0	126.1	-22	0	30.4	-30	-6	0	4	81.9	*78.5	
-4	0	0	1	55.1	-50.6	-22	0	0	1.2	18	0	4	52.0	*53.7	
6	0	0	1	46.5	-49.4	24	0	10.5	-9	-19	0	4	93.8	92.9	
-6	0	0	1	99.3	-95.2	-24	0	19.4	-18.9	-12	0	4	52.0	*53.7	
8	0	0	1	96.3	-97.7	26	0	5.2	-6.6	-12	0	4	86.9	*87.2	
-8	0	0	1	133.5	136.6	-26	0	19.3	19.4	14	0	4	153.5	-154.6	
10	0	0	1*	4.9	-1.4	28	0	23.9	-23.0	-14	0	4	65.5	64.8	
-10	0	0	1*	6.4	-9.0	-28	0	13.1	15.9	16	0	4	5.3	0.0	
12	0	0	1	149.6	-154.6	-30	0	4.1	9.9	-16	0	4	47.0	-45.8	
14	0	0	1	148.0	149.5	-36	0	13.8	12.8	19	0	4	50.4	*49.9	
16	0	0	1	79.5	80.2	-32	0	8.3	-8.0	-19	0	4	26.6	*25.2	
18	0	0	1	55.6	55.6	132.2	-127.7	20	0	4	154.7	-159.9			
20	0	0	1	25.6	28.9	189.3	188.5	-20	0	4	20.3	19.6			
22	0	0	1	19.3	-17.7	-32	0	8.5	55.9	-22	0	4	47.0	-45.8	
24	0	0	1	9.1	-6.9	38.1	36.8	-22	0	4	50.4	*49.9			
18	0	0	1	11.3	11.1	-4	0	36.5	-36.7	24	0	4	30.4	*29.9	
20	0	0	1	6.0	5.7	-6	0	9.7	15.7	-24	0	4	36.4	30.7	
22	0	0	1	23.4	28.4	-6	0	38.7	-41.3	26	0	4	9.8	10.8	
24	0	0	1	42.9	44.2	-8	0	26.3	-22.9	-26	0	4	18.1	18.9	
26	0	0	1	29.7	-30.4	12	0	88.5	-84.8	28	0	4	11.0	-8.1	
28	0	0	1	37.3	-35.6	123.6	-125.1	-28	0	4	45.5	43.7			
30	0	0	1	3.6	-0.9	-10	0	6.9	-12.9	-38	0	4	106.6	-106.3	
32	0	0	1	45.9	44.7	-14	0	6.7	67.5	-2	0	4	114.5	-113.7	
34	0	0	1	27.2	25.8	16	0	66.7	-70.8	0	0	4	71.1	*70.1	
36	0	0	1	11.9	10.8	-16	0	17.9	-17.3	-4	0	4	127.6	124.0	
38	0	0	1	21.3	22.0	18	0	67.0	67.5	0	0	4	117.0	115.6	
40	0	0	1	73.8	68.9	-18	0	66.7	-70.8	-6	0	4	43.0	*34.9	
2	0	0	2	106.0	103.9	20	0	47.5	-47.3	-9	0	4	4.6	2.7	
-2	0	0	2	59.0	54.2	-20	0	97.1	99.5	-6	0	4	42.2	*41.4	
4	0	0	2	150.3	=148.8	22	0	13.4	13.4	-5	0	4	69.3	*70.4	

H	K	L	/FO/	/FC/	H	K	L	/FO/	/FC/	H	K	L	/FO/	/FC/	
7	1	1	13*	8·1	-14·5	-12	2	9·7	-92·6	8	134·0	131·7			
9	1	1	13*	8·0	-7·2	14	2	29·9	-30·5	9	135·6	-138·8			
1	1	1	13	15·9	15·5	-14	2	61·9	-63·0	12	16·7	15·5			
3	1	1	13	15·9	-18·9	16	2	23·2	23·3	4	43·3	40·7			
3	1	1	14*	6·1	1·4	-16	2	27·7	-29·3	4	-4	110·0	-113·9		
3	1	1	14*	9·1	3·4	18	2	45·9	-46·7	6	6	88·4	89·9		
3	1	1	14*	10·8	-1·9	-19	2	6·6	-11·7	-6	3	88·4	89·9		
3	1	1	14	24·6	-25·2	20	2	10·5	6·8	3	129·9	130·6			
5	1	1	14*	12·7	1·7	-20	2	0	-2·7	8	7·6	0·6			
5	1	1	14*	7·0	2·5	22	2	53·6	-54·9	19	43·3	43·1			
5	1	1	14*	4·4	3·3	-22	2	34·5	34·1	19	58·4	57·9			
5	1	1	14*	6·6	7·7	24	2	3·9	3·5	33	90·6	93·5			
5	1	1	14*	17·6	-18·7	-24	2	58·7	58·4	12	50·1	50·1			
5	1	1	14*	9·2	8·2	26	2	33·4	33·4	14	4·0	2·4			
5	1	1	14*	9·0	-12·0	-26	2	17·7	-15·0	-14	87·8	89·2			
5	1	1	14*	14·8	12·7	-28	2	8·1	-9·7	16	52·9	53·6			
5	1	1	14*	7·4	-2·5	-30	2	57·5	-57·0	-16	5·0	-0·4			
5	1	1	14*	7·3	3·9	-39	2	14·7	-13·0	18	87·8	89·2			
5	1	1	15*	7·5	5·6	-39	2	17·7	-15·0	-14	63·9	65·5			
5	1	1	15*	5·5	-7·7	9	2	22·9	-20·6	-18	59·4	-53·6			
5	1	1	15*	5·5	-3·6	-2	2	20	22·2	20	12	47·0	50·1		
3	1	1	15*	0·1	6·1	-2	2	16·2	15·0	-26	12	47·0	50·1		
3	1	1	15*	32·1	=34·3	-4	2	46·9	-43·0	-22	3	41·2	41·0		
3	1	1	15*	55·0	-53·2	0	2	12·9	5·1	22	3	41·2	41·0		
3	1	1	15*	9·0	-5·3	0	2	129·5	132·7	-24	2	42·7	42·1		
3	1	1	15*	66·6	-63·6	0	2	84·9	-82·1	26	3	39·7	37·6		
3	1	1	15*	139·3	141·2	0	2	26·3	-28·7	-26	3	103·5	102·2		
3	1	1	15*	54·0	54·5	0	2	125·5	128·8	-28	0	38·0	37·5		
3	1	1	15*	33·0	-34·9	0	2	105·3	-107·8	-28	0	10·7	9·2		
3	1	1	15*	58·9	-58·3	0	2	27·4	27·0	-38	0	5·4	4·0		
3	1	1	15*	111·7	=113·6	0	2	58·9	58·4	-32	0	66·3	67·1		
3	1	1	15*	64·4	65·1	0	2	78·4	-79·5	0	0	90·2	86·2		
3	1	1	15*	17·0	-19·2	0	2	138·7	-142·9	2	2	22·4	22·8		
3	1	1	15*	13·2	17·2	0	2	18·7	15·8	-2·0	3	32·5	33·1		
3	1	1	15*	74·5	75·0	0	2	2·0	-3·3	3	3	32·2	32·0		
3	1	1	15*	64·4	-77·4	0	2	78·0	-78·4	-16	4	13·3	10·4		
3	1	1	15*	40·7	40·9	0	2	44·1	44·3	6	6	17·0	16·3		
3	1	1	15*	14·6	-15·3	0	2	29·3	-30·8	-6	6	41·8	40·8		
3	1	1	15*	19·3	-16·9	0	2	18·7	17·8	-16	8	40·8	36·4		
3	1	1	15*	21·3	21·9	0	2	43·2	44·0	-20	8	25·4	26·1		
3	1	1	15*	12·9	12·5	0	2	15·1	11·0	-15	1	48·5	48·9		
3	1	1	15*	58·4	-58·5	0	2	48·1	49·1	-19	1	76·2	76·8		
3	1	1	15*	24·4	24·3	0	2	13·1	-15·1	-19	6	53·6	50·6		
3	1	1	15*	76·6	80·2	0	2	9·0	-8·3	-12	1	43·3	43·3		
3	1	1	15*	34·1	-35·8	0	2	8·3	-7·8	-14	1	108·5	108·5		
3	1	1	15*	42·1	-41·3	0	2	6·4	-6·6	-14	1	10·8	5·6		
3	1	1	15*	24·3	-27·1	0	2	2·0	-2·0	-28	2	34·6	35·0		
3	1	1	15*	29·0	-29·3	0	2	28·4	27·5	-28	2	66·0	65·6		
3	1	1	15*	38·7	-40·4	0	2	45·4	-45·3	-28	2	34·6	35·0		
3	1	1	15*	100·1	-101·8	0	2	9·3	-9·9	-18	2	68·9	68·9		

