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Mica polytypism: similarities in the crystal structures of coexisting 1*M* and 2M_1 oxybiotite

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Abstract

The crystal structures of coexisting 1*M* and 2M_1 oxybiotites were refined by the X-ray diffraction method in order to examine the role of hydrogen in mica structures and polytypism. The unit-layer structures of coexisting 1*M* and 2M_1 oxybiotites were found to be identical within the limit of the accuracy of the structure refinement. This similarity leads to the conclusion that they are ideally polytypic in spite of the complexity of unit-layer structures such as micas.

The oxybiotites lack hydrogen and instead are enriched in ferric iron. The structural parameters of the tetrahedral and octahedral layers have been found to be remarkably similar to those of the hydrogenated structures. Comparison with hydrogenated biotite suggests that the lack of hydrogen atoms mainly affects the interlayer configuration and consequently causes the interlayer separation to decrease. This feature can be attributed to the fact that interactions between K^+ and H^+ are very extensive in hydrogenated biotites.

Introduction

Mica is one of the layer silicates in which hydrogen plays an important crystal chemical role. The detailed structure analysis of a trioctahedral mica was initiated by Takéuchi and Sadanaga (1959). Since then many reports have been published on the crystal structures of various mica polytypes and of various chemical compositions, and the structural changes due to cation substitutions have been discussed. For example, the dimensional misfit between the octahedral and tetrahedral layers in mica structures was treated by Radoslovich and Norrish (1962). Takéuchi (1965) compared the two brittle micas, margarite and xanthophyllite.

The structural changes of micas due to cation substitutions have been investigated by several workers (Donnay, Donnay and Takeda, 1964; Hazen and Wones, 1972). The crystal structures of micas at high temperature (Takeda and Morosin, 1975) and at high pressure (Takeda, 1977) have also been studied. Although oxygen fugacity is another important factor in crystallization of minerals in nature, its effect especially that of hydrogen on mica structures has not yet been tackled. Takéuchi (1965) suggested that the interaction between OH groups and interlayer cations could possibly be correlated with the preference of basic polytypes in micas.

Mica structures are based on the stacking of the unit layers which comprise two tetrahedral layers sandwiching an octahedral layer, and an interlayer. Since hydrogen atoms lie nearly directly below or above the interlayer cation in the hole of tetrahedral layer, they should affect the structure of the unit layer when a unit layer stacks upon another layer. It is therefore suggested that the lack of hydrogen atoms in mica crystals also effectively changes the structure. The effect of the presence or absence of hydrogen atoms on a crystal structure is also of crystal chemical interest in general. Structural changes caused by oxidation-reduction reactions coupled with dehydrogenation-hydrogenation reactions may occur but are not well understood.

Micas have many polytypes or polymorphs. Hendricks and Jefferson (1939) studied the stacking mode of layers in micas. Amelinckx and Dekeyser (1953) attributed mica polytypism to a spiral growth mechanism and gave some stacking modes, while Smith and Yoder (1956) derived six basic regular modes of stacking and gave a nomenclature of mica polytypes, 1*M*, 2M_1, 2M_2, 2*O*, 3*T* and 6*H*. The stacking sequences of complex mica polytypes were later determined by Ross, Takeda and Wones

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Table 3a. Observed and calculated structure factors of 1M oxybiotite

H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC
-9	1	1	7.41	7.17	-7	1	11	8.75	7.88	-6	0	4	6.81	4.65	-6	6	10	30.49	31.70
-9	1	3	9.35	8.21	-7	3	1	8.52	7.97	-6	0	5	26.44	25.53	-6	6	11	6.68	9.35
-9	1	5	9.41	9.79	-7	3	2	20.29	19.18	-6	0	6	63.04	62.22	-6	6	12	25.26	25.79
-8	0	1	46.58	46.89	-7	3	3	48.79	49.70	-6	0	7	22.56	22.87	-6	6	13	30.44	29.47
-8	0	2	44.32	44.47	-7	3	4	50.09	49.86	-6	0	9	53.85	55.10	-6	8	2	5.83	6.29
-8	0	3	15.48	16.12	-7	3	5	19.78	21.16	-6	0	10	36.87	36.97	-6	8	3	11.14	10.75
-8	0	4	9.87	8.84	-7	3	6	24.16	24.59	-6	0	12	42.48	42.46	-6	8	4	24.48	23.80
-8	0	5	30.77	30.98	-7	3	7	56.97	59.15	-6	0	13	34.29	32.91	-6	8	5	6.15	4.18
-8	0	6	16.09	16.60	-7	3	8	16.64	18.09	-6	0	14	5.95	5.78	-6	8	6	7.59	9.68
-8	0	7	4.59	3.60	-7	3	9	6.99	4.91	-6	2	1	5.42	6.14	-6	8	7	10.99	10.90
-8	0	8	39.25	40.56	-7	3	10	8.15	7.30	-6	2	3	11.26	11.01	-6	8	8	12.87	13.46
-8	0	9	39.63	41.32	-7	3	11	25.54	25.98	-6	2	4	25.31	24.00	-6	8	11	8.06	7.86
-8	0	10	20.68	21.59	-7	3	12	5.11	3.19	-6	2	5	4.22	3.67	-6	10	1	12.43	10.88
-8	2	1	20.55	20.58	-7	5	1	7.86	7.65	-6	2	6	11.82	11.21	-6	10	2	8.54	9.50
-8	2	3	15.73	15.04	-7	5	2	18.01	18.47	-6	2	7	6.07	4.93	-6	10	3	6.62	8.13
-8	2	5	12.83	14.10	-7	5	4	16.70	17.35	-6	2	8	20.32	20.60	-6	10	4	5.81	3.88
-8	2	6	10.25	10.37	-7	5	5	23.94	23.17	-6	2	9	23.70	23.93	-6	10	5	11.19	11.58
-8	4	1	13.71	14.26	-7	5	6	6.78	6.30	-6	2	11	12.50	12.29	-6	10	6	10.58	11.15
-8	4	2	8.00	8.03	-7	5	7	6.89	8.30	-6	2	13	10.38	9.04	-6	10	9	15.28	16.00
-8	4	3	5.42	3.95	-7	5	9	19.38	20.07	-6	2	14	12.80	11.75	-5	1	1	13.65	13.62
-8	4	4	4.90	4.54	-7	5	10	5.41	4.55	-6	4	1	13.56	14.18	-5	1	2	6.81	5.19
-8	4	5	18.09	18.70	-7	7	2	7.02	5.11	-6	4	2	24.25	23.80	-5	1	3	18.87	17.94
-8	4	6	7.13	6.47	-7	7	3	6.54	6.28	-6	4	4	11.37	11.52	-5	1	4	41.35	40.69
-8	4	9	16.71	17.62	-7	7	4	18.50	17.86	-6	4	5	26.04	26.00	-5	1	5	4.73	3.49
-8	6	1	30.41	30.16	-7	7	7	9.61	10.20	-6	4	6	4.11	1.86	-5	1	6	9.82	9.58
-8	6	2	33.99	34.66	-7	7	8	13.12	12.79	-6	4	7	6.42	6.32	-5	1	7	5.72	6.64
-8	6	3	5.75	5.39	-7	7	9	8.61	8.80	-6	4	9	13.87	13.64	-5	1	8	25.68	25.50
-8	6	5	23.68	23.99	-7	7	10	8.41	8.54	-6	4	10	8.87	9.19	-5	1	9	17.62	17.15
-8	6	6	20.53	21.39	-7	9	1	5.01	4.49	-6	4	12	4.95	5.56	-5	1	11	8.23	6.78
-8	6	7	8.96	6.57	-7	9	2	9.79	9.71	-6	4	13	15.64	14.67	-5	1	12	7.40	6.81
-7	1	2	6.76	6.91	-7	9	3	28.64	30.25	-6	6	1	23.35	22.43	-5	1	13	10.09	8.49
-7	1	3	4.73	3.96	-7	9	4	27.45	28.25	-6	6	2	87.46	86.71	-5	1	14	5.24	6.14
-7	1	4	24.55	24.37	-7	9	5	17.34	19.57	-6	6	3	26.53	26.32	-5	1	15	9.22	8.39
-7	1	5	15.28	15.23	-7	9	6	13.53	15.27	-6	6	5	31.26	31.24	-5	3	1	68.88	64.91
-7	1	7	12.30	13.23	-7	9	7	33.52	35.04	-6	6	6	33.60	33.90	-5	3	2	24.71	24.33
-7	1	8	4.98	5.57	-6	0	1	30.48	28.89	-6	6	7	18.48	18.85	-5	3	3	18.54	18.26
-7	1	9	14.95	15.50	-6	0	2	96.81	93.47	-6	6	8	6.31	6.74	-5	3	4	43.25	40.42
-7	1	10	9.83	10.20	-6	0	3	55.21	53.13	-6	6	9	31.97	32.74	-5	3	5	37.83	37.23

Table 3a. (Continued)

H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC
-5	3	7	58.59	58.53	-5	9	10	6.64	3.78	-4	2	14	8.30	7.78	-4	8	12	13.41	13.28
-5	3	8	69.97	70.97	-5	9	11	24.46	23.90	-4	2	15	12.30	11.15	-4	8	13	10.13	9 88
-5	3	9	29.47	30.78	-5	11	2	21.35	20.83	-4	2	16	8.13	6.33	-4	10	2	13.94	13.73
-5	3	10	6.24	1.83	-5	11	3	27.43	27.82	-4	4	1	18.57	17.95	-4	10	3	19.23	19 35
-5	3	11	42.17	41.34	-5	11	4	12.30	12.77	-4	4	3	36.20	35.00	-4	10	4	9.40	8.77
-5	3	12	15.95	16.30	-5	11	5	15.87	15.15	-4	4	4	4.76	4.68	-4	10	5	8.74	8 60
-5	3	13	15.25	13.60	-5	11	6	21.58	21.62	-4	4	5	5.81	5.26	-4	10	6	9.49	9 08
-5	3	14	6.01	6.89	-5	11	9	21.92	21.43	-4	4	6	15.53	14.85	-4	10	7	12.35	12 26
-5	3	15	34.68	31.33	-5	13	4	14.75	15.39	-4	4	7	27.41	28.21	-4	10	8	5.47	5.48
-5	5	1	4.64	3.72	-4	0	1	65.15	61.74	-4	4	8	28.49	29.14	-4	10	9	9.44	9.20
-5	5	2	14.64	16.09	-4	0	2	123.31	116.55	-4	4	9	14.79	15.28	-4	10	10	12.44	13 03
-5	5	3	24.04	23.61	-4	0	3	102.59	99.60	-4	4	10	23.26	23.80	-4	10	11	6.74	7.25
-5	5	4	18.59	18.59	-4	0	4	30.36	27.70	-4	4	12	5.48	5.06	-4	12	1	26.36	25 47
-5	5	5	11.15	11.42	-4	0	5	58.24	58.09	-4	4	13	23.36	21.88	-4	12	2	30.90	31.93
-5	5	6	15.23	15.01	-4	0	6	113.20	116.04	-4	6	1	28.22	28.44	-4	12	3	36.93	38 59
-5	5	7	6.38	5.54	-4	0	7	17.21	16.91	-4	6	2	60.42	58.08	-4	12	5	11.36	13 14
-5	5	8	16.72	16.78	-4	0	8	3.78	1.72	-4	6	3	79.71	77.86	-4	12	6	43.47	46 40
-5	5	9	19.44	19.61	-4	0	9	14.17	14.33	-4	6	4	32.26	32.44	-4	12	8	13.78	11 46
-5	5	10	12.75	12.24	-4	0	10	39.11	39.18	-4	6	5	17.84	16.99	-4	14	1	18.20	16.83
-5	5	13	17.38	15.63	-4	0	11	6.68	8.20	-4	6	6	91.10	92.53	-4	14	2	8.19	7.77
-5	7	1	24.41	24.33	-4	0	12	11.72	11.89	-4	6	7	24.77	24.63	-3	1	1	35.21	33.11
-5	7	3	10.37	11.21	-4	0	13	36.37	36.10	-4	6	8	19.30	20.15	-3	1	2	25.25	24 10
-5	7	4	42.70	43.04	-4	0	14	47.24	44.85	-4	6	9	14.62	14.75	-3	1	3	61.66	59.66
-5	7	6	8.27	7.49	-4	0	15	4.43	4.11	-4	6	10	38.51	38.52	-3	1	4	44.62	44 81
-5	7	7	16.54	16.18	-4	0	16	11.32	9.60	-4	6	11	8.59	7.86	-3	1	5	15.47	16.09
-5	7	8	20.16	19.87	-4	2	1	21.81	21.69	-4	6	12	12.57	12.81	-3	1	6	12.55	12.76
-5	7	9	12.38	12.68	-4	2	2	22.07	21.06	-4	6	13	37.48	35.74	-3	1	7	9.17	9.99
-5	7	10	8.61	8.14	-4	2	3	18.33	18.71	-4	6	14	29.51	27.85	-3	1	8	38.12	39.88
-5	7	11	7.17	7.40	-4	2	4	39.57	40.26	-4	6	15	5.32	6.42	-3	1	9	5.85	4.30
-5	7	12	5.75	5.78	-4	2	5	15.36	15.81	-4	8	1	13.64	13.62	-3	1	12	13.79	12.49
-5	9	1	45.83	46.73	-4	2	6	4.08	2.23	-4	8	2	12.93	13.22	-3	1	13	5.60	6.53
-5	9	2	23.47	22.53	-4	2	7	4.17	2.90	-4	8	3	7.38	7.88	-3	1	16	11.55	10.40
-5	9	4	33.20	32.16	-4	2	8	18.56	19.15	-4	8	4	22.96	22.22	-3	1	17	4.87	2.17
-5	9	5	15.80	16.63	-4	2	9	3.99	0.53	-4	8	5	14.74	15.48	-3	3	1	179.38	172.26
-5	9	6	8.96	8.75	-4	2	10	6.42	6.26	-4	8	8	35.07	35.26	-3	3	2	72.57	67.00
-5	9	7	44.22	44.31	-4	2	11	8.21	8.18	-4	8	9	5.48	4.21	-3	3	3	28.19	25.25
-5	9	8	42.32	44.06	-4	2	12	17.33	16.42	-4	8	10	5.10	5.59	-3	3	4	44.38	44.37
-5	9	9	13.06	13.92	-4	2	13	12.90	11.79	-4	8	11	10.49	10.26	-3	3	5	75.73	77 65