H K L /FO/ /FC/

H K L

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H K L /FO/ /FC/

0 2 2 4 20·9 -17·9 -10 2 2 4 47·1 46·7 -4 2 8 49·1 =47·6

0 2 2 4 75·7 76·2 12 2 6 15·2 17·9 6 2 8 67·9 =69·1

2 2 4 53·6 -52·1 -12 2 6 6·0 -4·9 -6 2 8 32·6 =33·9

2 2 4 46·1 44·7 14 2 6 14·2 15·2 8 2 8 70·0 =69·9

4 2 4 72·5 -71·3 -14 2 6 20·3 -20·3 -3 2 8 63·5 =82·6

4 2 4 18·0 17·4 16 2 6 60·7 61·4 10 2 8 8·5 6·0

6 2 4 7·3 -3·8 -16 2 6 14·5 -16·2 -10 2 8 106·9 107·4

6 2 4 4 41·0 -42·1 13 2 6 22·5 21·4 12 2 8 15·9 16·5

6 2 4 67·0 -68·0 -13 2 6 10·1 -7·7 -12 2 8 82·0 =82·2

0 2 4 34·0 -32·4 20 2 6 72·5 -72·3 14 2 8 88·3 88·6

2 2 4 25·0 -22·9 -20 2 6 43·6 42·4 13 2 8 59·9 =60·4

2 2 4 93·2 92·2 22 2 6 11·4 -5·8 14 2 8 63·5 63·8

2 2 4 43·0 44·0 -22 2 6 47·4 -50·0 -16 2 8 88·3 88·6

2 2 4 29·1 28·0 24 2 6 32·2 -28·9 18 2 8 5·0 -4·6

2 2 4 56·4 56·0 -24 2 6 74·0 75·8 -18 2 8 66·3 =67·2

2 2 4 38·0 -38·0 -26 2 6 17·4 -14·8 20 2 8 0 2·2

2 2 4 91·4 -91·3 -28 2 6 49·5 -40·4 -20 2 8 16·0 =16·2

2 2 4 79·0 -77·0 -30 2 6 27·9 27·1 -22 2 8 33·9 =34·8

2 2 4 10·5 -6·6 -32 2 6 27·6 -27·7 -24 2 8 27·4 =28·3

2 2 4 24·0 -24·4 9 2 6 38·5 75·8 -26 2 8 0 2·2

2 2 4 60·7 61·6 -2 2 6 29·8 28·1 -28 2 8 8·4 6·3

2 2 4 114·1 -113·0 -2 2 7 107·2 106·9 -30 2 8 0 2·2

2 2 4 58·1 -58·5 -4 2 7 62·1 -61·4 0 2 8 25·2 23·8

2 2 4 91·9 96·4 -4 2 7 6·8 7·0 2 2 9 3·5 3·4

2 2 4 37·5 38·5 -6 2 7 67·6 -69·9 -2 2 9 50·1 =50·2

2 2 4 18·7 -17·9 -6 2 7 33·0 -33·2 -4 2 9 93·9 93·5

2 2 4 11·6 -13·8 -8 2 7 94·1 -92·6 -4 2 9 5·3 =4·5

2 2 4 9·3 9·5 -8 2 7 118·2 -115·2 -4 2 9 34·7 =30·9

2 2 4 29·0 33·4 -10 2 7 56·3 52·9 10 2 9 63·3 =61·7

2 2 4 35·6 -35·8 -12 2 7 36·7 -35·4 -10 2 9 36·6 =37·1

2 2 4 13·1 -13·4 -12 2 7 36·7 35·1 -10 2 9 37·6 =38·6

2 2 4 7·0 -10·5 -14 2 7 27·3 29·5 -12 2 9 43·1 =40·0

2 2 4 2·0 -2·0 -14 2 7 56·3 52·9 10 2 9 49·5 =50·4

2 2 4 48·0 48·5 -14 2 7 35·1 37·0 -12 2 9 12·4 =9·0

2 2 4 20·9 -19·7 -16 2 7 110·2 110·7 -14 2 9 15·6 16·3

2 2 4 32·8 36·9 -18 2 7 21·7 21·7 -14 2 9 5·0 =2·7

2 2 4 48·6 46·5 -18 2 7 47·6 46·1 -16 2 9 46·2 =45·5

2 2 4 42·4 -41·2 -20 2 7 1·9 -1·3 -16 2 9 47·7 =46·2

2 2 4 21·5 -21·5 -18 2 7 3·9 -2·5 -18 2 9 41·2 =42·4

2 2 4 44·0 -42·6 -22 2 7 47·6 -45·0 -18 2 9 37·2 =37·3

2 2 4 145·6 144·8 -22 2 7 67·4 -65·9 -20 2 9 79·1 =79·6

2 2 4 19·4 20·8 -24 2 7 4·4 -3·1 -22 2 9 47·5 =48·5

2 2 4 6·6 6·6 -26 2 7 6·9 -6·2 -24 2 9 19·5 =20·5

2 2 4 6·6 6·6 -28 2 7 0 -7·9 -26 2 9 29·4 =30·8

2 2 4 41·3 -39·5 0 0 -30 2 7 0 -7·9 -28 2 9 79·6 81·2

2 2 4 24·1 -24·7 2 2 -30 2 7 0 -7·9 -28 2 9 73·7 =73·4

2 2 4 26·2 26·1 -2·2 2 7 0 -7·9 -28 2 9 45·6 =46·6

2 2 4 17·5 17·5 -2·2 2 7 0 -7·9 -28 2 9 72·1

H	K	L	/FO/	/FC/	H	K	L	/FO/	/FC/	H	K	L	/FO/	/FC/
4	4	2	10	37.0	35.0	-10	2	10	30.6	29.6	3	16.5	*16.6	
4	4	2	10	49.0	-49.5	-12	2	12	7.0	-5.2	-3	53.3	51.7	
6	6	2	10	27.0	27.0	-14	2	12	7.0	-75.2	5	90.3	90.6	
6	6	2	10	18.6	19.0	-16	2	12	17.8	-15.3	-5	46.6	*46.8	
8	2	10	13.2	-7.8	-18	2	12	20.7	-19.0	7	65.1	*64.6		
6	2	10	10.4	11.4	-20	2	12	44.9	45.7	-7	15.9	*14.6		
6	0	2	10	75.4	-75.8	-22	2	12	8.4	11.2	9	33.5	34.1	
0	0	3	10	43.0	-45.2	-24	2	12	10.9	12.3	-9	1.1	1.1	
2	2	2	10	29.2	-27.9	-2	2	12	26.9	-27.3	11	21.5	20.7	
2	2	2	10	23.6	-26.9	2	2	12	15.5	16.8	-11	9.0	*12.4	
4	4	2	10	0.	19.4	-2	2	12	13.7	-13.2	13	12.4	*12.1	
6	4	2	10	27.3	24.2	-4	2	12	10.6	2.3	-13	19.2	18.8	
6	2	10	4.4	5.5	-4	2	13	38.0	36.8	15	13.1	*14.9		
6	2	10	21.2	-9.5	6	2	13	49.2	50.8	-15	22.0	*22.6		
8	2	10	21.7	24.4	-6	2	13	2.8	5.7	17	5.3	-3.2		
0	2	10	6.4	-5.5	-8	2	13	6.6	7.8	-17	33.1	34.4		
2	2	10	11.4	-9.7	-10	2	13	20.3	-18.7	19	14.8	-12.0		
4	2	10	68.0	-69.9	-12	2	13	5.9	-4.9	-19	40.5	*39.6		
6	2	10	7.2	-1.9	-14	2	13	13.9	-11.6	21	7.6	7.2		
8	2	10	10.7	-10.5	-16	2	13	13.8	-8.1	-21	4.6	3.8		
0	2	11	74.2	-76.0	-18	2	13	5.4	5.7	23	10.6	11.3		
2	2	11	7.7	-7.2	-20	2	13	17.6	18.0	-23	14.6	10.3		
4	2	11	15.7	-9.2	-22	2	13	56.8	-61.4	-27	27.3	*28.6		
4	2	11	7.0	2.7	-2	2	14	35.3	-41.7	-25	0.	3.8		
4	2	11	5.0	14.7	-9	2	14	13.8	-13.9	27	14.6	10.3		
6	2	11	8.1	-0.3	-2	2	14	44.7	-48.4	-27	13.8	11.7		
6	2	11	1.7	7.4	-4	2	14	30.4	41.6	-29	5.1	2.5		
8	2	11	103.4	105.9	-6	2	14	23.9	26.7	-1	1.1	1.1		
8	2	11	62.3	62.6	-6	2	14	69.1	91.7	-1	2.2	2.2		
8	2	11	15.3	-15.2	-1	2	14	30.4	41.6	41.6	*40.7	40.7		
0	2	11	52.3	-53.1	-12	2	14	26.6	27.5	3	45.9	*47.6	*47.6	
0	2	11	13.2	-17.9	-14	2	14	76.4	-79.8	-3	38.1	38.1		
2	2	11	23.6	24.6	-16	2	14	18.6	22.5	5	40.5	39.9		
2	2	11	67.5	67.1	-18	2	14	61.8	-64.7	-5	10.9	9.9		
4	2	11	27.4	-28.2	1	3	14	5.5	8.0	2	17.8	*17.1		
6	2	11	1.1	3.0	0	60.5	-58.0	60.5	-49.0	7	7.7	11.2		
6	2	11	34.2	-36.3	11	5	33.0	48.0	49.0	-7	20.1	21.4		
6	2	11	5.1	0.5	0	13	6.0	5.0	-2.9	3.2	16.0	14.8		
0	2	12	6.0	-8.5	15	24.5	-24.4	24.5	-25.0	-13	3.1	-3.8		
2	2	12	10.5	9.9	17	25.0	-25.7	67.0	-67.9	-13	3.1	-3.8		
2	2	12	115.8	*117.4	19	25.0	-25.7	14.2	-17.0	-15	3.1	-3.8		
6	2	12	124.4	-124.4	21	24.5	-24.4	12.0	-7.8	-15	3.1	-3.8		
6	2	12	37.4	36.4	23	24.5	-25.0	6.0	6.0	-13	3.1	-3.8		
6	2	12	42.0	40.7	25	24.9	-23.3	14.2	-12.0	-15	3.1	-3.8		
6	2	12	138.1	18.0	27	21.5	-23.6	5.1	-20.4	-15	3.1	-3.8		
6	2	12	11.5	-4.5	29	21.5	-23.6	1.2	-20.4	-11	3.1	-3.8		
8	2	12	6.5	4.8	1	2.1	2.1	2.1	2.1	27.0	*27.4	*27.4		
0	2	12	16.8	10.5	1	2.1	2.1	2.1	2.1	24.2	20.7	20.7		
0	2	12	1.1	-1.1	1	2.1	2.1	2.1	2.1	19.1	-19.1	-19.1		

	H	K	L	/FO/	/FC/		H	K	L	/FO/	/FC/		H	K	L	/FO/	/FC/
	2*	2	3	13.6	15.3		17	3	4	23.3	22.6	-11	3	6*	8.9	-11.2	
	2*	2	3	7.9	-5.4		-17	6	4	8.3.7	-8.5.5	13	3	6	23.6	-26.8	
	2*	2	3	12.1	-11.8		19	3	4	16.2	-13.0	-13	3	6	45.3	46.4	
	2*	2	2	21.2	1.2		-10	3	4	26.0	26.2	15	3	6*	0*	-3.1	
	2	2	2	23.7	-25.5		21	3	4	16.8	14.5	-15	6	6	22.2	-20.3	
	2	2	2	29.6	29.9		-21	3	4	5.3	6.6	17	6	6*	12.5	16.4	
	2	2	2	83.7	86.5		23	3	4	6.5	-6.5	-17	6	6*	11.0	13.5	
	2	2	2	23.3	-22.5		-23	3	4	10.4	10.8	19	6	6*	11.0	10.8	
	2	2	2	9.5	-12.0		25	3	4	9.0	-9.2	-19	6	6*	13.8	18.7	
	2	2	2	41.5	41.7		-25	4	*	6.4	-8.4	21	6	6*	0	5.1	
	2	2	2	0.6	4.8		-27	4	*	6.7	2.5	-21	6	6	22.3	22.3	
	2	2	2	84.7	-89.3		-29	4	*	10.6	0.7	-23	6	6*	6.7	6.5	
	2	2	2	25.7	26.4		-1	4	*	17.7	18.1	-25	6	6	14.9	15.5	
	2	2	2	8.9	7.9		-1	3	*	8.8	9.5	-27	6	6	25.8	26.6	
	2	2	2	94.9	-98.6		-3	3	*	20.2	-20.1	-29	6	6	20.8	23.0	
	2	2	2	28.9	-26.4		-3	3	*	21.6	-20.0	-1	1	32.1	31.9		
	2	2	2	49.7	52.8		-5	3	*	39.9	-49.7	-1	3	7*	7.9	7.8	
	2	2	2	10.0	-2.6		-5	3	*	79.2	80.5	6	6	7*	7.9	3.5	
	2	2	2	11.5	-8.9		-7	3	*	41.1	42.6	-3	3	4.7	-5.2		
	2	2	2	55.9	57.9		-7	3	*	67.6	-66.4	5	3	53.1	55.6		
	2	2	2	12.9	11.9		-9	3	*	16.3	-17.0	-15	3	7*	4.5	-2.6	
	2	2	2	6.7	5.2		-9	3	*	17.5	17.1	-7	3	7*	-6.3	-6.5	
	2	2	2	15.2	-15.4		-11	3	*	18.7	17.0	-7	3	7*	32.1	31.9	
	2	2	2	39.9	-39.7		-11	3	*	23.9	23.7	-9	3	7*	32.1	31.9	
	2	2	2	27.6	26.6		0	3	*	17.5	-17.0	-15	3	7*	7.9	7.8	
	2	2	2	18.7	20.6		-13	3	*	17.5	17.1	-7	3	7*	7.9	7.8	
	2	2	2	6.7	-1.9		-13	3	*	33.0	-35.3	-11	3	7*	35.9	35.5	
	2	2	2	29.1	-30.6		-15	3	*	15.1	13.7	-11	3	7*	13.9	13.2	
	2	2	2	26.4	29.6		-17	3	*	28.2	29.5	-13	3	7*	15.7	-16.0	
	2	2	2	27.7	-1.9		-17	3	*	16.1	-2.1	-13	3	7*	44.9	45.5	
	2	2	2	16.2	-16.7		-17	3	*	17.5	-19.3	-15	3	7*	32.4	32.2	
	2	2	2	17.0	-1.9		-19	3	*	30.7	-28.7	-15	3	7*	35.9	35.5	
	2	2	2	17.9	-19.9		-19	3	*	36.7	36.2	-15	3	7*	13.9	13.2	
	2	2	2	19.0	-18.5		-21	3	*	25.0	26.4	-17	3	7*	13.9	13.2	
	2	2	2	27.4	-24.6		-21	3	*	35.2	-37.6	-19	3	7*	21.2	-21.5	
	2	2	2	25.1	20.5		-23	3	*	10.3	-11.9	-19	3	7*	21.2	-21.5	
	2	2	2	40.6	-40.0		-23	3	*	5.3	4.2	-21	7	7*	31.5	-33.8	
	2	2	2	41.4	43.4		-25	3	*	6.9	12.1	-23	7	7*	31.5	-33.8	
	2	2	2	47.1	-46.7		-27	3	*	11.1	17.7	-25	7	7*	23.4	-24.6	
	2	2	2	-5.3	-1.9		-29	3	*	-6.1	-6.1	-27	7	7*	-24.8		
	2	2	2	3.3	3.3		-1	3	*	3.3	-3.7	-27	7	7*	23.0	-24.8	
	2	2	2	6.6	6.6		-1	3	*	3.3	-3.7	-27	7	7*	27.0	-27.4	
	2	2	2	6.6	6.6		-1	3	*	3.3	-3.7	-27	7	7*	22.6	-21.7	
	2	2	2	6.4	6.6		-1	3	*	3.2.1	-3.2.4	-27	7	7*	17.8	18.2	
	2	2	2	51.4	52.5		-1	3	*	1.7	-6.6	-27	7	7*	27.0	25.9	
	2	2	2	39.3	-17.3		-3	3	*	54.9	-53.1	-1	3	3	26.6	-25.6	
	2	2	2	52.2	52.9		-3	3	*	47.9	50.8	3	3	8*	8.0	-4.9	
	2	2	2	6.4	4.4		-5	3	*	56.0	55.8	3	3	8*	35.5	-34.9	
	2	2	2	9.2	-9.3		-7	3	*	30.0	-32.2	1	3	8*	24.1	-25.7	
	2	2	2	57.7	-59.7		-7	3	*	31.5	-30.7	-1	3	8*	14.8	-14.4	
	2	2	2	13.0	-12.1		-9	3	*	22.8	25.2	7	3	8*	10.4	-13.4	
	2	2	2	25.6	28.7		-11	3	*	0.	-4.5	9	3	8*	19.3	-18.9	
	2	2	2	45.3	46.8		-11	6	*	15.1	-3.7	8	6	6*	6.6	-3.8	

H	K	L	/FO/	/FC/	H	K	L	/FO/	/FC/	H	K	L	/FO/	/FC/
3	8*	8.7	-7.0	-15	3	10	14.3	14.6	2	4	0*	6.2	-2.6	
3	8*	8.8	-4.0	-5.3	-17	3	10	2.9.5	-30.8	4	4	0	27.2	28.3
3	8	41.4	40.1	-19	3	10*	9.2	8.4	6	4	0	31.0	32.9	
3	8	15.5	15.7	-21	3	10	29.3	28.2	8	4	0	120.4	-120.8	
3	8	22.0	-22.0	-23	3	10*	6.0	-4.6	10	4	0	34.9	-33.3	
3	8	34.4	-35.9	-25	3	10*	13.4	-11.1	12	4	0	25.1	26.4	
3	8	2.3	1.9	-1	3	11*	3.7	8.6	14	4	0	46.3	46.9	
3	8	28.1	27.9	-1	3	11*	15.5	18.7	16	4	1	40.6	39.6	
3	8	28.6	-30.9	-3	3	11	43.1	-42.7	18	4	0	6.1	-7.7	
3	8	19.5	18.7	-3	3	11*	5.2	7.8	20	4	0*	12.6	-10.4	
3	8	15.7	18.2	-5	3	11*	8.0	-14.9	22	4	0*	13.5	-13.1	
3	8	13.9	11.9	-5	3	11	28.0	29.0	24	4	0	57.0	-57.4	
3	8*	8.8	8.8	-5	3	11	29.0	23.7	26	4	0	36.3	-34.9	
3	8*	20.0	23.6	-7	3	11	22.7	23.7	0	4	1	17.5	-19.7	
3	8	23.5	23.6	-7	3	11*	3.8	5.9	0	4	1	29.6	31.2	
3	8	20.1	22.4	-9	3	11	12.0	-8.3	2	4	1	29.6	31.2	
3	8	32.3	-34.3	-9	3	11	51.8	-51.2	-2	4	1	30.9	31.4	
3	8	33.1	-34.0	-11	3	11*	8.3	-1.0	4	4	1	3.9	-4.2	
3	8	12.5	12.0	-13	3	11	18.3	-19.7	-4	4	1	19.4	-19.3	
3	8	12.4	10.0	-15	3	11*	6.6	7.2	6	4	1	46.7	-47.4	
3	8	41.5	-40.7	-17	3	11	24.4	23.0	-6	4	1	16.4	-16.4	
3	8	4.0	-0.7	-19	3	11*	0	9.0	8	4	1	20.4	21.0	
3	8	9.5	10.5	-21	3	11*	11.4	-8.4	-8	4	1	57.2	56.9	
3	8	6.2	-9.9	-23	3	11*	5.7	-4.5	10	4	1	7.7	-6.8	
3	8	9*	9*	-25	3	11	17.6	-21.9	-10	4	1	85.6	-87.9	
3	8	10.7	3.6	-1	3	12	27.5	-27.1	12	4	1	60.4	-60.9	
3	8	4.6	3.7	-1	3	12*	10.2	-12.8	-12	4	1	59.5	60.0	
3	8	9*	11.7	-17	4	12*	10.2	-12.8	4	1	1	47.4	-47.4	
3	8	9*	12.5	-16	4	12*	44.4	46.0	14	4	1	17.3	-16.4	
3	8	5.5	-1.2	-3	3	12	12.2	-10.1	-14	4	1	17.3	-16.4	
3	8	27.5	-26.1	-5	3	12	19.1	-18.3	16	4	1	5.1	5.0	
3	8	38.1	38.0	-5	3	12	21.8	-17.2	-16	4	1	14.9	14.5	
3	8	12.4	-11.6	-7	3	12*	3.7	-1.3	18	4	1	7.3	-7.3	
3	8	5.1	2.6	-7	3	12	17.7	20.4	-16	4	1	75.6	77.3	
3	8	4.4	-3.9	-9	3	12	19.1	-18.3	16	4	1	5.1	5.0	
3	8	23.7	-23.3	-11	3	12*	21.8	-17.2	-16	4	1	14.9	14.5	
3	8	9	28.1	-31.5	-13	3	12	24.7	29.2	22	4	1	12.3	11.3
3	8	33.8	-32.5	-15	3	12	24.0	-23.1	-22	4	1	32.4	-31.9	
3	8	13.7	-11.0	-17	3	12	12.0	-11.0	24	4	1	13.5	-12.6	
3	8	33.5	-31.9	-19	3	12*	12.7	-12.9	-20	4	1	30.8	-30.1	
3	8	0	-1.5	-21	3	12*	4.2	-6.7	4	1	1	32.4	-31.9	
3	8	25.5	4.6	-21	3	12*	21.4	-20.1	-26	4	1	16.3	-17.0	
3	8	12.0	-3.3	-1	3	13	21.4	-20.1	-26	4	1	10.5	5.8	
3	8	10*	10*	-3	3	13	8.4	-3.1	0	4	2	8.4	9.7	
3	8	3.9	3.9	-9	3	13*	3.1	2	4	2	57.9	57.9		
3	8	10*	10*	-6	3	13*	3.7	6.6	2	4	2	83.1	-83.7	
3	8	14.4	-6.2	-11	3	13*	7.2	-8.1	-2	4	2	7.7	-2.3	
3	8	9.7	-7.9	-13	3	13*	7.5	-8.1	-2	4	2	27.7	-27.7	
3	8	3.3	4.2	-15	3	13*	5.7	-2.7	4	4	2	32.4	-33.1	
3	8	10*	10*	-15	3	13*	11.5	2.1	-4	4	2	9.1	4.8	
3	8	4.7	6.9	-11	3	13*	7.3	-3.1	6	4	2	83.1	-83.7	
3	8	10*	10*	-16	3	13*	3.7	6.6	4	2	2	7.7	-2.3	
3	8	12.1	1.6	-13	3	13*	7.2	-3.6	-6	4	2	1.4	-12.7	
3	8	9.7	-7.9	-17	3	13*	4.2	-6.3	8	4	2	15.4	-12.7	
3	8	4.3	-4.3	-17	3	13*	4.2	-6.3	-8	4	2	73.6	-73.8	
3	8	10	10	-210.9	210.8	8	4	2	4	2	4	2	50.7	