Table 3a. (Continued)

H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC
-3	3	6	30.57	31.98	-3	9	2	22.95	22.28	-2	0	15	12.97	13.06	-2	6	8	29.80	30 57
-3	3	7	5.25	5.08	-3	9	3	16.62	17.24	-2	0	16	15.60	13.75	-2	6	9	11.31	11.39
-3	3	8	62.96	66.88	-3	9	4	19.35	19.19	-2	0	17	23.39	20.78	-2	6	10	38.28	37.56
-3	3	9	59.58	61.30	-3	9	5	35.76	35.41	-2	2	1	44.84	39.74	-2	6	11	14.60	14.32
-3	3	10	4.05	3.83	-3	9	6	13.11	12.16	-2	2	2	48.92	47.31	-2	6	12	7.28	6.77
-3	3	11	48.53	48.85	-3	9	7	6.85	6.54	-2	2	3	13.52	14.96	-2	6	13	5.06	1.08
-3	3	12	50.34	49.15	-3	9	8	33.59	34.03	-2	2	4	23.79	22.58	-2	6	14	35.68	33.96
-3	3	13	10.79	9.80	-3	9	9	44.50	44.92	-2	2	5	17.66	20.08	-2	6	15	13.76	14.13
-3	3	14	10.40	8.49	-3	9	11	27.06	26.96	-2	2	6	26.45	26.69	-2	8	1	31.27	31.08
-3	3	15	20.19	18.80	-3	9	12	39.21	38.99	-2	2	7	56.67	59.84	-2	8	2	30.09	29.72
-3	3	16	11.96	10.75	-3	11	2	11.93	11.75	-2	2	8	32.69	34.83	-2	8	3	15.55	15 79
-3	5	1	18.74	19.16	-3	11	3	30.78	30.48	-2	2	9	22.45	23.96	-2	8	4	24.93	25.48
-3	5	2	9.64	8.78	-3	11	5	10.56	11.34	-2	2	10	19.14	19.48	-2	8	5	17.69	17.39
-3	5	3	68.48	69.22	-3	11	6	16.40	15.78	-2	2	11	4.15	4.57	-2	8	6	10.09	10.87
-3	5	4	23.02	23.29	-3	11	7	21.17	21.15	-2	2	12	28.62	26.79	-2	8	7	11.94	11 53
-3	5	5	6.02	4.38	-3	11	9	5.19	4.29	-2	2	13	15.73	15.13	-2	8	8	22.94	23.14
-3	5	6	30.54	31.76	-3	11	10	14.17	12.75	-2	2	14	6.71	7.26	-2	8	9	17.79	17.42
-3	5	7	17.88	18.41	-3	11	11	10.34	10.12	-2	4	1	11.68	11.91	-2	8	10	6.01	5.80
-3	5	8	25.78	27.31	-3	13	1	15.73	15.74	-2	4	3	64.10	63.74	-2	8	12	23.81	21.23
-3	5	9	15.22	15.49	-3	13	2	11.35	11.83	-2	4	4	16.23	15.80	-2	8	13	5.33	2 57
-3	5	10	7.44	7.49	-3	13	3	16.85	17.51	-2	4	5	12.05	12.29	-2	8	14	6.55	6 32
-3	5	11	5.42	4.49	-3	13	4	17.77	19.05	-2	4	6	7.64	8.29	-2	10	1	10.63	11.23
-3	5	13	10.81	10.48	-3	13	5	13.43	14.62	-2	4	7	28.15	28.99	-2	10	3	27.64	26.81
-3	5	14	8.94	8.28	-3	13	8	18.57	19.14	-2	4	8	8.51	9.17	-2	10	4	9.39	10.45
-3	5	15	5.65	4.69	-2	0	1	37.48	34.14	-2	4	10	5.10	5.33	-2	10	7	28.29	28.73
-3	5	16	4.98	6.43	-2	0	2	18.44	15.78	-2	4	11	20.13	20.18	-2	10	8	7.09	7.51
-3	7	1	23.26	23.43	-2	0	3	56.27	59.87	-2	4	12	11.12	10.66	-2	10	10	14.67	14 43
-3	7	2	12.64	12.11	-2	0	4	83.90	86.76	-2	4	13	5.28	6.23	-2	10	11	11.99	10 83
-3	7	3	17.27	17.16	-2	0	5	22.18	24.67	-2	4	14	18.06	16.64	-2	10	12	8.58	7 06
-3	7	4	30.63	30.77	-2	0	6	112.73	120.81	-2	4	15	4.97	4.92	-2	10	13	11.57	11.36
-3	7	5	13.96	13.27	-2	0	7	121.17	129.84	-2	4	16	7.57	5.96	-2	12	1	27.36	26.67
-3	7	6	7.72	8.50	-2	0	8	31.01	32.95	-2	6	1	66.51	64.79	-2	12	3	28.59	28.50
-3	7	7	5.51	4.51	-2	0	9	5.39	5.54	-2	6	2	12.47	11.50	-2	12	4	11.30	12.61
-3	7	8	27.08	27.74	-2	0	10	69.68	71.89	-2	6	3	77.09	75.63	-2	12	5	12.89	12.13
-3	7	9	8.66	8.89	-2	0	11	10.02	10.92	-2	6	4	21.74	20.95	-2	12	6	39.96	41.52
-3	7	12	18.28	17.57	-2	0	12	13.86	12.96	-2	6	5	7.20	9.43	-2	12	7	38.50	40.59
-3	7	15	7.92	8.06	-2	0	13	13.88	14.16	-2	6	6	94.82	97.01	-2	12	8	9.59	10.24
-3	9	1	85.94	85.43	-2	0	14	38.18	35.96	-2	6	7	67.05	67.79	-2	12	10	21.59	22.10

Table 3a. (Continued)

H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC
-2	14	1	19.65	18.72	-1	5	3	59.11	58.30	-1	11	6	15.82	15.70	0	2	4	11.94	11.06
-2	14	2	20.71	20.33	-1	5	4	7.45	6.89	-1	11	7	32.91	33.41	0	2	5	13.28	14.72
-2	14	4	13.38	13.02	-1	5	7	34.45	36.94	-1	11	9	8.74	8.83	0	2	6	15.46	17.43
-2	14	5	15.94	15.15	-1	5	11	19.81	19.08	-1	11	10	10.98	9.66	0	2	7	31.71	34.13
-2	14	6	9.67	9.60	-1	5	12	11.79	11.48	-1	11	11	7.38	7.83	0	2	8	5.21	5.01
-1	1	1	27.34	24.53	-1	5	14	12.43	12.43	-1	13	1	14.22	15.00	0	2	10	9.96	10.44
-1	1	2	72.99	70.28	-1	5	15	10.75	8.95	-1	13	2	14.14	14.19	0	2	11	16.57	15.58
-1	1	3	68.50	69.25	-1	7	1	15.70	14.79	-1	13	3	10.20	10.38	0	2	12	11.40	11.03
-1	1	4	26.68	27.49	-1	7	2	61.95	61.61	-1	13	4	9.18	9.58	0	2	13	11.90	11.39
-1	1	5	15.20	17.46	-1	7	3	37.10	37.16	-1	13	5	7.51	6.31	0	2	15	10.54	9.98
-1	1	6	6.11	7.63	-1	7	4	11.07	10.48	-1	13	6	8.53	8.46	0	2	16	8.40	6.98
-1	1	7	28.93	30.78	-1	7	5	33.43	33.86	-1	13	8	7.29	7.57	0	4	0	38.27	32.38
-1	1	8	22.47	22.51	-1	7	6	6.93	7.30	-1	13	9	9.61	10.56	0	4	1	61.01	57.42
-1	1	9	8.81	10.15	-1	7	7	17.83	18.57	-1	15	1	22.82	24.59	0	4	2	16.07	16.83
-1	1	10	8.06	8.68	-1	7	8	29.53	30.71	-1	15	2	20.48	21.37	0	4	3	3.02	1.32
-1	1	11	9.71	9.86	-1	7	9	9.11	9.29	-1	15	3	11.89	13.36	0	4	4	38.67	40.79
-1	1	12	17.61	17.15	-1	7	10	7.42	7.12	-1	15	4	6.29	9.79	0	4	5	23.62	23.12
-1	1	13	6.34	6.51	-1	7	12	13.58	12.43	-1	15	5	28.43	29.49	0	4	6	40.98	41.63
-1	1	14	5.57	5.65	-1	7	13	6.73	5.61	0	0	1	64.74	67.08	0	4	7	58.26	59.91
-1	1	15	7.44	6.43	-1	7	15	5.86	4.41	0	0	2	11.94	13.94	0	4	8	14.38	14.94
-1	1	16	10.28	9.40	-1	9	1	55.54	54.18	0	0	3	124.48	133.12	0	4	9	20.27	20.41
-1	3	1	141.05	130.38	-1	9	2	73.27	72.04	0	0	4	52.34	57.78	0	4	10	8.93	9.38
-1	3	2	114.00	110.87	-1	9	3	27.95	26.98	0	0	5	77.34	81.69	0	4	11	27.39	26.05
-1	3	3	115.00	112.26	-1	9	4	14.71	13.76	0	0	6	54.18	55.46	0	4	12	19.21	18.23
-1	3	4	60.58	59.84	-1	9	5	85.52	87.93	0	0	7	60.03	67.18	0	4	14	11.47	10.41
-1	3	5	134.12	142.01	-1	9	6	18.99	19.54	0	0	8	62.99	68.71	0	4	15	5.62	4.20
-1	3	6	51.70	53.66	-1	9	7	21.85	22.62	0	0	9	29.37	30.89	0	6	0	172.72	167.03
-1	3	7	15.46	18.40	-1	9	8	11.69	11.96	0	0	10	51.20	51.63	0	6	1	66.41	60.54
-1	3	8	6.88	6.52	-1	9	9	35.85	35.50	0	0	11	52.66	53.50	0	6	2	23.33	20.57
-1	3	9	67.71	70.54	-1	9	10	10.30	10.04	0	0	12	27.39	26.25	0	6	3	41.28	41.02
-1	3	10	6.99	4.81	-1	9	11	9.48	10.43	0	0	13	18.77	17.17	0	6	4	72.45	73.96
-1	3	11	6.99	9.04	-1	9	12	35.24	33.77	0	0	14	21.75	19.95	0	6	5	34.76	37.18
-1	3	12	57.08	56.05	-1	9	13	28.43	26.39	0	0	15	23.10	21.44	0	6	6	3.74	2.98
-1	3	13	45.55	43.77	-1	11	1	12.06	11.96	0	0	17	7.42	6.90	0	6	7	62.93	65.64
-1	3	15	20.79	19.26	-1	11	2	17.23	17.91	0	2	0	43.36	37.73	0	6	8	56.19	57.06
-1	3	16	21.85	19.41	-1	11	3	41.61	41.45	0	2	1	6.55	5.85	0	6	10	48.85	48.62
-1	5	1	8.50	7.65	-1	11	4	13.79	13.54	0	2	2	82.06	81.71	0	6	11	48.11	46.48
-1	5	2	22.74	22.28	-1	11	5	5.73	6.23	0	2	3	57.03	56.99	0	6	12	8.16	7.58

Table 3a. (Continued)