H	K	L	/F0/	/FC/	H	K	L	/F0/	/FC/	H	K	L	/F0/	/FC/	
0	4	2	31.2	-31.0	8	4	6*	9.5	7.2	20.4	-24.9	6	4	6*	
2	4	2*	16.0	-3.0	-8	4	1	22.9	-22.7	-8	4	6*	5.0	-4.3	
2	4	2	92.0	92.0	10	4	4	49.5	50.1	10	4	4	29.2	29.8	
4	4	2	86.0	86.0	R1.3	10	4	64.2	65.4	-10	4	4	57.5	56.3	
4	4	2	30.1	-31.6	-12	4	4	15.3	-12.6	-12	4	4	21.7	23.0	
4	4	2	13.0	13.0	-12	4	4	18.5	-19.1	-12	4	6	28.8	27.4	
4	4	2	67.0	67.0	14	4	4	41.7	-41.0	14	4	6	20.0	19.8	
4	4	2	50.1	-52.5	-14	4	4	5.4	-6.0	-14	4	6	18.5	14.8	
4	4	2	16.8	16.8	16	4	4	35.7	-33.6	16	4	6	44.8	45.4	
4	4	2	7.0	4.2	-16	4	4	20.0	20.4	-16	4	6	33.9	31.7	
4	4	2	61.4	-63.3	18	4	4	49.3	-40.0	18	4	6	18.5	14.8	
4	4	2	24.0	-20.8	-18	4	4	42.9	-45.0	-18	4	6	7.4	9.2	
4	4	2	6.0	-6.0	20	4	4	21.3	17.1	-20	4	6	28.0	27.9	
4	4	2	13.6	16.8	-20	4	4	41.3	-41.1	-22	4	6	25.3	26.3	
4	4	2	8.2	-16.4	22	4	4	40.0	35.6	-24	4	6	54.5	51.5	
4	4	2	27.0	30.0	-22	4	4	35.9	-34.3	-26	4	6	28.8	32.5	
4	4	2	39.0	-37.6	-24	4	4	13.4	-13.5	0	4	7	57.7	56.4	
4	4	2	72.3	75.0	27.0	4	4	37.0	35.6	2	4	7	36.6	35.2	
4	4	2	23.4	23.2	-26	4	4	47.8	49.2	-2	4	7	5.3	-3.1	
4	4	2	6.0	-4.5	-28	4	4	39.6	-38.3	-24	4	6	28.8	32.5	
4	4	2	15.2	-15.7	0	4	4	17.5	-17.3	-26	4	6	28.8	32.5	
4	4	2	29.7	27.8	-24	4	4	4.4	-4.4	-4	4	7	19.9	22.8	
4	4	2	45.8	-42.0	15.2	2	4	102.5	-103.0	6	4	7	34.1	32.5	
4	4	2	32.1	31.3	29.0	4	4	29.0	-97.2	-6	4	7	26.9	28.7	
4	4	2	11.2	8.3	32.1	4	4	71.0	71.6	4	4	7	67.3	66.4	
4	4	2	67.5	-79.1	11.2	4	4	69.2	72.0	-8	4	7	76.9	75.2	
4	4	2	45.6	-45.9	45.6	4	4	41.2	39.9	19	4	7	19.6	19.3	
4	4	2	6.0	-3.8	6.0	4	4	7.6	-6.7	-19	4	7	29.6	30.6	
4	4	2	5.5	3.3	5.5	4	4	39.0	41.1	-12	4	7	35.0	35.4	
4	4	2	6.7	-6.8	10	4	4	23.7	-23.4	-12	4	7	38.3	37.0	
4	4	2	77.7	76.0	-10	4	4	71.0	71.8	14	4	7	13.2	14.1	
4	4	2	22.0	-21.5	12	5	5	5.5	7.5	-14	4	7	4.7	2.9	
4	4	2	74.0	-72.2	-12	7	7	75.7	-76.9	-14	4	7	24.4	23.9	
4	4	2	41.0	41.8	14	4	4	44.3	-44.1	-16	4	7	7.2	-2.8	
4	4	2	20.4	-21.0	12	5	5	20.4	-21.0	-18	4	7	52.8	53.2	
4	4	2	12.5	12.5	12.5	5	5	12.5	-7.2	-18	4	7	70.3	71.9	
4	4	2	7.2	-7.2	-7.2	5	5	7.2	-7.2	-20	4	7	21.3	22.6	
4	4	2	16	-16	-16	13	2	18.2	-15.7	-22	4	7	39.5	39.7	
4	4	2	21.2	19.3	18	18	2	18.6	17.1	-24	4	7	7.0	2.2	
4	4	2	43.7	40.1	-22	10	6	10.6	-12.2	-26	4	7	14.8	13.9	
4	4	2	24.3	28.3	-24	5	7	25.7	28.4	-2	4	8	31.5	32.1	
4	4	2	60.0	-32.9	-24	5	8	5.8	1.2	-4	4	8	10.0	7.0	
4	4	2	8.2	-5.9	-26	4	4	44.4	-42.9	-4	4	8	50.5	49.3	
4	4	2	47.6	-48.5	0	4	6	14.6	12.6	9	4	8	41.6	42.4	
4	4	2	42.1	-44.0	-2	6	6	10.6	-11.2	-6	4	8	55.1	55.3	
4	4	2	2.2	-2.2	-2	6*	6	4.2	3.7	-2	4	8	42.6	42.4	
4	4	2	13.3	-32.9	-24	3*	3	13.3	13.3	-4	4	8	32.1	32.1	
4	4	2	13.3	-7.0	-26	4	6	13.3	-7.0	-4	4	8	4.6	4.6	
4	4	2	10.7	-1.8	-4	6*	6	13.3	-7.0	-4	4	8	11.1	-9.6	
4	4	2	-1.8	13.3	-13.3	13.3	4	8	13.3	-7.0	-19	4	8	27.5	-27.7
4	4	2	51.2	-50.8	-6	6	6	13.3	-7.0	-19	4	8	6.7	-10.6	

5	5	4*	-4.0	-2.9	-9	5	9*	12.5	18.5
5	5	4*	16.0	19.3	11	5	9*	9.6	-5.1
5	5	4*	16.0	-14.4	-11	5	9*	9.5	12.4
5	5	4*	3.0	0.5	13	6	9*	6.3	6.6
5	5	4	4.0	-4.0	-13	6	9*	34.5	-36.7
5	5	4*	11.0	7.9	15	5	9	22.3	"19.3
5	5	4*	9.0	12.0	12	6	6*	40.9	"41.9
5	5	4	4.0	-2.0	-17	6	6*	20.7	-22.5
5	5	4	4.0	4.4	12.1	4	4	-19	-17
5	5	4	4.0	-1.4	-1	1	5	5	5
5	5	4	4.0	-20.1	-1	5	7	6*	6*
5	5	4	4.0	-1.8	-19	5	9*	7.0	4.2
5	5	4	4.0	-32.6	-21	5	10*	0	2.0
5	5	4	4.0	-31.2	-23	5	10*	1	-6.1
5	5	4	4.0	4.4	-23	5	10*	7.1	-10.4
5	5	4	4.0	4.4	-23	5	10*	37.5	36.9
5	5	4	4.0	4.4	-23	5	10*	8.6	7.6
5	5	4	4.0	4.4	-23	5	10*	11.0	-5.0
5	5	4	4.0	4.4	-23	5	10*	13.2	10.4
5	5	4	4.0	4.4	-23	5	10*	33.5	"34.2
5	5	4	4.0	4.4	-23	5	10*	7.5	7.5
5	5	4	4.0	4.4	-23	5	10*	31.0	"34.4
5	5	4	4.0	4.4	-23	5	10*	19.0	15.1
5	5	4	4.0	4.4	-23	5	10*	123.4	-149.2
5	5	4	4.0	4.4	-23	5	10*	42.4	-40.0
5	5	4	4.0	4.4	-23	5	10*	31.8	30.5
5	5	4	4.0	4.4	-23	5	10*	6.4	9.1
5	5	4	4.0	4.4	-23	5	10*	73.7	70.7
5	5	4	4.0	4.4	-23	5	10*	2.1	2.6
5	5	4	4.0	4.4	-23	5	10*	33.6	30.6
5	5	4	4.0	4.4	-23	5	10*	5.7	12.9
5	5	4	4.0	4.4	-23	5	10*	27.2	"31.2
5	5	4	4.0	4.4	-23	5	10*	12.0	16.3
5	5	4	4.0	4.4	-23	5	10*	27.4	"26.4
5	5	4	4.0	4.4	-23	5	10*	32.7	"34.1
5	5	4	4.0	4.4	-23	5	10*	9.6	-3.9
5	5	4	4.0	4.4	-23	5	10*	39.2	38.2
5	5	4	4.0	4.4	-23	5	10*	26.5	27.8
5	5	4	4.0	4.4	-23	5	10*	5.5	-2.0
5	5	4	4.0	4.4	-23	5	10*	22.6	-22.7
5	5	4	4.0	4.4	-23	5	10*	-10.6	-7.6
5	5	4	4.0	4.4	-23	5	10*	13.0	13.9
5	5	4	4.0	4.4	-23	5	10*	10.9	-7.6
5	5	4	4.0	4.4	-23	5	10*	8.9	-12.5
5	5	4	4.0	4.4	-23	5	10*	22.5	-20.6
5	5	4	4.0	4.4	-23	5	10*	14.6	-7.7
5	5	4	4.0	4.4	-23	5	10*	7.7	-5.0
5	5	4	4.0	4.4	-23	5	10*	-14.6	40.9
5	5	4	4.0	4.4	-23	5	10*	16.6	"40.4
5	5	4	4.0	4.4	-23	5	10*	7.0	"13.4
5	5	4	4.0	4.4	-23	5	10*	0	-4.0
5	5	4	4.0	4.4	-23	5	10*	2.0	-10.9
5	5	4	4.0	4.4	-23	5	10*	2.0	38.3
5	5	4	4.0	4.4	-23	5	10*	0	"38.3
5	5	4	4.0	4.4	-23	5	10*	-2	-6.2
5	5	4	4.0	4.4	-23	5	10*	2	8.7
5	5	4	4.0	4.4	-23	5	10*	-2	-9.4
5	5	4	4.0	4.4	-23	5	10*	-2	27.8