H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC
0	6	13	10.67	8.71	0	14	4	7.60	7.07	1	5	2	54.10	53.51	1	11	0	36.08	35 64
0	6	14	18.70	17.63	0	14	5	15.84	15.97	1	5	3	32.05	33.42	1	11	1	19.30	18.70
0	6	15	10.39	9.51	0	14	6	23.26	22.48	1	5	4	26.47	28.17	1	11	2	7.06	7.04
0	8	0	17.33	17.11	0	14	7	4.77	5.23	1	5	5	5.25	4.58	1	11	3	29.26	28.98
0	8	2	43.99	43.23	1	1	0	26.28	23.24	1	5	6	18.54	20.31	1	11	4	11.77	11.21
0	8	3	11.75	11.84	1	1	1	28.23	26.38	1	5	7	35.63	37.69	1	11	5	9.78	10.04
0	8	5	15.41	16.01	1	1	2	93.83	93.44	1	5	8	5.89	6.89	1	11	7	17.16	15 81
0	8	6	41.67	42.86	1	1	3	32.16	32.87	1	5	9	4.07	3.73	1	11	8	16.52	16.78
0	8	7	23.09	23.54	1	1	4	4.22	2.24	1	5	11	17.51	16.74	1	11	9	10.85	10 70
0	8	8	5.71	4.14	1	1	5	13.77	14.70	1	5	13	6.37	5.21	1	11	11	22.29	19.53
0	8	9	24.78	25.09	1	1	6	29.68	32.67	1	5	14	4.52	5.05	1	13	1	4.78	4.65
0	8	10	4.13	4.79	1	1	7	24.03	25.31	1	5	15	11.84	9.44	1	13	2	30.16	30.53
0	8	11	8.98	8.63	1	1	10	14.19	14.44	1	7	0	13.01	12.00	1	13	5	10.87	10.99
0	8	12	24.43	22.92	1	1	11	12.67	12.48	1	7	1	13.49	13.03	1	13	6	14.11	13.97
0	8	13	9.85	9.03	1	1	12	7.08	6.18	1	7	2	50.61	51.80	1	13	7	7.84	8.90
0	10	0	16.22	16.09	1	1	13	13.55	13.36	1	7	3	13.08	12.75	1	13	8	5.19	5.70
0	10	1	15.21	14.68	1	1	14	7.68	6.35	1	7	4	15.66	16.73	1	13	9	6.71	6 54
0	10	2	14.32	14.97	1	1	15	7.89	7.51	1	7	5	7.66	8.40	1	15	0	15.57	14.48
0	10	3	23.53	23.80	1	1	16	8.17	6.81	1	7	6	22.28	22.97	1	15	1	10.28	10.47
0	10	4	16.23	16.31	1	3	0	41.17	37.61	1	7	9	5.98	5.29	1	15	2	15.89	16.24
0	10	5	6.73	7.03	1	3	1	20.99	15.90	1	7	10	21.89	21.63	1	15	3	9.28	11.84
0	10	6	5.70	4.71	1	3	2	55.69	58.68	1	7	11	9.60	7.71	1	15	4	14.80	13.72
0	10	7	27.97	27.35	1	3	3	79.40	82.98	1	7	12	6.71	6.14	2	0	0	145.25	133.38
0	10	8	7.27	7.25	1	3	4	22.47	24.87	1	7	13	18.53	17.41	2	0	1	118.41	113.86
0	10	11	17.24	15.40	1	3	5	112.59	120.63	1	7	14	5.34	4.87	2	0	2	117.91	113 19
0	12	0	77.32	77.85	1	3	6	119.26	127.15	1	9	0	33.15	32.60	2	0	3	61.49	61.61
0	12	1	15.38	16.52	1	3	7	31.29	32.10	1	9	1	12.90	12.45	2	0	4	139.61	146.80
0	12	2	4.86	4.03	1	3	8	5.70	4.58	1	9	2	33.51	34.60	2	0	5	51.06	53.28
0	12	3	24.93	25.01	1	3	9	69.91	71.32	1	9	3	28.92	28.95	2	0	6	16.24	18.43
0	12	4	26.14	26.21	1	3	10	10.71	10.79	1	9	4	7.65	9.50	2	0	7	10.90	11.00
0	12	5	25.83	25.66	1	3	11	14.65	14.12	1	9	5	51.82	55.15	2	0	8	68.93	71.51
0	12	7	26.72	27.44	1	3	12	13.37	13.91	1	9	6	63.58	64.35	2	0	9	7.33	5.60
0	12	8	24.14	25.41	1	3	13	39.40	36.85	1	9	7	22.85	23.92	2	0	10	11.44	12.00
0	12	10	21.08	22.07	1	3	14	10.88	11.88	1	9	8	5.77	6.52	2	0	11	57.65	57.20
0	12	11	24.92	24.97	1	3	15	14.10	13.16	1	9	9	38.85	38.46	2	0	12	45.41	43.48
0	14	0	6.08	5.30	1	3	16	24.79	21.59	1	9	10	11.57	11.61	2	0	14	22.95	19.92
0	14	1	7.42	6.60	1	5	0	34.69	34.62	1	9	11	18.26	17.52	2	0	15	21.99	19.55
0	14	2	25.97	25.98	1	5	1	53.79	52.97	1	9	13	31.29	29.07	2	2	0	52.24	46.80

Table 3a. (Continued)

H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC
2	2	1	39.60	39.08	2	6	14	8.70	8.72	3	1	6	28.39	30.11	3	7	1	25.85	25.38
2	2	3	31.67	31.84	2	8	0	11.88	11.69	3	1	7	6.06	4.75	3	7	2	32.51	32.55
2	2	4	4.62	4.85	2	8	1	19.49	19.26	3	1	9	6.00	6.66	3	7	3	19.63	19.89
2	2	5	37.49	37.92	2	8	2	42.36	43.11	3	1	10	19.81	19.15	3	7	5	3.94	2.41
2	2	6	60.67	64.31	2	8	3	13.28	12.57	3	1	11	7.25	6.73	3	7	6	34.68	34.29
2	2	7	11.45	11.61	2	8	5	5.49	7.36	3	1	12	8.81	8.10	3	7	9	4.72	4.45
2	2	8	25.44	27.57	2	8	6	38.99	39.08	3	1	13	7.24	6.68	3	7	10	15.20	14.03
2	2	9	14.16	14.25	2	8	9	8.87	8.64	3	1	14	13.23	10.81	3	7	11	4.65	2.66
2	2	10	14.19	13.76	2	8	10	14.80	13.43	3	1	15	7.03	5.04	3	7	13	6.16	5 99
2	2	11	27.57	27.75	2	8	11	8.49	7.33	3	3	0	69.65	63.81	3	9	0	43.93	41.58
2	2	12	6.56	7.00	2	8	13	11.04	10.12	3	3	1	29.52	26.07	3	9	1	4.39	3.54
2	2	13	8.31	8.45	2	10	0	5.93	4.23	3	3	2	46.82	46.43	3	9	2	21.28	21.04
2	4	0	18.03	17.39	2	10	1	30.29	29.10	3	3	3	76.32	77.00	3	9	3	53.02	53.61
2	4	1	67.25	65.82	2	10	2	5.78	5.66	3	3	4	31.78	33.26	3	9	4	31.37	31.44
2	4	2	45.24	44.88	2	10	4	16.24	16.15	3	3	5	7.55	6.97	3	9	5	4.97	4.47
2	4	3	16.02	15.77	2	10	5	19.32	19.42	3	3	6	65.36	69.13	3	9	6	48.68	50.25
2	4	4	27.67	29.10	2	10	6	18.69	17.47	3	3	7	59.80	60.76	3	9	7	29.34	29.92
2	4	5	9.43	10.54	2	10	7	16.55	17.12	3	3	9	51.07	51.13	3	9	8	4.91	2.45
2	4	6	22.50	23.53	2	10	8	19.47	18.91	3	3	10	50.29	49.86	3	9	9	39.35	39.32
2	4	7	26.41	27.89	2	10	11	18.97	17.33	3	3	11	10.27	8.47	3	9	10	28.97	28.63
2	4	8	11.87	12.50	2	12	0	41.84	41.98	3	3	12	9.40	7.78	3	11	0	7.66	5.51
2	4	9	8.19	8.20	2	12	1	38.03	38.25	3	3	13	21.58	20.57	3	11	1	37.78	37.34
2	4	11	17.63	16.92	2	12	2	7.96	10.97	3	3	14	10.56	10.40	3	11	3	5.97	5.65
2	4	12	6.20	6.51	2	12	3	15.31	17.02	3	5	0	21.98	21.17	3	11	4	22.42	22.66
2	4	14	4.78	3.81	2	12	4	50.35	50.78	3	5	1	40.84	41.21	3	11	5	20.86	20.02
2	4	15	10.68	9.53	2	12	5	6.88	8.19	3	5	2	24.42	24.42	3	11	6	7.98	9.63
2	6	0	118.65	113.89	2	12	6	13.69	11.78	3	5	3	19.63	19.96	3	11	7	11.52	10 19
2	6	1	94.28	90.65	2	12	8	20.08	19.94	3	5	4	10.45	10.54	3	11	8	12.23	11.90
2	6	2	24.34	21.14	2	12	9	5.42	3.58	3	5	5	16.91	17.94	3	11	9	6.45	6.28
2	6	3	55.68	55.62	2	14	0	12.97	12.13	3	5	6	10.67	11.20	3	13	0	4.90	2.52
2	6	4	110.29	111.22	2	14	2	21.30	20.22	3	5	7	4.52	0.85	3	13	1	5.51	4 00
2	6	5	9.92	10.16	2	14	3	16.31	14.02	3	5	8	7.44	7.79	3	13	2	18.62	19.28
2	6	6	6.38	1.86	2	14	5	5.72	6.82	3	5	9	14.55	15.34	3	13	4	6.98	7 49
2	6	7	13.18	12.57	2	14	6	28.23	27.75	3	5	10	13.76	12.82	3	13	6	10.55	9.77
2	6	8	34.70	36.22	3	1	1	39.30	38.36	3	5	11	11.07	11.22	4	0	0	22.72	21 11
2	6	10	10.01	10.36	3	1	2	46.36	46.65	3	5	12	16.16	15.64	4	0	1	82.38	82.07
2	6	11	34.65	34.69	3	1	3	4.36	1.78	3	5	14	7.13	6.26	4	0	2	24.14	23.14
2	6	12	46.20	42.99	3	1	5	8.53	8.45	3	7	0	19.85	19.21	4	0	4	102.15	104.86

Table 3a. (Continued)

H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC
4	0	5	68.52	70.85	4	6	9	12.75	12.95	5	1	9	7.92	7.55	5	9	3	54.86	54.34
4	0	6	32.97	33.95	4	6	10	16.24	14.73	5	1	10	16.43	15.52	5	9	4	11.78	11.58
4	0	7	16.20	16.00	4	6	11	6.88	7.89	5	1	11	5.74	5.22	5	9	5	8.92	9.03
4	0	8	41.31	41.41	4	6	12	32.03	30.58	5	3	0	83.24	80.12	5	9	6	6.35	5.24
4	0	9	16.32	16.99	4	8	0	31.02	30.70	5	3	1	33.85	33.36	5	9	7	22.85	23.52
4	0	10	6.00	4.47	4	8	1	9.14	8.91	5	3	2	24.43	23.00	5	11	1	24.03	23.59
4	0	12	38.92	37.29	4	8	2	8.69	9.14	5	3	3	96.70	97.08	5	11	3	9.43	8.50
4	0	13	16.59	15.50	4	8	3	22.96	22.68	5	3	4	25.02	24.39	5	11	4	8.99	8.14
4	0	14	5.95	5.13	4	8	4	9.71	10.12	5	3	5	18.22	17.50	5	11	5	17.82	16.97
4	2	0	36.85	36.27	4	8	5	18.74	18.74	5	3	6	20.27	19.70	5	11	6	9.54	10.20
4	2	1	57.35	56.42	4	8	6	26.25	26.43	5	3	7	41.52	41.19	5	13	0	14.23	14.84
4	2	2	19.17	19.81	4	8	7	16.01	16.14	5	3	8	6.55	7.00	6	0	0	25.23	25.36
4	2	3	21.27	21.59	4	8	8	4.56	3.17	5	3	9	13.43	15.70	6	0	1	28.58	28.55
4	2	4	15.00	14.68	4	8	9	6.25	5.42	5	3	10	40.14	39.06	6	0	2	42.23	43.08
4	2	5	19.74	20.94	4	8	10	21.13	19.12	5	3	11	30.29	29.20	6	0	3	8.05	7.64
4	2	6	28.05	29.55	4	10	0	4.71	3.20	5	3	12	5.47	6.75	6	0	5	43.07	43.43
4	2	10	9.34	8.86	4	10	1	33.46	31.96	5	5	0	16.90	16.47	6	0	6	48.09	49.34
4	2	12	5.07	6.38	4	10	2	4.68	3.55	5	5	1	28.42	28.12	6	0	8	34.96	34.71
4	2	13	6.02	5.79	4	10	4	10.88	10.19	5	5	2	7.28	6.55	6	0	9	44.29	43.44
4	4	0	11.48	11.49	4	10	5	20.11	19.51	5	5	3	4.65	3.89	6	2	0	20.59	20.35
4	4	1	33.69	32.91	4	10	6	8.12	8.09	5	5	5	30.46	29.46	6	2	2	8.16	7.90
4	4	2	15.15	15.70	4	10	8	10.91	9.65	5	5	7	6.72	4.75	6	2	4	19.39	19.76
4	4	3	5.87	4.99	4	10	9	7.93	8.14	5	5	8	6.01	5.13	6	2	5	22.68	23.51
4	4	5	42.24	43.23	4	12	1	21.53	22.20	5	5	9	10.23	10.17	6	2	6	4.52	3.43
4	4	6	16.15	17.08	4	12	2	6.97	6.75	5	5	10	11.41	10.14	6	2	7	12.71	12.68
4	4	7	5.45	6.56	4	12	3	5.91	3.79	5	7	0	17.68	17.62	6	2	9	12.41	11.64
4	4	8	20.45	20.25	4	12	4	32.62	34.50	5	7	1	15.18	14.01	6	2	10	13.77	12.85
4	4	9	9.02	9.16	4	12	5	31.60	32.67	5	7	2	18.68	18.14	6	4	0	27.83	27.28
4	4	10	13.40	12.69	4	12	6	11.81	13.19	5	7	3	8.27	6.94	6	4	1	28.16	28.11
4	4	11	17.67	16.35	4	14	0	20.42	20.29	5	7	4	10.51	10.42	6	4	2	15.04	15.91
4	4	12	10.85	9.81	5	1	0	26.40	26.27	5	7	6	8.45	8.60	6	4	3	6.30	8.27
4	6	0	17.70	17.60	5	1	1	23.78	23.62	5	7	7	13.04	12.81	6	4	5	26.01	27.38
4	6	1	39.41	38.22	5	1	2	8.19	8.81	5	7	8	12.34	12.06	6	4	6	4.52	2.49
4	6	2	33.49	32.77	5	1	3	9.90	9.87	5	7	9	5.96	5.60	6	4	8	6.06	4.87
4	6	4	58.32	59.27	5	1	4	10.54	10.14	5	7	10	14.96	13.58	6	4	9	7.19	7.21
4	6	5	67.19	68.39	5	1	5	18.43	18.76	5	9	0	42.70	41.72	6	6	1	33.75	34.14
4	6	6	24.94	25.84	5	1	6	10.59	10.77	5	9	1	13.89	14.80	6	6	2	32.34	32.16
4	6	8	42.16	42.07	5	1	7	12.51	12.35	5	9	2	20.06	21.36	6	6	3	20.77	20.26