H K L /FO/ /FC/

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4	4	6	2	14.4	12.1	-2	6	5	45.2	44.8	-5	7	1	52.7	54.8	
4	4	6	2*	9.1	-3.9	-4	6	5	25.1	24.2	-7	7	1*	6.8	4.3	
6	6	6	2	57.7	59.0	-4	6	6	32.3	-32.4	1	7	2	21.1	-18.3	
6	6	6	2	19.9	16.2	6	6	6	40.8	-42.5	-1	7	2	27.3	-26.9	
8	8	6	2	15.9	-13.4	-6	6	6	8.1	-14.1	3	7	2*	7.7	8.8	
8	8	6	2	80.0	77.3	-8	6	6	12.5	-10.6	-3	7	2*	5.2	-3.1	
0	0	6	2	41.6	-42.7	-8	6	6	33.1	-33.9	-5	7	2*	5.8	-5.8	
0	0	6	2	12.6	-7.1	10	6	6	10.5	7.4	-7	7	2	37.6	39.6	
2	2	6	2	3.0	-2.9	-16	6	6	-10.5	33.6	-32.8	1	7	3	45.3	41.8
2	2	6	2	53.2	-52.0	-12	6	6	33.4	35.0	-1	7	3*	8.8	12.2	
6	2	2	27.0	-27.2	-14	6	6	18.0	18.6	-3	7	3*	6.0	2.4		
6	2	2	9.0	-9.2	-16	6	6	6.9	-1.0	-5	7	3*	58.3	76.0		
6	6	6	2	6.2	0.2	6	6	6*	6.6	6.7	2	1	0	18.4	71.4	
6	6	6	2	14.3	-11.8	-2	6	6	59.7	62.3	4	1	0	66.9	62.1	
6	6	2	11.1	-14.9	-2	6	6	0	-9.9	6	1	0	230.7	242.2		
8	8	6	3	10.3	-3.1	-4	6	6	25.4	-31.1	8	1	0	82.3	79.6	
6	6	3	57.8	-57.5	-4	6	6	52.2	54.8	10	1	0	36.7	32.6		
6	6	3	9.8	11.7	-6	6	6	30.2	-30.6	12	1	0	84.2	85.8		
6	6	3	6.7	-3.3	-6	6	6	24.6	-23.1	14	1	0	451.5	-153.8		
6	6	3	12.2	-5.1	-8	6	6	12.5	-6.6	16	1	0	117.4	-120.0		
6	6	3	7.7	1.0	-8	6	6	7.2	11.9	18	1	0	23.0	19.5		
6	6	3	59.7	-59.2	-10	6	6	19.6	18.1	20	1	0	54.5	55.7		
6	6	3	-5.1	-1.1	-12	6	6	27.8	-28.0	22	1	0	127.2	128.6		
6	6	3	-1.3	-5.1	-14	6	6	9.1	7.2	24	1	0	6.7	7.2		
6	6	3	42.6	43.9	-16	6	6	16.9	-15.7	26	1	0	37.9	-34.2		
6	6	3	24.9	21.6	-29	6	6	34.9	32.0	28	1	0	23.7	-23.9		
2	2	0	0	14.5	-12.6	-2	6	6	14.0	-0.6	30	1	0	106.9	-105.5	
2	2	0	-8.6	-8.6	-2	6	6	2.0	39.8	32	1	0	10.0	17.9		
2	2	0	32.4	32.4	-4	6	6	42.4	42.4	0	1	1	105.5	-107.6		
2	2	0	47.0	-50.6	-5	6	6	7.1	10.7	0	1	1	7.2	-7.5		
2	2	0	28.0	29.4	-4	6	6	7*	3.7	1	2	1	7.2	-1.2		
2	2	0	29.4	-29.4	-4	6	6	7*	3.7	2	1	1	41.7	-41.8		
2	2	0	17.9	18.8	-4	6	6	7	37.2	-39.5	1	1	1	9.9	-7.5	
2	2	0	18.8	-10.0	-4	6	6	7	24.0	-26.7	1	1	1	92.3	-90.1	
2	2	0	25.5	25.5	-12	6	6	16.9	22.5	6	1	1	83.7	88.1		
6	8	-3.8	-3.8	-14	6	6	16.5	18.8	-6	1	1	74.2	-74.8			
2	7.4	-30.7	-30.7	-9.0	0	6	27.4	29.8	-8	1	1	27.0	-27.4			
2	7.4	-3.8	1.3	1.3	12	6	6	8.3	-6.8	10	1	1	19.5	18.9		
2	7.4	-10.4	-3.0	-10.4	6	6	8*	2.3	-21.1	-8	1	1	23.1	26.2		
2	7.4	-26.4	-27.9	-1.1	7	6	8*	6.7	-2.7	14	1	1	62.1	-62.7		
2	7.4	-15.3	-18.0	-1.1	7	6	8*	0.9	-0.9	14	1	1	16.1	-17.0		
2	7.4	-12.8	-15.0	-1.1	7	7	0*	1.0	-1.0	14	1	1	18.1	-14.6		
2	7.4	-17.1	-14.6	-1.1	7	7	0*	1.1	-1.1	14	1	1	11.3	-15.8		
2	7.4	-36.8	-37.9	-1.1	7	7	1	1.1	-1.1	14	1	1	18.1	-14.5		
2	7.4	-14.5	-18.2	-1.1	7	7	1	1.1	-1.1	14	1	1	13.1	-15.2		
2	7.4	-5.2	-15.2	-1.1	7	7	1	1.1	-1.1	14	1	1	1.1	-2.9		
2	7.4	-23.7	-23.7	-1.1	7	7	1	1.1	-1.1	14	1	1	1.1	-2.9		

H	K	L	/FO/	/FG/	H	K	L	/FO/	/FG/	H	K	L	/FO/	/FG/		
1	1	1	60.2	67.7	-8	1	1	36.9	39.8	28	1	4*	6.3	-4.0		
4	4	1	13.0	-15.5	10	1	1	0	0.9	-28	1	4	40.3	-40.5		
4	1	1	11.6	-10.3	11	1	1	86.5	-83.0	-30	1	4	27.1	-25.7		
6	6	1	37.0	34.5	12	1	1	62.1	-63.8	-32	1	4	21.8	-20.4		
6	1	1	0.	-2.9	12	1	1	123.2	194.3	0	1	5	69.8	64.8		
6	8	1	35.2	32.5	14	1	1	41.3	-42.8	2	1	5	103.8	103.3		
6	8	1	64.5	62.0	14	1	1	23.8	22.5	-2	1	5	19.9	17.1		
0	0	1	46.4	-45.9	16	1	1	22.0	-23.5	4	1	5	45.4	43.8		
0	0	1	6.0	-3.7	16	1	1	118.6	-119.8	-4	1	5	67.8	66.2		
2	2	1	12.0	-8.6	18	1	1	22.7	-24.2	6	1	5	51.2	52.5		
0	0	1	42.6	40.5	-18	1	1	13.5	12.4	-6	1	5	103.1	97.0		
2	2	1	87.0	-89.1	20	1	1	23.7	23.7	8	1	5	132.6	-135.1		
2	2	1	30.6	-28.7	-20	1	1	49.1	-50.9	-8	1	5	104.9	104.3		
4	4	1	178.1	-184.4	22	1	1	6.6	5.6	10	1	5	104.9	104.3		
4	4	1	12.2	11.7	-22	1	1	36.3	36.5	-10	1	5	132.6	-135.1		
6	6	1	111.0	114.6	-24	1	1	77.6	77.3	12	1	5	9.8	10.4		
6	6	1	230.7	240.5	-24	1	1	5.6	2.3	-12	1	5	67.9	68.0		
6	8	1	12.2	11.7	26	1	1	34.9	-35.3	14	1	5	36.9	-34.8		
8	8	1	39.0	-38.0	-26	1	1	6.9	1.1	-14	1	5	25.4	22.4		
0	0	1	16.8	-17.5	-28	1	1	12.3	1.3	16	1	5	34.5	34.8		
0	0	1	37.0	-35.3	-28	1	1	67.2	68.1	-16	1	5	174.1	-177.9		
4	4	1	15.6	-16.2	-30	1	1	89.5	-89.7	18	1	5	92.7	95.3		
4	4	1	51.1	-49.5	-32	1	1	6.9	1.1	-18	1	5	93.6	-92.6		
8	8	1	87.7	-89.5	0	1	1	12.3	1.3	20	1	5	6.8	-4.5		
0	0	1	0.	-4.8	-28	1	1	39.2	38.4	-20	1	5	174.1	-177.9		
6	6	1	36.0	-38.1	-2	1	1	57.1	-57.2	22	1	5	7.2	-6.3		
6	6	1	41.2	-42.0	-4	1	1	26.0	27.4	-18	1	5	13.7	15.8		
6	6	1	53.0	-53.7	-4	1	1	66.0	-67.1	21	1	5	21.1	21.6		
8	8	1	9.0	9.3	0	1	1	39.2	38.4	-20	1	5	15.2	16.0		
8	8	1	101.0	99.6	-6	1	1	20.9	-17.1	26	1	5	75.9	77.7		
0	0	1	60.0	59.1	8	1	1	173.6	176.6	-22	1	5	0.	-0.5		
0	0	1	58.7	57.0	-8	1	1	101.2	100.0	-26	1	5	14.1	-12.0		
2	2	1	62.0	-61.8	-10	1	1	42.6	43.5	-24	1	5	72.6	76.4		
2	2	1	26.0	-27.3	-10	1	1	61.7	58.2	-30	1	5	14.3	12.3		
1	1	2	59.1	-58.2	12	1	1	29.4	26.1	14.1	1	5	12.0	-12.0		
1	1	2	30.0	-30.0	-12	1	1	-28	1	-30	1	5	72.6	76.4		
6	6	1	17.4	-15.8	-12	1	1	42.6	43.5	14.1	1	5	12.0	-12.0		
8	8	1	49.0	-49.6	-14	1	1	61.7	58.2	-26	1	5	72.6	76.4		
8	8	1	2*	12.0	-16	1	1	59.1	-58.2	-26	1	5	14.1	-12.0		
0	0	1	2	55.0	-53.3	12	1	1	25.7	27.5	0	1	6	14.1	-12.0	
0	0	1	10.5	11.2	-16	1	1	86.9	-87.2	2	1	6	10.8	-9.5		
2	2	1	49.8	-49.6	-14	1	1	46.2	-46.3	-2	1	6	110.8	-109.4		
2	2	1	8.1	2*	107.8	-108.8	4	1	6	34.2	32.4	6	1	6	66.8	-64.7
0	0	1	2	56.5	-53.2	-4	1	6	1	6	6	49.3	48.9			
0	0	1	245.1	-246.4	12	1	1	5.8	4.2	-4	1	6	47.5	47.6		
2	2	1	245.1	-246.4	20	1	1	23.2	-25.2	-8	1	6	70.0	68.8		
2	2	1	16.5	-17.2	-20	1	1	121.6	-123.7	6	1	6	89.6	89.7		
2	2	1	46.8	50.6	-22	1	1	63.5	-63.0	-6	1	6	49.3	48.9		
2	2	1	272.1	-277.3	41.1	1	1	56.5	53.2	8	1	6	47.5	47.6		
3	3	3	120.8	=118.3	39.3	1	1	20.4	-19.6	-8	1	6	70.0	68.8		
3	3	3	57.4	55.7	-24	1	1	23.2	-25.2	10	1	6	112.2	113.5		
3	3	3	155.1	158.3	41.4	1	1	16.5	-17.2	-10	1	6	100.0	100.8		
6	6	1	4.5	4.4	41.4	1	1	40.1	-41.4	14	1	6	65.1	66.1		
6	6	1	4.5	4.4	41.4	1	1	2.8	-3.5	16	1	6	54.8	52.1		
6	6	1	4.5	4.4	41.4	1	1	-1.9	-2.6	14	1	6	42.0	41.5		

H K L /FO/ /FC/

H K L

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H K L /FO/ /FC/

6	1	6	45.5	44.3	10	1	6	23.0	24.6	-6	1	10	69.8	69.9		
6	1	6*	10.2	10.5	-10	1	0	128.8	-127.8	8	1	10	21.0	19.7		
8	1	6	106.0	-111.3	12	1	p	50.2	-51.0	-8	1	10	89.6	79.0		
0	1	6*	4.6	1.1	-12	1	p	21.6	19.8	10	1	10	35.4	35.7		
0	1	6*	6.0	8.9	-12	1	p	14.1	1.8	52.2	52.8	-10	1	10	17.0	16.8
6	1	6	52.8	50.6	-14	1	n	15.4	-13.9	12	1	10	7.7	-6.9		
6	1	6	44.0	44.0	16	1	n	4.8	2.1	-12	1	10	7.4	7.2		
2	1	6	34.7	-34.1	-16	1	n	88.7	89.3	14	1	10	4.9	44.9		
2	1	6	50.0	-51.8	18	1	a*	6.1	5.6	-14	1	10	9.1	10.2		
6	1	6	32.6	33.2	-18	1	a*	0.0	-5.0	16	1	10	30.4	30.2		
8	1	6	61.8	-62.8	20	1	a	53.3	51.6	-16	1	10	29.2	29.4		
0	1	6	21.8	21.6	-20	1	a	29.0	30.8	-18	1	10	6.9	9.0		
0	1	6	16.7	16.3	22	1	a	46.7	-47.0	-20	1	10	75.1	74.0		
2	1	6	39.1	37.4	-22	1	o	27.2	28.9	-22	1	10	29.0	29.4		
2	1	6	34.2	35.9	-24	1	o	28.7	-30.2	-24	1	10	0*	-2.4		
2	1	6	21.7	19.8	-26	1	o	20.4	-20.7	-26	1	10	9.1	-0.2		
2	1	6	21.6	-18.4	-28	1	o	23.9	23.7	-28	1	10	31.7	-30.9		
2	1	6	32.4	29.8	-30	1	o	23.2	-24.3	-30	1	10	0*	0.2		
2	1	6	23.1	-23.2	32	1	o	52.9	52.0	0	1	11	4.5	-7.7		
2	1	6	-29.4	0	6	1	o	9.9	14.6	2	1	11	59.6	52.3		
2	1	6	-53.2	-2	1	o	108.1	106.9	-2	1	11	9.4	-8.4			
2	1	6	62.1	-2	1	o	108.7	108.7	4	1	11	80.3	582.0			
2	1	6	15.2	-4	1	o	47.2	-46.3	-4	1	11	41.6	-41.6			
2	1	6	21.7	-4	1	o	24.6	-23.9	6	1	11	6.6	-3.5			
2	1	6	57.5	56.4	60	1	o	6.1	9.0	18.9	1	11	111.8	-111.3		
2	1	6	65.4	-38.5	60	1	o	60.3	-60.7	6	1	11	23.8	-26.8		
2	1	6	16.1	-15.2	71	1	o	71.8	-73.4	8	1	11	10.5	8.1		
2	1	6	15.2	-16.2	71	1	o	6.2	-2.3	-8	1	11	55.4	57.6		
2	1	6	22.5	-21.7	35	0	o	35.0	34.5	10	1	11	111.8	-111.3		
2	1	6	57.5	56.4	60	1	o	22.1	-92.5	-10	1	11	23.8	-26.8		
2	1	6	65.2	-49.9	10	1	o	7.6	10.6	12	1	11	10.5	8.1		
2	1	6	15.2	-16.2	18	1	o	3.8	1.1	12	1	11	55.4	57.6		
2	1	6	16.1	-16.2	18	1	o	0*	0	31	7	33.6	-12			
2	1	6	3.4	3.0	12	1	o	58.0	58.8	-12	1	11	16.3	-9.4		
2	1	6	22.7	-20.7	12	1	o	58.0	58.8	14	1	11	51.9	-50.7		
2	1	6	39.3	-37.8	14	1	o	65.3	66.3	-14	1	11	103.0	101.7		
2	1	6	6.3	6.4	-14	1	o	102.5	103.0	-16	1	11	7.7	-1.8		
2	1	6	-63.3	-63.3	16	1	o	8.8	-0.9	-18	1	11	23.5	23.9		
2	1	6	106.9	102.3	16	1	o	60.1	-59.7	-20	1	11	26.6	24.7		
2	1	6	66.6	67.7	18	1	o	29.6	-31.2	-22	1	11	95.0	97.2		
2	1	6	35.3	-34.9	18	1	o	39.7	-40.4	-24	1	11	19.5	20.7		
2	1	6	14.0	-15.3	-20	1	o	41.4	-12.2	-26	1	11	40.4	42.5		
2	1	6	40.4	-39.7	-22	1	o	41.9	-42.4	-23	1	11	47.2	47.1		
2	1	6	73.5	-74.8	-24	1	o	41.9	43.0	0	1	12	21.7	20.9		
2	1	6	122.8	121.5	-18	1	o	9	9	-24	1	12	20.8	-20.3		
2	1	6	56.6	-56.3	-26	1	o	9	*	2	1	12	55.9	55.7		
2	1	6	100.3	98.1	-28	1	o	72.7	71.5	-2	1	12	4.2	10.2		
2	1	6	8*	-7.1	-30	1	o	45.2	-45.6	4	1	12	73.0	74.7		
4	1	8	107.2	-105.6	0	1	o	5.2	3.4	-4	1	12	21.7	20.9		
6	1	8	26.0	25.4	-2	1	o	16.0	15.8	6	1	12	39.0	40.6		
6	1	8	74.5	74.3	-4	1	o	6.9	7.9	6	1	12	34.5	30.4		
6	1	8	45.0	-44.6	-4	1	o	57.5	-57.0	8	1	12	14.3	19.1		
6	1	8	-49.0	-49.3	-4	1	o	11.0	12.8	-8	1	12	30.9	-51.3		
6	1	8	-49.3	-49.0	1	12	69.2	-68.8	10	1	12	35.5	-35.3			

			H	K	L	/FO/	/FC/		H	K	L	/FO/	/FC/		H	K	L	/FO/	/FC/	
0	7	7	5	6	4	10	9	0	7	7	6	10	9	0	7	7	5	3	2	2
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
5*	5*	5*	5*	5*	5*	5*	5*	5*	5*	5*	5*	5*	5*	5*	5*	5*	5*	5*	5*	5*
10	9	8	7	6	5	4	3	2	1	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10
5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
15	13	11	9	7	5	3	1	-2	-4	-6	-8	-10	-12	-14	-16	-18	-20	-22	-24	-26
3	3	2	1	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
7*	7*	7*	7*	7*	7*	7*	7*	7*	7*	7*	7*	7*	7*	7*	7*	7*	7*	7*	7*	7*
22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2
5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.	5.
22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2
9*	8	7	6	5	4	3	2	1	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12
2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
9*	8	7	6	5	4	3	2	1	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12
8	7	6	5	4	3	2	1	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13
6	5	4	3	2	1	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15
4	3	2	1	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17
2	1	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18	-19
0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	-11	-12	-13	-14	-15	-16	-17	-18	-19	-20