Table 3a. (Continued)

H	K	L	FO	FC	H	K	L	FO	FC
6	6	4	9.83	9.94	7	7	3	5.20	5.52
6	6	5	33.63	34.19	7	7	4	18.46	19.23
6	6	6	29.39	30.76	7	7	5	4.95	4.78
6	6	7	8.65	9.52	7	9	0	22.34	23.09
6	6	8	27.56	27.44	7	9	1	15.95	16.77
6	6	9	30.20	29.88	7	9	2	8.48	8.67
6	8	0	32.37	32.46	8	0	0	14.68	15.27
6	8	1	5.37	5.62	8	0	1	24.07	24.76
6	8	3	19.93	19.68	8	0	2	54.94	56.12
6	8	4	13.30	12.47	8	0	3	12.28	12.05
6	8	5	10.75	10.56	8	0	4	5.12	3.96
6	8	6	9.22	8.79	8	0	5	12.92	12.71
6	8	7	8.76	7.61	8	2	0	19.98	20.98
6	10	0	8.73	7.64	8	2	2	13.90	13.73
6	10	1	12.42	12.53	8	2	3	5.58	4.93
6	10	2	13.93	14.63	8	2	4	13.31	13.92
6	10	5	20.76	20.91	8	2	5	10.62	10.64
7	1	0	22.36	22.10	8	4	2	9.78	9.02
7	1	1	6.21	3.98	8	4	3	9.29	10.05
7	1	4	15.89	15.82	8	4	4	8.46	8.79
7	1	5	6.60	6.30	8	6	0	18.14	21.30
7	1	7	6.09	5.29	8	6	1	17.52	19.06
7	1	8	9.35	8.59	8	6	2	37.12	39.09
7	3	0	38.99	38.65					
7	3	1	19.43	19.81					
7	3	3	50.43	52.35					
7	3	4	46.84	48.82					
7	3	5	16.52	16.75					
7	3	6	9.46	8.56					
7	3	7	29.93	29.88					
7	3	8	8.34	8.33					
7	5	0	13.27	12.00					
7	5	1	13.64	13.97					
7	5	4	4.73	6.22					
7	5	5	9.43	9.17					
7	5	6	7.85	8.79					
7	7	0	19.91	20.35					
7	7	1	7.83	6.95					

Table 3b. Observed and calculated structure factors of $2M_1$ oxybiotite

H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC
-9	1	2	22.83	22.43	-7	1	2	6.73	3.65	-7	7	12	23.70	24.52	-6	2	25	13.87	14.50
-9	1	4	11.45	10.96	-7	1	3	9.24	8.98	-7	7	14	33.97	32.12	-6	2	26	13.69	13.21
-9	1	8	29.38	29.00	-7	1	4	23.31	23.40	-7	7	15	17.81	17.77	-6	2	27	14.05	13 53
-8	0	2	50.01	49.14	-7	1	6	45.14	44.91	-7	7	16	10.76	10.27	-6	4	1	54.79	55 70
-8	0	4	60.06	61.49	-7	1	7	23.75	23.48	-7	7	18	12.13	13.30	-6	4	2	21.82	21.09
-8	0	6	72.04	74.17	-7	1	10	16.44	17.81	-7	9	1	55.02	56.88	-6	4	3	14.27	12.85
-8	0	8	13.11	14.83	-7	1	12	23.48	23.34	-7	9	2	11.62	8.93	-6	4	4	9.62	10.93
-8	0	10	21.15	23.44	-7	1	14	30.93	31.60	-7	9	3	19.96	19.79	-6	4	5	21.14	22.38
-8	0	12	88.38	88.93	-7	1	15	14.69	14.34	-7	9	4	8.37	3.34	-6	4	6	30.40	30.99
-8	0	14	11.77	12.86	-7	1	17	9.61	8.16	-7	9	5	16.15	13.75	-6	4	7	74.77	75 63
-8	0	16	25.61	23.29	-7	1	18	12.43	12.53	-7	9	7	36.45	38.40	-6	4	8	23.56	21.28
-8	2	3	32.27	32.96	-7	1	20	25.66	24.67	-7	9	9	28.98	31.20	-6	4	9	14.88	15.38
-8	2	4	12.09	9.48	-7	1	22	16.12	16.17	-7	9	11	22.21	19.88	-6	4	10	12.25	11.56
-8	2	5	36.06	35.83	-7	3	1	89.47	86.80	-6	0	2	168.19	167.54	-6	4	11	10.15	11.02
-8	2	6	24.66	25.29	-7	3	3	49.33	48.87	-6	0	4	44.35	42.65	-6	4	13	29.37	28.96
-8	2	7	23.25	23.80	-7	3	7	58.66	59.91	-6	0	6	32.52	32.98	-6	4	15	48.25	48.18
-8	2	8	14.61	15.46	-7	3	9	26.47	27.86	-6	0	8	39.09	37.75	-6	4	16	27.32	27.22
-8	2	9	30.03	29.85	-7	3	11	21.60	21.03	-6	0	10	71.18	69.41	-6	4	17	9.97	11.67
-8	2	11	32.36	32.93	-7	3	13	80.30	83.19	-6	0	12	23.58	23.70	-6	4	19	15.81	15.95
-8	2	12	13.21	14.66	-7	3	15	78.12	81.52	-6	0	14	13.74	12.69	-6	4	21	17.40	17 56
-8	2	16	10.27	12.18	-7	3	17	20.22	22.18	-6	0	16	67.25	66.97	-6	4	23	15.42	13.61
-8	2	17	35.54	35.34	-7	3	21	44.86	44.95	-6	0	18	87.93	88.98	-6	6	1	15.45	10.15
-8	2	18	14.15	13.75	-7	5	3	12.21	13.31	-6	0	22	51.96	52.42	-6	6	2	155.12	159.76
-8	4	1	21.24	20.58	-7	5	4	22.07	22.02	-6	0	24	81.19	78.64	-6	6	3	13.13	14.22
-8	4	3	26.12	26.43	-7	5	6	35.11	35.00	-6	2	1	20.19	19.75	-6	6	4	39.89	41.20
-8	4	4	10.21	10.20	-7	5	7	19.48	19.21	-6	2	3	22.95	22.68	-6	6	5	8.91	9.82
-8	4	5	26.77	25.89	-7	5	8	11.94	10.67	-6	2	5	6.20	5.93	-6	6	8	53.17	54.25
-8	4	6	16.16	14.51	-7	5	10	16.79	16.40	-6	2	6	19.27	19.24	-6	6	10	58.00	58.77
-8	4	9	22.54	23.23	-7	5	12	16.82	16.82	-6	2	7	44.54	44.66	-6	6	12	43.81	43.37
-8	4	11	23.74	24.96	-7	5	14	20.59	20.22	-6	2	8	7.96	6.49	-6	6	14	7.30	8.16
-8	4	13	17.74	15.31	-7	5	18	10.22	8.02	-6	2	9	24.43	24.45	-6	6	16	59.88	59.15
-8	4	16	10.64	11.01	-7	5	20	18.16	16.07	-6	2	10	7.43	7.10	-6	6	18	55.40	56.02
-8	6	2	25.31	23.88	-7	7	2	11.92	10.68	-6	2	14	14.51	14.19	-6	6	20	10.54	12.41
-8	6	4	49.46	52.49	-7	7	4	13.71	12.87	-6	2	15	57.14	56.97	-6	6	22	47.68	46.79
-8	6	6	45.74	47.67	-7	7	6	39.13	39.02	-6	2	16	25.24	24.58	-6	6	24	56.21	54.45
-8	6	8	26.25	30.17	-7	7	7	17.00	16.12	-6	2	20	9.60	10.91	-6	8	1	29.52	30.49
-8	6	10	19.75	22.85	-7	7	9	6.94	6.31	-6	2	21	23.56	22.71	-6	8	2	10.65	10.53
-8	6	12	59.59	61.68	-7	7	10	9.19	8.03	-6	2	23	24.86	23.04	-6	8	5	17.20	18.45

Table 3b. (Continued)

H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC
-6	8	6	26.49	26.93	-5	1	30	11.58	10.65	-5	7	5	19.18	19.90	-4	0	6	152.36	149.96
-6	8	7	45.73	45.60	-5	3	1	60.35	60.14	-5	7	6	15.97	13.71	-4	0	8	43.82	42.64
-6	8	8	10.88	11.27	-5	3	2	6.73	1.89	-5	7	7	15.01	14.72	-4	0	10	14.86	19.18
-6	8	12	10.23	12.40	-5	3	3	111.76	111.05	-5	7	8	49.19	50.04	-4	0	12	188.06	192.81
-6	8	15	30.82	30.38	-5	3	4	9.98	4.89	-5	7	9	16.29	15.76	-4	0	14	132.04	135.60
-6	8	16	15.75	16.50	-5	3	5	148.56	147.07	-5	7	10	16.12	14.38	-4	0	16	60.53	60.15
-6	8	17	8.69	9.42	-5	3	6	7.79	7.98	-5	7	12	14.78	16.10	-4	0	18	23.03	22.25
-6	8	21	9.64	8.63	-5	3	7	58.26	57.70	-5	7	16	27.32	26.89	-4	0	20	77.03	75.97
-6	10	1	25.51	25.66	-5	3	9	30.73	29.46	-5	7	18	23.55	24.17	-4	0	22	28.13	28.95
-6	10	2	10.96	10.28	-5	3	11	177.78	177.11	-5	7	19	9.44	8.72	-4	0	24	15.32	14.39
-6	10	3	16.70	15.17	-5	3	12	7.66	7.23	-5	7	20	12.37	11.54	-4	0	28	72.69	71 62
-6	10	7	35.10	35.72	-5	3	13	44.46	43.52	-5	7	21	12.07	10.88	-4	0	30	31.09	30.44
-6	10	9	18.93	19.02	-5	3	15	48.16	43.29	-5	7	24	35.02	32.19	-4	0	32	8.63	7.73
-6	10	10	11.06	10.06	-5	3	17	26.40	26.52	-5	7	25	13.99	12.14	-4	2	1	26.56	26.13
-6	10	13	10.41	11.13	-5	3	19	76.41	74.80	-5	9	1	47.22	45.54	-4	2	2	22.64	23 56
-6	10	15	40.88	39.69	-5	3	21	18.80	18.48	-5	9	2	9.62	5.95	-4	2	3	7.13	7.07
-5	1	1	6.48	3.83	-5	3	23	20.78	22.95	-5	9	3	89.43	89.13	-4	2	4	38.09	37.65
-5	1	2	50.33	50.48	-5	3	25	74.18	71.41	-5	9	4	13.27	10.61	-4	2	5	115.02	116.95
-5	1	3	14.90	14.62	-5	3	27	59.47	55.35	-5	9	5	83.46	85.48	-4	2	6	53.07	55.98
-5	1	4	39.39	39.67	-5	5	1	7.20	8.21	-5	9	6	11.60	13.00	-4	2	7	49.70	49.84
-5	1	5	24.79	25.45	-5	5	2	27.51	29.03	-5	9	7	28.64	29.67	-4	2	8	17.01	18.06
-5	1	6	26.38	26.14	-5	5	4	34.69	35.61	-5	9	8	9.62	12.17	-4	2	9	6.50	5.58
-5	1	7	21.98	22.66	-5	5	5	18.17	19.23	-5	9	9	39.97	40.06	-4	2	10	21.01	22.18
-5	1	8	50.90	51.18	-5	5	6	25.63	26.53	-5	9	10	10.50	11.73	-4	2	11	58.98	60.31
-5	1	9	6.67	6.11	-5	5	7	23.39	25.06	-5	9	11	106.10	106.91	-4	2	12	13.87	14.40
-5	1	10	30.65	30.64	-5	5	8	30.48	29.75	-5	9	12	10.68	11.39	-4	2	13	24.90	25.45
-5	1	12	18.40	18.85	-5	5	10	30.18	29.27	-5	9	13	23.18	24.86	-4	2	14	17.63	18.22
-5	1	14	14.60	12.47	-5	5	12	13.61	13.13	-5	9	15	18.47	16.92	-4	2	15	37.63	39.61
-5	1	15	21.14	22.40	-5	5	14	19.60	19.47	-5	9	19	46.75	44.79	-4	2	16	33.98	34.71
-5	1	16	44.91	46.00	-5	5	15	25.23	25.80	-5	11	2	25.82	26.48	-4	2	17	40.71	41.41
-5	1	17	9.47	7.09	-5	5	16	42.18	41.24	-5	11	6	16.04	15.45	-4	2	19	16.21	17.03
-5	1	18	24.98	25.00	-5	5	18	22.16	20.09	-5	11	7	20.12	20.52	-4	2	21	12.07	10.68
-5	1	19	12.90	12.14	-5	5	23	6.62	8.79	-5	11	8	26.01	24.01	-4	2	24	11.11	8.70
-5	1	20	8.11	5.54	-5	5	24	32.90	29.78	-5	11	15	10.62	10.46	-4	2	25	22.44	21.67
-5	1	23	7.96	8.86	-5	5	25	11.45	9.58	-5	13	2	23.39	22.97	-4	2	27	16.56	14.07
-5	1	24	37.53	36.40	-5	7	2	54.06	54.19	-5	13	4	24.50	23.62	-4	4	1	30.27	31.54
-5	1	25	16.31	15.49	-5	7	3	24.91	23.56	-4	0	2	129.42	127.10	-4	4	2	6.95	8.23
-5	1	29	9.15	9.54	-5	7	4	18.27	17.62	-4	0	4	24.57	23.19	-4	4	3	4.90	1.21

Table 3b. (Continued)

H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC
-4	4	4	16.23	15.87	-4	8	1	8.86	7.43	-4	12	14	68.83	71.79	-3	3	15	132.95	133.57
-4	4	5	69.65	71.00	-4	8	2	10.25	9.21	-4	12	16	31.13	33.64	-3	3	16	4.98	2 76
-4	4	6	29.53	28.36	-4	8	4	23.94	23.89	-4	12	17	8.25	8.97	-3	3	17	119.95	119.89
-4	4	7	7.98	8.00	-4	8	5	47.57	47.35	-4	14	2	12.01	12.15	-3	3	21	100.64	99.30
-4	4	8	10.80	11.81	-4	8	6	13.96	13.78	-4	14	4	11.45	13.86	-3	3	23	102.13	98.92
-4	4	11	29.72	30.28	-4	8	9	10.75	10.14	-4	14	5	20.54	20.70	-3	3	25	18.97	17.37
-4	4	13	64.07	64.99	-4	8	10	18.94	18.67	-3	1	1	25.62	25.66	-3	3	27	22.10	19.34
-4	4	14	38.08	38.80	-4	8	11	20.02	19.33	-3	1	2	15.70	14.44	-3	3	29	40.88	38.34
-4	4	15	44.90	44.19	-4	8	13	35.95	35.58	-3	1	3	10.12	9.45	-3	3	31	23.48	21.99
-4	4	16	20.29	19.88	-4	8	14	16.61	17.21	-3	1	4	15.92	15.20	-3	5	1	14.02	15.17
-4	4	17	19.01	18.59	-4	8	15	35.87	35.71	-3	1	5	47.27	48.40	-3	5	2	26.95	27.49
-4	4	18	11.37	11.36	-4	8	16	25.87	26.39	-3	1	6	105.74	109.09	-3	5	3	26.83	27.15
-4	4	19	45.59	46.05	-4	8	17	14.20	12.37	-3	1	7	35.08	37.58	-3	5	4	5.23	4.54
-4	4	20	14.55	14.00	-4	8	18	15.68	15.19	-3	1	8	17.59	16.31	-3	5	5	43.61	42.77
-4	4	23	13.93	12.36	-4	8	19	29.52	27.87	-3	1	9	10.06	11.38	-3	5	6	80.03	81.75
-4	4	24	16.95	16.13	-4	8	24	19.41	16.26	-3	1	10	18.39	16.09	-3	5	7	21.32	22 83
-4	4	25	45.02	41.75	-4	8	25	27.99	26.55	-3	1	12	10.52	11.48	-3	5	8	22.52	22.84
-4	4	26	14.74	13.60	-4	10	3	10.52	10.14	-3	1	13	10.78	10.24	-3	5	9	19.72	21 68
-4	4	27	12.41	9.83	-4	10	5	54.02	54.09	-3	1	14	59.08	60.98	-3	5	10	16.63	16.36
-4	4	28	9.89	8.67	-4	10	6	32.15	30.57	-3	1	15	23.97	25.51	-3	5	11	8.13	8 23
-4	6	1	9.12	9.93	-4	10	7	11.08	11.93	-3	1	16	6.70	5.80	-3	5	13	16.78	16.46
-4	6	2	55.09	55.93	-4	10	11	33.47	33.14	-3	1	21	11.06	12.01	-3	5	14	38.17	38.01
-4	6	4	30.12	30.33	-4	10	12	12.63	13.42	-3	1	22	37.16	37.51	-3	5	15	9.17	9.19
-4	6	5	6.30	3.20	-4	10	13	24.72	23.99	-3	1	23	15.14	13.59	-3	5	19	10.72	10 84
-4	6	6	72.22	72.24	-4	10	14	21.39	20.96	-3	1	24	21.32	20.24	-3	5	20	5.58	2.94
-4	6	7	8.19	5.68	-4	10	15	19.04	20.58	-3	1	27	14.59	13.24	-3	5	21	19.65	19.59
-4	6	8	64.61	64.91	-4	10	16	7.88	7.21	-3	1	28	27.56	28.50	-3	5	22	37.79	34.91
-4	6	9	7.40	5.41	-4	10	17	20.05	19.36	-3	1	30	11.90	13.35	-3	5	24	17.70	16 85
-4	6	12	110.70	109.98	-4	10	19	20.32	19.56	-3	1	32	10.16	10.85	-3	5	25	15.22	13.61
-4	6	13	7.50	9.27	-4	10	21	7.58	6.39	-3	3	1	319.73	337.77	-3	5	27	18.92	17.48
-4	6	14	132.20	133.84	-4	12	1	9.90	11.17	-3	3	2	11.74	8.59	-3	5	28	28.64	27.20
-4	6	16	52.86	53.93	-4	12	2	42.06	40.04	-3	3	3	133.72	126.25	-3	5	30	14.91	12.15
-4	6	18	9.50	9.11	-4	12	5	7.61	2.88	-3	3	4	4.57	7.11	-3	7	1	24.51	22.85
-4	6	20	85.08	79.75	-4	12	6	49.23	50.73	-3	3	5	51.06	45.29	-3	7	2	8.48	7.35
-4	6	22	29.18	28.52	-4	12	8	22.87	22.03	-3	3	7	86.09	85.60	-3	7	3	17.17	17.49
-4	6	24	36.15	32.75	-4	12	11	6.17	6.47	-3	3	9	148.51	150.86	-3	7	4	31.34	30.27
-4	6	26	12.95	11.91	-4	12	12	69.67	71.57	-3	3	11	66.39	68.87	-3	7	5	27.29	26.92
-4	6	28	68.71	63.61	-4	12	13	9.84	11.04	-3	3	13	9.81	8.39	-3	7	6	73.17	75.25

Table 3b. (Continued)

H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC
-3	7	7	26.67	24.96	-3	13	1	23.88	22.57	-2	2	19	35.06	36.15	-2	6	12	26.85	27.25
-3	7	8	11.82	10.06	-3	13	6	33.85	33.03	-2	2	20	16.85	17.58	-2	6	16	27.32	26 99
-3	7	9	15.33	14.97	-3	13	7	21.40	20.21	-2	2	22	18.61	18.70	-2	6	18	76.68	76.61
-3	7	10	10.95	10.54	-3	13	10	7.47	8.43	-2	2	23	50.89	50.62	-2	6	20	13.01	13.62
-3	7	12	13.43	14.02	-3	13	14	21.20	19.96	-2	2	24	24.16	24.07	-2	6	22	21.78	22.57
-3	7	14	58.78	58.48	-3	13	15	17.16	14.46	-2	2	25	29.94	30.23	-2	6	24	75.92	73 83
-3	7	15	34.80	33.95	-2	0	2	272.54	261.29	-2	2	26	11.18	11.69	-2	6	26	96.79	92.96
-3	7	16	15.01	14.78	-2	0	4	228.76	220.52	-2	2	28	14.50	13.42	-2	6	30	20.42	18.33
-3	7	20	16.75	16.03	-2	0	6	234.12	225.51	-2	2	29	12.65	13.18	-2	8	1	26.24	25.86
-3	7	21	6.03	3.71	-2	0	8	122.14	120.92	-2	4	1	62.24	62.73	-2	8	2	12.27	11 83
-3	7	22	21.19	19.69	-2	0	10	272.09	283.81	-2	4	2	12.65	11.31	-2	8	3	32.74	32.86
-3	7	23	14.28	13.18	-2	0	12	103.34	108.34	-2	4	3	71.74	70.06	-2	8	4	17.02	16.84
-3	7	24	14.81	13.62	-2	0	14	32.83	36.78	-2	4	4	62.93	61.66	-2	8	5	55.96	56.26
-3	7	25	7.09	7.98	-2	0	16	11.21	12.31	-2	4	5	100.00	97.56	-2	8	6	46.47	45.64
-3	7	28	19.05	18.15	-2	0	18	134.18	144.76	-2	4	6	50.03	47.85	-2	8	7	31.21	30.26
-3	9	1	175.39	174.73	-2	0	20	9.93	9.02	-2	4	7	69.59	70.27	-2	8	8	17.03	16.77
-3	9	2	14.84	14.08	-2	0	22	18.23	17.86	-2	4	8	10.84	9.66	-2	8	9	26.70	26.32
-3	9	3	92.38	92.32	-2	0	24	109.41	118.22	-2	4	9	41.38	43.35	-2	8	12	8.29	8.66
-3	9	4	9.62	13.28	-2	0	26	87.69	93.85	-2	4	10	22.66	22.96	-2	8	13	24.45	25.07
-3	9	5	12.40	2.22	-2	0	30	40.52	40.69	-2	4	11	14.99	14.71	-2	8	14	38.93	38.91
-3	9	7	46.19	45.35	-2	0	32	43.92	42.89	-2	4	13	25.65	26.72	-2	8	15	44.48	44.79
-3	9	9	112.89	113.75	-2	2	1	66.40	59.08	-2	4	14	31.88	31.76	-2	8	17	7.56	6.52
-3	9	10	7.67	6.90	-2	2	2	55.33	53.07	-2	4	15	68.87	71.03	-2	8	20	9.79	10.57
-3	9	11	53.79	53.37	-2	2	3	96.51	93.02	-2	4	16	22.52	22.31	-2	8	22	14.65	14.39
-3	9	15	103.22	104.79	-2	2	4	27.73	28.10	-2	4	18	7.63	7.21	-2	8	23	23.08	21.56
-3	9	17	67.03	66.81	-2	2	5	24.04	26.39	-2	4	23	29.47	28.42	-2	8	27	8.09	8.40
-3	9	21	81.55	82.40	-2	2	6	10.15	12.18	-2	4	24	15.52	14.40	-2	10	1	15.76	15.55
-3	9	23	64.11	63.05	-2	2	7	20.76	17.80	-2	4	27	8.49	8.42	-2	10	3	37.48	37.31
-3	11	1	6.90	0.91	-2	2	8	40.28	40.30	-2	4	31	22.37	19.28	-2	10	4	34.32	33.59
-3	11	4	23.75	23.57	-2	2	9	53.21	55.68	-2	6	1	13.70	2.04	-2	10	5	29.05	27.81
-3	11	5	35.49	35.61	-2	2	10	8.91	7.11	-2	6	2	228.82	227.78	-2	10	7	13.49	12.70
-3	11	6	40.06	38.86	-2	2	11	47.05	45.18	-2	6	3	13.78	5.87	-2	10	9	32.25	31.68
-3	11	10	12.26	12.42	-2	2	12	30.22	30.58	-2	6	4	190.36	188.01	-2	10	10	20.34	18.79
-3	11	11	16.99	18.21	-2	2	13	88.01	89.74	-2	6	5	9.43	9.99	-2	10	11	5.85	4.45
-3	11	13	16.74	15.98	-2	2	14	66.88	68.96	-2	6	6	53.46	48.87	-2	10	12	19.67	18.23
-3	11	14	31.46	31.48	-2	2	15	81.71	84.40	-2	6	8	112.13	112.42	-2	10	13	34.34	33.83
-3	11	19	13.38	13.47	-2	2	17	36.29	37.74	-2	6	10	220.08	225.98	-2	10	14	18.91	18.87
-3	11	21	7.34	8.48	-2	2	18	23.21	23.99	-2	6	11	8.81	9.02	-2	10	15	45.07	45.19