	H	K	L	/FO/	/FC/	H	K	L	/FO/	/FC/	H	K	L	/FO/	/FC/
9	2	2	9*	5.0	2.6	13	2	11*	6.0	-2.8	2	4	4.4	0.6	
1	1	2	9*	4.5	1.9	-13	2	11*	3.2	-6.3	4	24.8	23.5		
1	1	2	9*	9.4	-9.7	-15	2	11*	1.2	-0.2	6	138.3	-138.3		
3	2	9	9*	9.4	10.0	-17	2	11*	3.2	-0.2	8	33.0	-33.7		
3	2	9	9*	23.0	25.5	-19	2	11	17.9	-17.6	10	13.0	-14.6		
5	2	9*	9*	11.3	-4.4	-21	2	11*	0.	0.9	12	19.2	-19.1		
5	2	9*	9*	11.3	12.4	-23	2	11*	11.0	12.9	14	151.9	155.4		
7	2	9*	6.1	6.7	-25	2	11	16.1	13.2	16	55.0	-54.4			
7	2	9	14.6	-16.3	-27	2	11*	11.4	-8.7	18	54.4	-54.7			
9	2	9*	12.5	-10.7	-1	2	12	32.2	-33.4	29	34.4	-33.0			
9	2	9*	15.5	16.7	-1	2	12	17.5	-17.5	22	58.5	-59.2			
1	2	9*	17.5	19.9	1	2	12*	9.8	-7.6	24	8.6	2.8			
1	2	9*	11.5	7.3	1	2	12	43.4	42.3	26	26	26			
1	2	9*	6.0	5.0	1	2	12*	10.9	6.1	28	0.0	0.0			
1	2	9*	6.7	8.3	1	2	12	11.6	7.7	9	0.0	0.0			
1	2	10*	13.0	7.9	1	2	12	32.9	31.6	2	2	2			
1	2	10*	13.0	11.8	1	2	12	15.5	12.5	-2	12	12			
3	2	16	35.8	-35.7	1	2	12	21.6	-20.1	4	44.5	40.8			
3	2	16	18.5	19.7	1	2	12	32.4	-30.6	4	23.2	-24.5			
3	2	16	28.4	26.7	1	2	12	6.7	-1.2	4	63.0	-59.0			
3	2	16	5.8	3.3	1	2	12	22.5	-22.9	4	33.6	-32.8			
7	2	10*	5.8	-6.4	1	2	12	0.	3.7	8	49.6	-49.3			
7	2	10*	9.7	-4.0	1	2	12	18.4	17.8	-8	43.3	-43.2			
7	2	10*	9.7	-4.0	1	2	12	37.1	37.8	10	15.6	-11.0			
7	2	10*	9.7	-4.0	1	2	12	28.6	-28.0	-10	51.8	-52.3			
2	16*	12.0	-15.9	-2.3	2	12	14.0	-15.6	-12	88.4	90.6				
2	16*	12.0	-15.9	-2.3	2	12	12.8	14.4	-12	57.6	59.4				
2	16*	27.3	-27.9	-19	2	12	19.5	-20.7	-14	26.3	-26.8				
2	16*	31.1	-31.0	-11	2	12	19.5	-20.7	-14	71.8	72.1				
2	16*	31.1	-31.0	-11	2	12	19.5	-20.7	-14	40.5	-40.5				
2	16*	31.1	-31.0	-11	2	12	19.5	-20.7	-14	18.7	-18.1				
2	16*	31.1	-31.0	-11	2	12	19.5	-20.7	-14	42.6	-43.7				
2	16*	31.1	-31.0	-11	2	12	19.5	-20.7	-14	77.0	76.2				
2	16*	31.1	-31.0	-11	2	12	19.5	-20.7	-14	43.0	-43.9				
2	16*	31.1	-31.0	-11	2	12	19.5	-20.7	-14	17.8	15.9				
2	16*	31.1	-31.0	-11	2	12	19.5	-20.7	-14	56.0	-55.6				
2	16*	31.1	-31.0	-11	2	12	19.5	-20.7	-14	14.4	11.0				
2	16*	31.1	-31.0	-11	2	12	19.5	-20.7	-14	50.4	-51.3				
2	16*	31.1	-31.0	-11	2	12	19.5	-20.7	-14	53.4	-52.8				
2	16*	31.1	-31.0	-11	2	12	19.5	-20.7	-14	88.3	91.8				
2	16*	31.1	-31.0	-11	2	12	19.5	-20.7	-14	36.3	34.9				
2	16*	31.1	-31.0	-11	2	12	19.5	-20.7	-14	12.1	15.1				
2	16*	31.1	-31.0	-11	2	12	19.5	-20.7	-14	21.9	-21.8				
2	16*	31.1	-31.0	-11	2	12	19.5	-20.7	-14	28.8	-29.0				
2	16*	31.1	-31.0	-11	2	12	19.5	-20.7	-14	126.6	-131.5				
2	16*	31.1	-31.0	-11	2	12	19.5	-20.7	-14	134.9	-137.2				

H K L

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H K L

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H K L

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I	K	L	/FO/	/FC/	H	K	L	/FO/	/FC/	H	K	L	/FO/	/FC/	
6	3	3	7	37.7	-37.4	-18	3	9	34.4	34.0	6	3	12	24.1	27.2
8	3	3	7*	13.5	12.0	-20	3	9*	5.3	-4.6	-6	3	12*	4.0	8.0
9	3	3	7*	9.0	11.9	-22	3	9	39.5	39.4	-8	3	12*	14.6	13.9
9	3	3	7*	25.7	28.0	-24	3	9	23.8	-25.8	-10	3	12	28.4	-27.2
2	7	7	5.7	1.9	-1.9	-26	3	9*	13.2	14.2	-12	3	12*	5.5	6.7
2	7	7	67.6	-66.9	-66.9	-23	3	9	48.3	-50.0	-14	3	12	45.7	-45.5
6	7	7*	51.7	-51.9	0	33	10*	11.7	-10.1	-16	3	12	41.3	-42.5	
6	7	7*	12.6	17.4	2	33	10	35.4	-33.0	0	33	13	17.1	-18.3	
8	7	7	16.0	16.0	-2	33	10	59.6	60.8	2	33	13	38.3	437.9	
9	8	8	86.0	-83.6	-83.6	-2	33	10	45.8	-45.9	-2	33	13*	0	8.7
2	8	8	32.4	32.4	-4	33	10	18.3	-19.3	-4	33	13	30.4	-31.2	
2	8	8	38.7	-36.2	-4	33	10	78.1	76.3	-22	3	12	27.0	-28.4	
4	8	8	35.5	-33.1	-6	33	10	35.4	-33.0	0	33	13	17.1	-18.3	
4	8	8	35.1	-33.1	-6	33	10	59.6	60.8	2	33	13*	14.4	14.6	
4	8	8	61.1	60.5	-6	33	10	45.8	-45.9	-2	33	13*	0	8.7	
6	8	8	22.0	-23.4	-8	33	10	18.3	-19.3	-4	33	13	30.4	-31.2	
6	8	8	59.4	-59.8	-10	33	10	78.1	76.3	-22	3	12	27.0	-28.4	
6	8	8	82.0	83.2	-10	33	10	35.4	-33.0	0	33	13	17.1	-18.3	
6	8	8	32.4	31.0	-12	33	10	59.6	60.8	2	33	13	38.3	437.9	
10	8	8	99.1	96.6	-14	33	10	45.8	-45.9	-2	33	13*	0	8.7	
10	8	8	59.4	-59.8	-14	33	10	18.3	-19.3	-4	33	13	30.4	-31.2	
12	8	8	16.0	10.7	-14	33	10	78.1	76.3	-22	3	12	27.0	-28.4	
12	8	8	17.0	-18.7	-16	33	10	35.4	-33.0	0	33	13	17.1	-18.3	
14	8	8	54.4	-56.1	-18	33	10	59.6	60.8	2	33	13	38.3	437.9	
14	8	8	27.9	29.9	-20	33	10	45.8	-45.9	-2	33	13*	0	8.7	
16	8	8	8.2	5.7	-22	33	10	18.3	-19.3	-4	33	13	30.4	-31.2	
16	8	8	49.7	-48.7	-24	33	10	78.1	76.3	-22	3	12	27.0	-28.4	
18	8	8	14.3	-16.6	-26	33	10	35.4	-33.0	0	33	13	17.1	-18.3	
18	8	8	29.1	-29.4	0	33	10	59.6	60.8	2	33	13	38.3	437.9	
20	8	8	31.3	-32.4	-2	33	11	47.7	-72.2	-16	3	13	24.4	27.1	
22	8	8	14.1	-16.6	-2	33	11	22.8	22.2	-12	3	13	30.4	-31.2	
24	8	8	53.0	-56.0	-4	33	11	17.4	16.8	-14	3	13	17.1	-18.3	
26	8	8*	5.1	-2.9	0	33	11	71.7	-72.2	-16	3	13	30.4	-31.2	
28	8	8	25.3	-24.4	-4	33	11	5.8	8.7	-18	3	13	17.1	-18.3	
28	8	8	26.0	-27.7	-6	33	11	76.7	77.8	-25	4	10	34.2	-35.5	
28	8	8	89.4	-88.2	-8	33	11	37.4	38.3	1	4	4	24.6	-22.6	
28	8	8	64.1	-63.9	-8	33	11	79.4	79.6	-1	4	4	49.3	-47.7	
28	8	8	24.7	25.4	-10	33	11	18.6	20.4	3	4	4	9.4	-5.8	
6	9	9*	6.6	6.6	-10	33	11	3.9	-3	4	4	4	20.5	19.3	
6	9	9	43.0	45.3	-12	33	11	22.0	18.5	5	4	4	5.4	3.1	
6	9	9	17.9	17.2	-14	33	11	104.0	-104.9	-5	4	4	27.4	25.7	
6	9	9	8.4	-16.0	-16	33	11	7.8	-2.5	7	4	4	6.9	-2.8	
44	9	-41.0	-41.0	-18	33	11	2.1	-26.9	-7	4	4	5.8	6.4	-6.4	
28	9	9	28.7	28.8	-20	33	11	8.7	1.1	9	4	4	21.2	-20.1	
29	9	9	29.6	29.0	-22	33	11	96.3	97.3	-9	4	4	27.4	25.7	
29	9	9	24.0	-24.3	-24	33	11	4.0	-3.7	11	4	4	43.9	43.9	
12	9	9	12.1	-5.8	-18	33	11	2.8	-2.5	-7	4	4	5.8	-2.8	
14	9	9	29.6	-28.4	-20	33	11	8.7	1.1	-11	4	4	53.3	52.1	
14	9	9	91.5	-92.8	-22	33	11	9.6	3.3	-13	4	4	53.6	52.4	
16	9	9	12.6	-13.9	-4	33	12	20.1	-17.8	-13	4	4	36.5	36.8	
16	9	9	3.1	-3.1	-2	33	12	46.8	-48.4	-15	4	4	28.5	27.6	
16	9	9	12.9	-11.3	-12*	33	12	12.9	-11.3	-15	4	4	6.5	10.4	