Table 3b. (Continued)

H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC
-2	10	16	17.00	15.54	-1	1	15	30.35	32.69	-1	5	7	38.52	38.91	-1	7	24	21.22	21.63
-2	10	17	16.36	16.49	-1	1	16	24.28	25.22	-1	5	8	11.29	2.26	-1	7	26	22.80	23.33
-2	10	18	18.19	18.36	-1	1	17	8.09	7.71	-1	5	9	33.37	33.04	-1	7	27	16.53	17.27
-2	10	19	13.46	14.15	-1	1	18	11.91	14.14	-1	5	10	36.95	37.97	-1	7	28	13.12	13.32
-2	10	21	7.64	7.07	-1	1	20	17.13	17.54	-1	5	12	19.24	19.79	-1	7	30	11.39	11.77
-2	10	23	28.32	26.91	-1	1	21	10.85	9.05	-1	5	13	11.66	11.24	-1	9	1	52.83	51.81
-2	10	24	20.87	19.80	-1	1	22	22.85	23.38	-1	5	14	54.61	57.80	-1	9	3	36.40	35.27
-2	10	25	12.75	13.21	-1	1	23	19.59	19.62	-1	5	15	39.76	42.99	-1	9	5	78.95	77.85
-2	12	2	93.20	92.99	-1	1	24	24.65	25.87	-1	5	16	26.25	27.56	-1	9	7	69.89	68.67
-2	12	3	11.11	5.37	-1	1	26	17.78	18.72	-1	5	17	10.14	10.50	-1	9	11	115.86	116.46
-2	12	4	93.83	88.65	-1	1	27	7.76	9.97	-1	5	18	13.63	14.55	-1	9	13	138.14	138.85
-2	12	5	9.22	8.99	-1	1	30	16.07	16.48	-1	5	19	7.88	8.69	-1	9	14	6.38	7.24
-2	12	6	32.62	33.44	-1	1	31	13.04	10.86	-1	5	20	8.86	7.05	-1	9	15	54.72	56.55
-2	12	8	43.41	43.94	-1	1	32	18.72	17.06	-1	5	22	14.42	14.34	-1	9	17	7.24	4.98
-2	12	10	109.91	110.52	-1	3	1	77.94	69.38	-1	5	23	19.51	18.55	-1	9	19	84.56	84.19
-2	12	12	27.00	28.47	-1	3	2	4.25	1.44	-1	5	24	21.28	22.70	-1	9	21	28.90	30.33
-2	12	14	14.88	14.51	-1	3	3	37.64	31.21	-1	5	26	10.45	10.79	-1	9	23	31.89	30.51
-2	12	16	13.16	12.39	-1	3	5	117.31	118.53	-1	5	30	13.95	13.39	-1	9	25	14.35	14.78
-2	12	18	49.92	48.70	-1	3	7	171.66	171.59	-1	5	31	14.78	14.99	-1	9	27	66.65	66.25
-2	14	5	22.39	22.32	-1	3	9	46.92	48.88	-1	7	1	17.34	16.62	-1	11	1	34.56	34.58
-2	14	6	21.46	21.83	-1	3	11	233.02	242.95	-1	7	2	38.67	39.06	-1	11	2	20.44	20.69
-2	14	8	15.66	16.21	-1	3	13	246.05	261.62	-1	7	3	7.85	6.43	-1	11	4	27.06	25.62
-2	14	9	15.85	15.46	-1	3	15	63.50	66.33	-1	7	4	52.76	52.93	-1	11	5	6.71	8.26
-2	14	13	14.95	16.82	-1	3	17	12.31	9.22	-1	7	5	47.82	47.79	-1	11	6	34.90	33.50
-2	14	14	25.63	25.07	-1	3	19	143.44	148.13	-1	7	6	55.87	56.24	-1	11	7	27.45	29.22
-1	1	1	40.69	37.90	-1	3	21	21.99	22.59	-1	7	7	14.80	14.75	-1	11	8	14.19	13.18
-1	1	2	20.04	18.63	-1	3	23	28.88	30.04	-1	7	8	31.05	32.06	-1	11	9	12.18	11.41
-1	1	3	41.72	41.31	-1	3	25	27.07	30.01	-1	7	9	15.24	15.61	-1	11	11	13.67	13.84
-1	1	4	140.58	135.73	-1	3	27	76.90	78.83	-1	7	10	7.69	9.54	-1	11	12	6.93	8.63
-1	1	5	76.01	76.31	-1	3	29	26.40	27.17	-1	7	11	10.32	10.78	-1	11	14	14.48	14.05
-1	1	6	114.58	111.27	-1	3	31	32.17	29.73	-1	7	12	18.99	19.30	-1	11	15	16.46	17.08
-1	1	7	40.95	41.68	-1	3	33	54.01	47.45	-1	7	13	22.41	24.56	-1	11	17	17.79	18.38
-1	1	8	35.12	33.75	-1	5	1	40.35	38.75	-1	7	14	25.36	26.13	-1	11	20	15.19	15.70
-1	1	9	5.65	5.95	-1	5	2	8.75	5.41	-1	7	18	13.66	13.83	-1	11	22	18.53	17.70
-1	1	10	29.91	32.11	-1	5	3	57.36	55.66	-1	7	20	20.58	21.24	-1	11	23	19.61	19.37
-1	1	12	20.68	22.31	-1	5	4	112.79	110.23	-1	7	21	18.34	18.10	-1	11	24	12.77	12.49
-1	1	13	23.59	25.91	-1	5	5	50.67	49.87	-1	7	22	27.26	27.30	-1	13	4	43.07	43.13
-1	1	14	52.96	57.63	-1	5	6	78.07	76.18	-1	7	23	12.46	10.44	-1	13	5	33.28	32.34

Table 3b. (Continued)

H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC
-1	13	6	25.14	24.56	0	2	11	6.23	6.71	0	4	18	22.75	24.25	0	8	13	62.94	63.67
-1	13	10	24.83	25.96	0	2	12	22.82	25.89	0	4	19	32.47	32.02	0	8	14	18.15	19.74
-1	13	11	17.45	17.29	0	2	13	52.50	57.62	0	4	21	16.72	17.80	0	8	15	27.64	27.92
-1	13	13	21.54	21.94	0	2	14	25.22	27.17	0	4	22	21.42	22.71	0	8	16	9.33	7.76
-1	13	14	25.40	26.26	0	2	15	41.24	42.74	0	4	23	50.65	52.60	0	8	17	26.86	28.01
-1	13	18	7.04	6.91	0	2	16	14.82	14.97	0	4	24	22.44	23.57	0	8	18	29.75	30 90
-1	15	1	15.82	14.86	0	2	17	7.45	9.13	0	4	25	20.70	20.05	0	8	19	19.37	19 17
-1	15	5	45.12	45.11	0	2	18	11.22	11.70	0	4	27	15.65	16.37	0	8	20	8.58	9.70
-1	15	7	35.80	35.97	0	2	20	15.58	16.15	0	4	33	10.80	7.54	0	8	21	12.74	12.86
-1	15	9	15.32	15.14	0	2	21	23.19	22.34	0	6	0	341.21	341.99	0	8	23	31.71	32.53
0	0	2	136.86	136.15	0	2	22	10.26	8.98	0	6	1	10.85	3.60	0	8	24	25.52	25.61
0	0	4	23.29	28.88	0	2	23	29.86	28.73	0	6	2	139.19	129.91	0	8	25	15.02	13.81
0	0	6	260.26	267.57	0	2	24	17.38	15.58	0	6	4	57.22	50.95	0	8	26	11.60	10.39
0	0	8	111.40	117.50	0	2	26	15.91	14.69	0	6	6	90.76	91.00	0	8	27	13.15	12.91
0	0	10	163.32	165.48	0	2	27	19.45	18.91	0	6	8	150.19	154.56	0	10	0	23.48	23.63
0	0	12	111.75	113.37	0	2	29	13.61	12.41	0	6	10	62.15	65.30	0	10	1	12.11	11.13
0	0	14	125.04	138.80	0	2	30	8.58	7.24	0	6	12	13.27	12.27	0	10	2	20.48	19.26
0	0	16	134.18	141.33	0	2	31	19.61	16.78	0	6	14	132.30	138.34	0	10	3	35.79	35.01
0	0	18	62.20	65.16	0	2	32	12.59	10.11	0	6	15	5.46	2.06	0	10	4	12.69	11.81
0	0	20	108.09	108.40	0	2	33	11.77	9.16	0	6	16	120.62	124.95	0	10	5	39.44	40.01
0	0	22	110.41	112.55	0	4	0	39.95	36.56	0	6	18	6.23	7.10	0	10	6	24.48	25.27
0	0	24	57.09	56.05	0	4	1	82.99	74.53	0	6	20	99.22	105.35	0	10	8	16.76	16.29
0	0	26	41.51	38.12	0	4	2	49.67	49.25	0	6	22	102.60	103.98	0	10	9	18.96	17.80
0	0	28	44.13	42.06	0	4	3	76.52	75.45	0	6	24	18.32	18.94	0	10	11	7.09	5.26
0	0	30	49.59	48.32	0	4	4	25.58	25.72	0	6	26	18.92	18.76	0	10	13	42.66	42.23
0	0	32	14.95	11.20	0	4	5	13.21	16.72	0	6	28	42.28	41.91	0	10	14	28.66	29.45
0	0	34	14.76	15.04	0	4	6	10.48	8.37	0	6	30	22.70	23.62	0	10	15	19.39	19.77
0	2	0	20.85	19.11	0	4	7	49.78	48.40	0	8	0	25.74	25.44	0	10	16	11.23	10.59
0	2	1	47.26	43.43	0	4	8	27.34	29.22	0	8	1	16.72	15.39	0	10	17	15.54	15.75
0	2	2	10.01	8.82	0	4	9	20.43	22.94	0	8	3	40.55	40.26	0	10	20	7.74	4.70
0	2	3	88.61	84.95	0	4	10	12.60	13.23	0	8	4	45.78	44.58	0	10	21	10.22	10.68
0	2	4	92.47	95.16	0	4	11	56.52	57.87	0	8	5	34.81	33.10	0	10	22	17.77	16.79
0	2	5	141.12	143.25	0	4	12	46.33	48.79	0	8	6	13.84	14.60	0	10	23	24.93	24.71
0	2	6	43.83	45.22	0	4	13	105.89	111.89	0	8	7	18.30	17.90	0	12	0	167.23	166.95
0	2	7	50.71	52.12	0	4	14	50.63	54.19	0	8	9	18.70	17.79	0	12	2	48.24	47.02
0	2	8	18.07	19.58	0	4	15	37.79	40.40	0	8	10	14.93	14.38	0	12	6	63.79	63.08
0	2	9	12.88	15.39	0	4	16	9.81	10.77	0	8	11	24.39	25.12	0	12	8	65.35	64.92
0	2	10	22.99	24.43	0	4	17	43.99	48.48	0	8	12	44.28	45.49	0	12	10	39.29	38.30

Table 3b. (Continued)

H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC
0	12	12	14.81	15.44	1	1	30	18.06	16.58	1	5	22	26.93	27.36	1	9	11	49.35	49.28
0	12	14	66.06	66.84	1	1	31	8.54	7.93	1	5	24	12.41	11.78	1	9	13	40.66	38.62
0	12	16	60.47	62.31	1	1	32	17.00	14.30	1	5	26	24.29	25.26	1	9	15	35.25	34.33
0	12	18	15.92	18.10	1	3	0	6.62	4.94	1	5	27	17.13	17.04	1	9	17	80.60	81 89
0	12	20	53.52	53.53	1	3	1	276.04	264.03	1	5	29	12.96	12.30	1	9	19	16.81	15.26
0	12	22	60.59	60.91	1	3	2	4.34	4.87	1	5	30	16.18	16.75	1	9	21	29.41	28.84
0	14	3	15.31	14.88	1	3	3	229.53	224.13	1	7	0	36.27	36.81	1	9	23	77.42	79.40
0	14	4	26.61	25.95	1	3	5	237.52	227.60	1	7	1	12.22	12.04	1	9	25	60.50	60.93
0	14	5	19.27	18.56	1	3	7	127.39	123.62	1	7	2	38.89	39.10	1	9	27	12.79	13.45
0	14	6	10.32	8.44	1	3	9	281.37	290.44	1	7	3	57.42	58.90	1	11	0	21.74	20.67
0	14	10	13.62	13.83	1	3	10	5.75	1.93	1	7	4	110.68	112.03	1	11	1	13.71	13.04
0	14	12	22.60	22.78	1	3	11	106.08	109.37	1	7	5	34.73	34.48	1	11	2	20.77	21.05
0	14	13	23.64	24.17	1	3	13	34.04	37.12	1	7	6	37.52	37.22	1	11	3	13.91	15.66
1	1	0	59.12	54.36	1	3	15	16.37	16.63	1	7	7	11.27	10.57	1	11	4	61.06	59.57
1	1	1	8.35	6.73	1	3	17	144.28	147.64	1	7	8	23.52	24.08	1	11	5	45.22	44.92
1	1	2	27.93	26.33	1	3	19	13.19	9.81	1	7	9	31.39	32.68	1	11	6	23.58	22.23
1	1	3	51.39	54.08	1	3	21	20.34	21.16	1	7	10	42.83	43.89	1	11	7	17.10	16.69
1	1	4	158.72	156.64	1	3	22	5.73	3.35	1	7	11	6.05	6.93	1	11	8	19.14	20.26
1	1	5	76.49	81.61	1	3	23	123.86	121.87	1	7	12	34.50	36.14	1	11	10	21.54	21.50
1	1	6	78.51	76.78	1	3	25	99.14	95.52	1	7	13	21.65	23.29	1	11	11	16.20	15.86
1	1	7	19.23	19.24	1	3	29	46.31	42.59	1	7	14	48.69	51.26	1	11	12	16.04	16.20
1	1	8	12.98	10.53	1	3	31	48.23	43.96	1	7	15	24.75	25.97	1	11	13	30.18	31 52
1	1	9	5.35	6.62	1	5	0	39.77	39.19	1	7	16	16.81	16.40	1	11	14	33.87	35.35
1	1	10	27.47	28.95	1	5	3	10.32	11.24	1	7	18	8.83	8.91	1	11	19	11.44	10.57
1	1	12	45.00	47.46	1	5	4	87.18	90.58	1	7	22	10.54	10.27	1	11	21	9.02	11.23
1	1	13	36.17	36.75	1	5	5	64.21	66.38	1	7	23	13.48	11.52	1	13	0	22.09	22.29
1	1	14	53.66	54.04	1	5	6	54.16	53.44	1	7	24	13.20	12.50	1	13	1	21.24	19.59
1	1	15	13.76	13.90	1	5	8	13.72	12.02	1	7	26	15.09	14.62	1	13	3	23.30	21.57
1	1	16	7.18	5.89	1	5	9	12.44	13.26	1	7	28	11.13	10.55	1	13	4	32.70	31.16
1	1	18	9.17	9.95	1	5	10	18.49	8.06	1	7	30	13.10	12.98	1	13	6	16.47	15.57
1	1	20	22.94	22.41	1	5	11	7.78	5.72	1	9	0	9.71	7.05	1	13	7	16.97	16.07
1	1	21	18.60	16.96	1	5	12	32.06	33.87	1	9	1	126.43	120.87	1	13	11	13.30	12.13
1	1	22	28.03	26.71	1	5	13	36.34	38.86	1	9	2	13.26	7.69	1	13	12	16.67	17.88
1	1	23	12.56	10.97	1	5	14	33.62	35.01	1	9	3	157.29	155.44	1	13	14	13.30	10.59
1	1	24	17.71	17.05	1	5	15	5.39	4.33	1	9	4	7.32	2.10	1	13	15	10.25	9.34
1	1	26	24.65	24.85	1	5	16	6.08	4.75	1	9	5	67.17	64.44	1	13	17	12.72	12.39
1	1	27	11.26	10.26	1	5	20	24.21	24.72	1	9	7	41.37	39.18	1	15	1	60.98	61.57
1	1	29	13.09	12.33	1	5	21	26.35	26.12	1	9	9	185.82	187.72	1	15	2	9.82	4.75

Table 3b. (Continued)

H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC
1	15	3	55.56	55.84	2	2	17	42.61	43.73	2	6	8	8.94	12.68	2	10	13	51.59	52.74
1	15	4	8.91	2.97	2	2	18	16.80	16.79	2	6	9	6.95	10.59	2	10	15	11.23	8 48
1	15	5	38.11	37.70	2	2	19	22.49	22.73	2	6	10	201.54	203.38	2	10	17	15.62	16.30
1	15	7	30.01	32.01	2	2	21	39.39	38.94	2	6	12	141.93	142.13	2	10	19	10.05	11.36
1	15	9	69.77	71.13	2	2	22	33.83	33.04	2	6	14	64.87	65.14	2	10	20	10.98	9.03
2	0	0	81.94	72.71	2	2	23	46.14	43.57	2	6	16	27.67	27.72	2	10	21	25.94	24.50
2	0	2	38.25	31.77	2	2	24	11.24	11.65	2	6	18	80.74	82.22	2	10	23	19.89	21.30
2	0	4	119.35	117.97	2	2	25	9.31	8.66	2	6	20	32.21	34.37	2	12	0	43.41	40.98
2	0	6	175.64	168.89	2	2	27	19.15	19.86	2	6	22	14.96	12.63	2	12	2	9.05	7.20
2	0	8	48.49	49.61	2	4	0	19.25	18.70	2	6	26	79.16	77.70	2	12	3	10.90	7.16
2	0	10	249.60	245.27	2	4	1	10.60	6.16	2	6	28	33.19	33.59	2	12	4	69.86	69.48
2	0	12	261.69	261.78	2	4	2	10.77	8.74	2	8	0	27.86	27.34	2	12	6	34.43	35.39
2	0	14	68.45	66.42	2	4	3	54.25	51.76	2	8	2	27.47	27.82	2	12	8	16.31	11.78
2	0	16	10.47	8.89	2	4	4	50.85	52.10	2	8	3	36.20	36.84	2	12	10	92.60	94.92
2	0	18	152.08	149.50	2	4	5	93.86	94.67	2	8	4	15.49	15.69	2	12	11	9.59	7.89
2	0	20	22.19	22.78	2	4	6	23.27	24.54	2	8	5	46.68	47.72	2	12	12	90.19	92.11
2	0	22	34.28	31.44	2	4	7	6.49	5.18	2	8	6	25.71	25.20	2	12	14	29.15	29.78
2	0	24	28.96	30.07	2	4	9	5.01	6.20	2	8	8	21.82	20.78	2	12	16	16.23	11.74
2	0	26	87.60	81.43	2	4	11	4.89	2.56	2	8	9	5.33	1.30	2	12	18	54.06	54.23
2	0	28	25.75	27.04	2	4	12	24.96	26.04	2	8	10	15.10	15.62	2	12	20	13.99	14.34
2	0	30	31.49	29.74	2	4	13	58.26	62.52	2	8	11	13.05	11.88	2	14	0	16.13	15.25
2	0	32	53.93	49.70	2	4	14	13.75	13.12	2	8	12	9.02	9.02	2	14	2	16.56	16.80
2	2	0	36.65	36.63	2	4	15	10.20	6.00	2	8	13	41.82	42.15	2	14	3	15.06	15.12
2	2	1	96.75	90.59	2	4	20	14.84	15.81	2	8	14	24.91	25.56	2	14	5	12.88	12.98
2	2	2	53.88	55.79	2	4	21	37.48	36.99	2	8	16	16.41	18.15	2	14	6	12.78	11.56
2	2	3	47.40	47.27	2	4	22	17.48	16.18	2	8	21	24.34	23.76	2	14	8	16.22	16.08
2	2	5	6.05	7.58	2	4	23	16.91	16.93	2	8	22	21.51	22.04	2	14	10	13.12	13.16
2	2	6	15.32	14.37	2	4	25	9.66	10.96	2	8	23	17.71	17.92	2	14	11	10.42	10.12
2	2	7	65.04	65.70	2	4	26	14.53	13.34	2	8	27	14.04	14.12	2	14	13	20.08	21.31
2	2	8	28.50	29.89	2	4	27	18.81	19.40	2	10	0	11.61	10.47	3	1	0	50.13	49.85
2	2	9	19.29	17.38	2	4	29	21.19	19.94	2	10	1	16.83	16.65	3	1	1	19.36	19.72
2	2	10	37.47	38.30	2	4	31	11.67	10.52	2	10	3	23.30	23.61	3	1	2	108.03	107.70
2	2	11	69.74	68.67	2	6	0	126.43	123.74	2	10	4	26.76	27.19	3	1	3	62.19	62.33
2	2	12	51.99	54.75	2	6	1	9.10	4.10	2	10	5	25.62	24.82	3	1	4	86.73	84.63
2	2	13	111.34	113.25	2	6	2	32.91	31.89	2	10	6	10.52	10.01	3	1	5	37.45	39.18
2	2	14	39.27	39.82	2	6	3	9.08	8.11	2	10	7	20.94	20.93	3	1	6	44.73	45.09
2	2	15	4.93	5.81	2	6	4	157.80	157.05	2	10	11	18.55	19.28	3	1	7	10.58	10.31
2	2	16	29.45	29.67	2	6	6	46.77	45.58	2	10	12	32.39	32.04	3	1	8	52.71	55.01

Table 3b. (Continued)

H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC
3	1	9	19,42	18.39	3	5	5	24.21	24.99	3	9	2	7,88	7.34	3	13	12	16.56	15 48
3	1	10	6,52	6.31	3	5	6	26.72	27.24	3	9	3	41.25	41.14	3	13	13	21.07	21.31
3	1	11	19,13	19.47	3	5	7	4.79	5.09	3	9	4	9.26	6.83	3	13	14	29.19	28.60
3	1	12	38,22	38.57	3	5	8	50.39	51.41	3	9	5	48.06	47.19	4	0	0	224.38	225.45
3	1	13	33,47	33.32	3	5	9	31.04	31.66	3	9	6	8.76	7.10	4	0	2	183.28	180.86
3	1	14	60,97	61.79	3	5	11	18.28	20.12	3	9	7	79.40	77.73	4	0	4	47.60	43.52
3	1	15	9,43	9.53	3	5	12	34.31	35.63	3	9	9	19.18	19.59	4	0	6	113.84	110.70
3	1	16	18,35	20.13	3	5	13	21.12	22.68	3	9	11	8.94	5.73	4	0	8	221.29	225.13
3	1	17	7,54	7.19	3	5	14	54.43	56.04	3	9	13	77.81	78.40	4	0	10	23.33	21.92
3	1	18	14,16	11.65	3	5	15	19.59	19.60	3	9	14	8.50	9.29	4	0	12	5.27	5.00
3	1	21	12,08	10.88	3	5	16	8.64	9.01	3	9	15	94.46	96.62	4	0	14	30.13	25.88
3	1	22	35,24	33.69	3	5	17	8.81	9.03	3	9	19	61.73	63.10	4	0	16	77.53	76.39
3	1	23	9,87	10.35	3	5	22	22.34	21.95	3	9	20	8.11	7.18	4	0	18	10.21	10.46
3	1	24	10,59	7.62	3	5	25	11.46	10.48	3	9	21	85.93	87.12	4	0	20	21.00	22.07
3	1	29	9,09	7.10	3	5	27	8.43	7.41	3	11	0	17.29	17.95	4	0	22	76.56	75.86
3	1	30	23,17	19.77	3	5	28	10.77	9.43	3	11	1	10.37	10.77	4	0	24	100.05	94.61
3	3	0	15,68	6.57	3	7	0	41.49	42.19	3	11	2	19.55	18.20	4	0	28	19.21	18.72
3	3	1	130,12	123.71	3	7	1	13.76	13.97	3	11	3	27.14	27.48	4	2	0	15.07	14.65
3	3	2	7,33	3.79	3	7	2	50.54	51.18	3	11	4	25.42	25.90	4	2	1	33.45	33 89
3	3	3	51,51	46.72	3	7	3	17.12	16.83	3	11	6	10.73	10.66	4	2	2	13.18	13.42
3	3	4	5,77	4.64	3	7	4	32.81	32.53	3	11	7	7.71	7.51	4	2	3	82.81	84.81
3	3	5	88,31	88.44	3	7	5	29.28	28.60	3	11	8	10.27	8.45	4	2	4	41.69	41.87
3	3	7	152,31	151.77	3	7	6	32.74	31.21	3	11	9	12.84	11.58	4	2	5	31.19	30.72
3	3	9	70,41	70.79	3	7	7	11.48	10.40	3	11	11	20,57	20.48	4	2	6	13.70	13.78
3	3	11	10,51	10.39	3	7	8	27.29	26.94	3	11	12	18,74	19.10	4	2	7	34.32	34.48
3	3	13	137,51	138.40	3	7	10	19.22	19.82	3	11	14	13,16	14.24	4	2	9	19.58	20.64
3	3	15	120,85	122.91	3	7	11	8.85	8.87	3	11	16	15.23	15.20	4	2	11	38.22	38.13
3	3	19	106,29	104.67	3	7	12	25.98	26.99	3	11	17	14.53	14.32	4	2	12	19.91	19.64
3	3	21	104,50	103.53	3	7	13	24.18	24.58	3	11	20	9.11	10.11	4	2	13	10.65	10.90
3	3	23	18,43	17.09	3	7	14	32.06	31.70	3	13	0	24,27	21.99	4	2	14	5.27	1.43
3	3	25	20,92	19.60	3	7	16	29.46	29.17	3	13	1	18,44	16.43	4	2	17	13.19	13.66
3	3	27	43,82	41.86	3	7	18	9.25	9.56	3	13	2	41.96	42.95	4	2	19	36.09	35.23
3	3	29	23,67	22.82	3	7	21	18.04	17.21	3	13	3	10.69	11.10	4	2	20	20.83	21.29
3	5	0	33,79	34.85	3	7	22	37.25	36.67	3	13	4	28.20	27.94	4	2	21	20.13	18.54
3	5	1	7.20	8.17	3	7	24	8.05	8.61	3	13	5	23.48	21.88	4	2	22	9.92	8.72
3	5	2	85,12	86.36	3	7	26	11.83	11.59	3	13	6	14,70	13.00	4	2	23	17.11	17.54
3	5	3	66,39	69.03	3	9	0	10.25	9.07	3	13	7	16,77	15.76	4	2	24	8.03	6.39
3	5	4	79,32	80.35	3	9	1	52.54	49.85	3	13	8	32,62	32.37	4	2	25	34.01	34.31