	H	K	L	/F0/	/Fc/	H	K	L	/F0/	/Fc/	H	K	L	/F0/	/Fc/
13	4	7*	7-5	-8	4	1	4	10*	13	2	5	1	1*	6.0	-2.3
15	4	7	42-7	-42	6	1	4	10*	13	0	2	5	1	40.2	-38.0
15	4	7*	7-R	-0	9	3	4	10*	10	2	-2	5	1	10.2	8.5
15	4	7	32-3	-33	6	-3	4	10	32	6	4	5	1	14.1	6.2
17	4	7*	13-2	-15	1	-5	4	10	31	3	-4	5	1	33.7	-34.4
17	4	7	44-6	45	7	-5	4	10*	3	2	6	5	1	25.6	25.6
19	4	7*	12-4	10	3	7	4	10	28	5	-6	5	1	13.4	14.3
21	4	7	30-4	31	1	-7	4	10*	0	0	-7	7	1	7.9	-5.5
23	4	7	46-8	-40	6	9	4	10*	12	4	-8	5	1	13.3	14.1
25	4	7*	11-9	7	5	-9	4	10	19	1	10	5	1	14.2	16.9
1	4	8*	7-5	-0	9	7	4	10	18	7	-10	5	1	20.3	20.7
-1	4	8	22-2	21	4	-13	4	10*	5	2	-10	5	1	7.9	-5.5
2	4	8*	5-5	9	2	-15	4	10	21	1	-12	5	1	5.9	-3.7
3	4	8*	14-3	16	1	-17	4	10*	6	6	14	5	1	7.3	-4.4
4	4	8*	5-1	6	6	-19	4	10*	7	7	-8	5	1	43.8	-43.4
5	4	8	23-0	-23	0	-21	4	10	28	1	-27	3	1	26.9	-23.3
6	4	8	28-7	-29	7	-23	4	10	30	6	-16	5	1	18.3	-15.9
7	4	8*	3-3	7	4	-1	4	10*	1.5	-2	-5	18	5	55.9	-54.3
8	4	8	17-0	15	1	-1	4	10	23	0	-18	5	1	41.6	-42.2
9	4	8	58-0	-60	1	-21	4	10	7.8	-5	20	5	1	39.2	-40.4
10	4	8	11-9	13	3	-21	4	10	12	7	-20	5	1	37.9	-37.4
11	4	8*	35-7	34	3	-13	4	10*	12	7	-22	5	1	4.1	-4.0
12	4	8*	13-0	-20	1	-13	4	10	0	2	-22	5	1	38.6	-37.5
13	4	8*	14-0	0	4	-13	4	10*	30	5	0	0	2	54.7	-53.5
14	4	8*	15-4	17	2	-17	4	10	9	9	2	26.0	2	45.8	-44.7
15	4	8*	17-3	-10	2	-11	4	11	26	0	-2	5	2	45.2	-44.3
16	4	8*	16-3	10	9	-13	4	11*	13	7	-4	5	2	36.7	-36.0
17	4	8*	17-0	10	9	-13	4	11*	13	7	-4	5	2	12.9	-13.6
18	4	8*	19-2	5	2	-15	4	11	25	9	-4	5	2	14.9	-15.6
19	4	8*	10-1	2	1	-17	4	11*	14	9	-6	5	2	16.8	-19.5
20	4	8*	7-0	-1	5	-19	4	11	18	9	-6	5	2	63.7	61.5
21	4	8*	6-3	-61	2	-19	4	12*	6	0	-8	5	2	2.3	-0.3
22	4	8*	29-4	-30	1	-21	4	12*	20	6	-8	5	2	19.2	-21.7
23	4	8*	3-3	30	1	-23	4	12*	28	1	-10	5	2	16.5	-14.4
24	4	8*	39-2	38	7	-25	4	12*	10	8	-10	5	2	10.8	-9.3
25	4	8*	13-7	-14	9	-27	4	12*	5	8	-12	5	2	10.6	-10.9
26	4	8*	11-0	-11	7	-27	4	12*	2	4	-12	5	2	15.8	-16.3
27	4	8*	7-4	9	0	-27	4	12*	18	0	-14	5	2	29.2	-27.8
28	4	8*	31-0	31	3	-27	4	12*	10	8	-14	5	2	13.6	-10.0
29	4	8*	30-0	30	1	-27	4	12*	10	3	-14	5	2	23.4	-23.5
30	4	8*	27-3	-25	9	-27	4	12*	15	4	-16	5	2	6.3	-0.7
31	4	8*	9-2	6	8	-28	4	12*	28	9	-18	5	2	21.5	-23.8
32	4	8*	4-2	0	4	-60	4	12*	57	3	-18	5	2	8.4	-8.7
33	4	8*	42-4	-40	5	-6	4	12*	49	2	-20	5	2	37.5	-35.6
34	4	8*	3-6	-2	8	-6	4	12*	10	7	-20	5	2	30.2	-34.4
35	4	8*	5-0	-5	5	-6	4	12*	45	1	-22	5	2	23.5	-25.3
36	4	8*	33-3	-36	2	-107	2	12*	32	9	-24	5	2	32.9	-33.3
37	4	8*	27-1	-26	3	-48	1	12*	48	1	-47	0	0	74.2	-71.6
38	4	8*	4-2	-4	5	-6	5	12*	6.5	7	-2	2	2	29.2	-28.5
39	4	8*	9	-2	4	-7	4	12*	7.4	7	-5.7	0	2	29.9	-27.7
40	4	8*	22-3	-25	9	-42	4	12*	54.2	0	-2	2	57.0	60.2	

H	K	L	/FO/	/FC/	H	K	L	/FO/	/FC/	H	K	L	/FO/	/FC/
5	6	1*	4.0	7.1	-11	6	3*	11.5	-11.6	-5	6	6*	7.1	-6.8
-5	6	1	19.7	-20.1	13	6	3*	11.6	12.8	7	6	6*	25.7	26.7
7	6	1*	6.8	-0.6	-13	6	3	16.7	-14.3	-7	6	6*	12.3	14.5
-7	6	1*	0.9	-5.9	-15	6	3	18.3	-17.2	-9	6	6*	27.9	32.3
9	6	1*	46.2	-45.1	-17	6	3	10.2	-10.0	-11	6	6*	0	4.2
-9	6	1*	7.2	-6.0	-1	6	1	11.6	5.9	-13	6	6*	9.8	11.0
11	6	1	15.9	-15.8	1	6	1	6.6	0.2	-15	6	6*	10.3	11.9
-11	6	1	45.5	-43.7	-3	6	1	15.5	-17.2	1	6	7*	11.2	10.5
13	6	1	43.7	43.0	-3	6	1	10.5	-8.7	-1	6	7	31.0	33.9
-13	6	1	49.4	49.9	5	6	1	38.5	38.9	3	6	7	54.9	55.8
15	6	1	24.4	-27.2	-5	6	1	13.6	-10.5	-3	6	6	28.5	28.4
-15	6	1	15.8	-16.1	-7	6	1	7.9	-5.1	5	6	7*	5.1	11.1
17	6	1	22.5	27.2	2	6	1	23.5	21.2	-5	6	7	49.3	51.1
-17	6	1	14.2	-14.6	9	6	1	11.9	6.9	-7	6	7*	8.1	4.8
19	5	2	27.5	-23.6	-9	6	1	32.6	-31.7	-9	6	7	24.1	25.2
-19	5	2	30.7	-28.8	11	6	1	5.9	-7.6	-11	6	7*	10.2	10.0
21	5	2	36.5	-34.4	11	6	1	11.9	6.9	-1	6	7	19.9	18.7
-21	5	2	26.7	27.1	13	6	1	42.3	-45.6	-3	6	8*	0*	-6.1
23	5	2	26.0	-23.5	-1	6	1	9.0	-10.0	-11	6	7*	7	10.0
-23	5	2	30.7	-28.8	15	6	1	5.9	-7.6	-11	6	7	29.0	30.9
25	5	2	16.2	-6.5	15	6	1	11.9	6.9	-13	6	7	8.4	8.7
-25	5	2	24.2	25.0	17	6	1	18.9	20.2	-7	6	8*	8.4	-8.7
26	5	2	18.6	22.6	1	6	1	15.5	-16.6	-9	6	8	64.6	62.7
-26	5	2	40.4	38.5	1	6	1	37.6	-39.4	2	7	0*	18.3	21.4
28	5	2	26.8	22.0	6	6	1	32.5	34.3	4	7	0*	8.4	1.4
-28	5	2	25.1	-27.5	3	6	1	13.2	12.3	6	7	0*	36.1	34.1
30	5	2	62.7	-60.4	5	6	1	28.2	29.7	0	7	1*	7.9	-0.2
-30	5	2	14.3	13.2	6	6	1	22.5	-21.6	-2	7	1	24.0	22.9
32	5	2	13.6	8.9	5	6	1	26.7	-28.2	0	7	1	16.6	15.6
-32	5	2	28.2	-30.5	7	6	1	5.0	1.8	4	7	1	39.4	38.7
34	5	2	6.0	-0.7	9	6	1	8.8	5.1	-4	7	1	8.6	5.5
-34	5	2	85.1	82.9	9	6	1	14.4	8.1	6	7	1	24.0	22.9
36	5	2	53.4	-52.7	11	6	1	13.6	11.6	6	7	0*	34.1	34.1
-36	5	2	36.9	-37.2	11	6	1	56.0	58.1	0	7	0	7.9	-0.2
38	5	2	20.8	-20.4	13	6	1	34.6	-33.7	2	7	2	25.6	-26.1
-38	5	2	8.6	-7.1	3	6	1	11.6	11.6	-6	7	2	20.6	21.0
40	5	2	52.8	51.8	4	6	1	13.6	11.6	7	2	2	13.0	13.0
-40	5	2	1.4	-5.4	4	6	1	8.8	1.1	-2	7	2	54.3	55.4
42	5	2	27.1	-24.4	4	6	1	8.8	1.1	4	7	2	19.1	17.0
-42	5	2	10.0	-13.1	4	6	1	8.8	1.1	-4	7	2	20.6	21.0
44	5	2	24.2	-24.6	4	6	1	27.4	-27.8	4	7	2	26.5	26.0
-44	5	2	27.0	14.0	4	6	1	14.0	13.1	-6	7	2	28.6	28.1
46	5	2	3.3	-3.3	4	6	1	31.5	31.3	0	7	3	39.9	37.8
-46	5	2	3.3	-3.3	4	6	1	23.3	21.4	-2	7	3	18.2	18.2
48	5	2	27.4	-24.3	4	6	1	38.0	37.5	3	3	3	4.2	3.7