Table 3b. (Continued)

H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC
4	2	26	12.12	12.56	4	6	22	78.39	79.08	4	12	14	15.96	16.77	5	5	5	9.98	8.59
4	4	1	8.42	8.43	4	6	24	60.53	60.86	4	14	3	19.89	19.04	5	5	6	22.42	22.01
4	4	2	29.69	30.48	4	8	0	12.12	12.86	5	1	0	27.93	28.48	5	5	7	14.89	14.68
4	4	3	70.91	70.39	4	8	2	8.91	8.45	5	1	1	19.88	20.42	5	5	11	17.82	19.58
4	4	4	10.46	9.38	4	8	3	42.65	42.07	5	1	2	37.22	36.44	5	5	12	52.60	53.32
4	4	5	26.30	26.64	4	8	4	20.43	19.65	5	1	3	36.29	36.10	5	5	13	17.47	16.41
4	4	6	9.34	7.23	4	8	6	15.09	14.98	5	1	4	68.71	68.94	5	5	15	10.20	9.93
4	4	8	15.19	14.57	4	8	10	7.58	9.38	5	1	5	10.34	8.19	5	5	18	7.79	8.67
4	4	9	15.61	16.41	4	8	11	42.47	42.39	5	1	6	31.38	32.12	5	5	20	26.22	24.77
4	4	10	26.66	26.23	4	8	12	30.98	31.85	5	1	7	12.49	13.65	5	5	21	17.90	16.18
4	4	11	78.08	79.32	4	8	13	25.81	27.02	5	1	11	23.99	23.92	5	5	22	13.11	13.16
4	4	12	33.52	33.07	4	8	15	7.33	5.44	5	1	12	68.75	69.95	5	7	0	22.75	24.25
4	4	13	35.50	34.71	4	8	17	22.93	24.71	5	1	13	16.31	16.71	5	7	1	12.81	13.20
4	4	14	10.77	11.59	4	8	20	15.93	16.69	5	1	14	6.63	4.38	5	7	2	36.93	37.84
4	4	16	19.06	19.00	4	8	21	16.93	16.87	5	1	18	15.52	15.06	5	7	3	36.61	36.95
4	4	17	44.16	43.75	4	8	23	23.26	23.05	5	1	19	7.97	6.88	5	7	4	64.53	62.81
4	4	19	13.28	14.33	4	10	0	11.22	12.39	5	1	20	28.78	27.42	5	7	5	6.01	4.45
4	4	20	9.72	9.70	4	10	1	10.30	9.95	5	1	25	6.49	6.19	5	7	6	29.27	28.67
4	4	21	20.02	20.07	4	10	2	20.93	19.64	5	1	26	19.04	17.27	5	7	7	10.65	10.66
4	4	22	20.08	19.62	4	10	3	47.92	47.68	5	3	1	29.63	29.65	5	7	8	10.15	11.84
4	4	23	40.39	38.62	4	10	6	10.30	10.55	5	3	3	72.87	71.20	5	7	9	13.66	12.93
4	4	25	20.45	20.84	4	10	8	12.57	11.92	5	3	5	64.88	61.83	5	7	10	19.48	18.01
4	6	0	121.70	117.38	4	10	9	21.18	19.54	5	3	7	11.21	9.72	5	7	11	19.28	19.12
4	6	1	12.97	12.37	4	10	10	15.04	12.72	5	3	9	114.84	113.82	5	7	12	56.40	57.27
4	6	2	152.38	150.64	4	10	11	33.68	34.64	5	3	10	8.22	7.50	5	7	13	11.36	12.96
4	6	3	10.56	9.58	4	10	15	7.96	1.75	5	3	11	137.44	135.64	5	7	16	11.69	12.03
4	6	4	61.16	59.96	4	10	16	11.25	11.39	5	3	13	50.90	51.21	5	7	20	15.77	15.51
4	6	5	6.01	9.98	4	10	17	19.05	17.75	5	3	15	9.79	9.59	5	9	0	10.43	3.95
4	6	6	37.16	36.13	4	10	19	17.35	17.23	5	3	16	6.43	4.57	5	9	2	12.03	8.56
4	6	7	9.63	11.62	4	12	0	72.38	73.04	5	3	17	84.39	83.91	5	9	3	67.37	66.58
4	6	8	183.93	185.37	4	12	2	83.13	83.26	5	3	19	26.70	26.52	5	9	4	7.99	7.73
4	6	9	7.33	6.89	4	12	4	20.59	22.47	5	3	21	37.88	35.38	5	9	5	33.51	31.63
4	6	10	44.99	45.03	4	12	6	33.50	35.62	5	3	25	67.53	66.92	5	9	6	7.11	7.58
4	6	12	42.02	41.71	4	12	7	13.14	13.34	5	5	0	16.97	16.91	5	9	7	16.81	14.93
4	6	14	31.51	31.99	4	12	8	98.90	100.58	5	5	1	17.89	19.42	5	9	9	91.85	93.67
4	6	16	79.67	80.26	4	12	10	18.27	18.82	5	5	2	24.72	25.42	5	9	11	88.35	89.90
4	6	18	18.72	17.74	4	12	12	17.97	16.84	5	5	3	20.18	21.04	5	9	13	25.42	27.02
4	6	20	25.20	27.15	4	12	13	8.86	6.43	5	5	4	46.35	46.63	5	9	14	6.40	6.99

Table 3b. (Continued)

H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC	H	K	L	FO	FC
5	9	15	9.58	9.67	6	2	15	32.40	33.74	6	8	11	9.76	7.26	7	5	10	25.48	24.69
5	9	16	6.62	7.44	6	2	16	11.81	12.77	6	8	13	17.74	16.46	7	5	11	11.43	13 18
5	9	17	51.41	53.20	6	2	19	6.87	6.75	6	8	15	18.08	18.01	7	5	12	15.84	16.80
5	9	19	12.59	11.96	6	2	20	12.72	12.17	6	10	0	12.51	9.08	7	5	14	14.94	13.44
5	11	0	8.62	6.33	6	2	21	38.36	36.31	6	10	1	32.10	31.22	7	7	0	9.36	8.36
5	11	1	18.36	21.47	6	4	1	35.70	34.38	6	10	4	12.03	11.39	7	7	1	15.93	14.32
5	11	2	30.14	30.89	6	4	2	10.57	10.33	6	10	5	17.63	15.53	7	7	2	42.65	42.40
5	11	3	17.93	18.68	6	4	3	18.65	16.82	6	10	7	23.42	22.71	7	7	4	15.51	15.68
5	11	4	34.23	34.25	6	4	4	24.88	24.25	6	10	9	19.38	18.68	7	7	6	9.11	8.17
5	11	5	11.14	10.49	6	4	5	45.20	43.48	6	10	11	8.42	11.18	7	7	8	20.70	21.02
5	11	6	14.01	12.79	6	4	7	20.40	19.25	7	1	0	6.96	5.21	7	7	9	12.76	11.92
5	11	7	18.70	19.53	6	4	9	18.90	19.05	7	1	1	23.81	22.36	7	7	10	41.34	39.32
5	11	8	15.82	15.53	6	4	10	6.69	6.10	7	1	2	63.45	62.71	7	7	11	11.34	11.01
5	11	12	29.28	29.90	6	4	12	11.39	9.72	7	1	3	13.63	14.90	7	9	0	10.65	11.49
5	11	13	17.90	17.51	6	4	13	25.52	24.56	7	1	6	9.42	5.74	7	9	1	49.39	50.69
5	13	0	10.75	10.02	6	4	15	28.20	28.97	7	1	7	16.08	15.50	7	9	3	29.73	32 80
5	13	3	14.15	14.35	6	4	17	23.57	22.41	7	1	8	31.38	31.74	7	9	4	7.62	11.54
6	0	0	84.16	81.66	6	4	20	16.74	15.29	7	1	10	37.19	37.34	7	9	5	23.85	27.48
6	0	4	42.58	41.65	6	4	21	33.87	33.20	7	1	11	13.92	14.57	7	9	6	11.10	12.06
6	0	6	108.55	107.92	6	6	0	38.15	38.26	7	1	12	14.17	14.72	7	9	7	66.02	68.03
6	0	8	62.91	62.92	6	6	1	7.66	6.54	7	1	14	15.15	13.77	8	0	2	43.53	43.62
6	0	10	12.07	9.97	6	6	4	58.28	57.67	7	1	16	21.86	21.89	8	0	4	13.71	13.93
6	0	12	101.32	103.42	6	6	5	8.79	5.76	7	1	18	16.25	14.55	8	0	6	10.41	8.42
6	0	14	61.92	62.98	6	6	6	59.40	58.91	7	3	1	80.40	78.71	8	0	8	65.60	68.17
6	0	18	81.82	82.88	6	6	8	46.68	45.82	7	3	3	25.45	24.12	8	0	10	64.01	66.75
6	0	20	62.76	62.37	6	6	10	11.68	11.26	7	3	5	37.40	37.42	8	0	12	23.28	26.41
6	2	0	16.94	16.42	6	6	12	62.35	63.72	7	3	6	6.87	5.58	8	2	2	16.18	15.75
6	2	1	52.94	53.84	6	6	14	55.51	58.37	7	3	7	107.18	105.38	8	2	3	39.28	39.12
6	2	2	19.01	19.42	6	6	16	10.86	13.57	7	3	9	18.01	19.67	8	2	7	13.96	14.56
6	2	3	11.24	11.92	6	6	18	50.76	52.06	7	3	11	22.33	21.72	8	2	9	12.52	12.53
6	2	5	10.07	10.54	6	6	20	58.39	58.89	7	3	13	8.27	7.96	8	2	11	26.84	26.52
6	2	6	16.08	15.39	6	8	1	20.63	19.46	7	3	15	45.13	45.29	8	2	13	17.70	17.20
6	2	7	37.79	36.83	6	8	2	14.46	15.53	7	3	17	8.10	5.16	8	4	2	16.32	15.86
6	2	9	26.53	26.29	6	8	3	19.43	18.93	7	5	1	20.78	21.29	8	4	3	30.88	30.80
6	2	10	21.50	22.38	6	8	4	13.11	11.44	7	5	2	55.82	55.33	8	4	5	28.73	27.02
6	2	11	31.00	30.54	6	8	5	20.98	21.74	7	5	3	18.32	17.94	8	4	10	19.92	16.86
6	2	12	23.72	23.08	6	8	7	12.40	11.16	7	5	7	16.17	14.89	8	4	11	46.43	45.81
6	2	13	40.86	41.53	6	8	10	7.53	10.54	7	5	8	29.51	28.84	8	6	0	16.29	14.28

Table 3b. (Continued)

H	K	L	FO	FC
8	6	2	37.45	38.43
8	6	4	27.20	28.04
8	6	6	23.68	22.27
9	1	0	30.50	31.21