TABLE 2. **Microprobe analyses* of medenbachite (in wt.%)**

sample 8.0.376

spot #	Bi_2O_3	Fe_2O_3	CuO	As_2O_5	sum	Fe_2O_3+CuO
1	53,87	10,19	8,02	25,24	97,32	18,21
2	52,90	10,04	7,88	24,75	95,57	17,92
3	53,42	10,02	7,76	25,62	96,82	17,78
4	53,33	9,88	8,24	25,33	96,78	18,12
5	52,88	10,09	7,96	25,16	96,09	18,05
6	54,18	9,64	8,16	24,85	96,83	17,80
7	52,98	9,75	8,18	24,69	95,60	17,93
8	52,56	10,96	6,97	25,33	95,82	17,93
9	53,81	10,55	7,12	25,51	96,99	17,67
10	52,63	10,88	7,23	25,73	96,47	18,11
11	52,61	10,24	7,66	25,98	96,49	17,90
12	53,29	9,48	8,71	24,91	96,39	18,19
13	54,32	9,71	8,18	25,20	97,41	17,89
14	52,79	10,60	7,62	26,13	97,14	18,22
15	54,14	9,89	7,93	24,91	96,87	17,82
16	54,00	9,75	7,94	25,84	97,53	17,69
mean	**53,36**	**10,10**	**7,85**	**25,32**	**96,63**	**17,95**
e.s.d.	**0,60**	**0,43**	**0,44**	**0,43**	**0,60**	**0,18**

sample 8.0.137

spot #	Bi_2O_3	Fe_2O_3	CuO	As_2O_5	sum	Fe_2O_3+CuO
1	53,66	12,89	5,04	26,13	97,72	17,93
2	53,69	11,98	5,60	26,34	97,61	17,58
3	52,92	10,67	6,84	26,36	96,79	17,51
4	53,53	12,56	5,18	26,42	97,69	17,74
5	52,39	13,04	4,75	26,48	96,66	17,79
6	52,99	13,11	4,68	26,42	97,20	17,79
7	52,90	11,11	6,51	26,52	97,04	17,62
8	53,29	11,31	6,52	26,12	97,24	17,83
9	53,46	11,32	6,54	26,37	97,69	17,86
10	53,45	10,86	6,75	26,31	97,37	17,61
11	53,80	9,70	7,54	26,86	97,90	17,24
12	53,92	10,62	7,04	26,26	97,84	17,66
13	54,32	12,36	5,09	26,60	98,37	17,45
14	53,03	13,76	4,27	26,09	97,15	18,03
15	53,60	11,85	6,15	26,16	97,76	18,00
16	53,01	12,89	4,97	26,73	97,60	17,86
17	53,25	12,08	5,48	26,81	97,62	17,56
mean	**53,37**	**11,89**	**5,82**	**26,41**	**97,49**	**17,71**
e.s.d.	**0,45**	**1,06**	**0,95**	**0,23**	**0,42**	**0,20**

* primary data – no calculations for Fe^{2+} and H_2O

TABLE 7. Observed (Fo) and calculated (Fc) structure factor amplitudes of medenbachite

h	k	l	Fo	Fc	h	k	l	Fo	Fc	h	k	l	Fo	Fc	h	k	l	Fo	Fc
1	0	0	23.99	20.57	2	0	0	46.24	46.70	3	0	0	29.96	31.70	4	0	0	47.62	51.69
5	0	0	14.08	7.74	7	0	0	18.16	22.65	-6	1	0	16.12	13.44	-5	1	0	24.58	23.90
-4	1	0	53.16	52.46	-3	1	0	18.33	19.42	-2	1	0	63.46	65.85	-1	1	0	95.30	99.21
0	1	0	39.55	37.89	2	1	0	20.40	21.92	3	1	0	21.24	19.71	4	1	0	33.98	35.35
5	1	0	25.26	24.59	6	1	0	15.18	17.81	-5	2	0	19.43	18.70	-3	2	0	124.87	127.18
-2	2	0	15.14	14.62	-1	2	0	12.90	11.37	0	2	0	94.67	96.75	3	2	0	54.48	56.20
6	2	0	13.62	13.90	-4	3	0	21.72	19.12	-3	3	0	11.04	8.80	-2	3	0	93.35	93.87
-1	3	0	10.56	5.04	0	3	0	66.06	62.30	1	3	0	107.66	99.00	2	3	0	84.30	81.81
4	3	0	17.43	15.92	5	3	0	12.67	9.48	-6	4	0	23.21	21.29	-3	4	0	46.20	43.76
-2	4	0	81.90	82.14	-1	4	0	104.43	102.02	0	4	0	49.41	50.68	1	4	0	49.33	44.91
3	4	0	41.27	43.74	5	4	0	23.33	21.65	6	4	0	17.35	14.76	-5	5	0	20.93	19.10
-3	5	0	36.07	33.06	-2	5	0	55.59	53.63	0	5	0	28.22	29.84	1	5	0	25.61	23.90
2	5	0	53.06	51.47	-5	6	0	25.05	23.31	-4	6	0	31.97	29.43	-3	6	0	27.61	26.14
0	6	0	56.11	59.03	1	6	0	42.78	38.96	2	6	0	27.70	24.90	-3	7	0	21.41	18.33
-2	7	0	13.56	14.57	1	7	0	17.90	18.73	2	7	0	25.46	23.34	-3	8	0	30.49	30.26
0	8	0	29.33	27.48	1	8	0	20.33	18.27	-4	9	0	27.56	23.54	-1	9	0	25.33	27.49
-1	10	0	18.21	16.11	0	10	0	24.67	23.71	3	-10	1	26.35	23.87	-1	-9	1	26.42	19.80
2	-9	1	38.34	31.52	0	-8	1	49.78	43.37	1	-8	1	34.52	30.94	3	-8	1	36.52	31.69
-1	-7	1	56.08	47.75	1	-7	1	39.83	38.99	2	-7	1	40.14	32.07	3	-7	1	27.66	23.88
4	-7	1	24.84	21.92	-3	-6	1	38.16	33.34	-2	-6	1	35.77	28.14	0	-6	1	60.67	57.19
1	-6	1	36.07	37.11	2	-6	1	51.63	46.42	3	-6	1	66.09	58.62	4	-6	1	20.40	19.08
-5	-5	1	24.12	21.41	-2	-5	1	21.98	17.27	-1	-5	1	60.67	49.88	0	-5	1	47.98	42.31
1	-5	1	83.17	70.41	3	-5	1	50.38	45.94	4	-5	1	38.62	34.35	5	-5	1	33.32	29.21
-4	-4	1	27.72	31.11	-3	-4	1	21.98	22.62	-2	-4	1	28.84	25.33	-1	-4	1	76.20	63.70
0	-4	1	167.75	154.42	1	-4	1	76.48	67.28	2	-4	1	41.05	36.02	3	-4	1	18.78	17.10
4	-4	1	63.76	60.43	-5	-3	1	20.74	24.11	-4	-3	1	20.05	19.62	-3	-3	1	15.48	15.86
-2	-3	1	51.01	49.51	0	-3	1	108.41	98.56	1	-3	1	108.85	95.40	2	-3	1	107.86	101.39
3	-3	1	33.59	31.05	4	-3	1	12.87	12.34	5	-3	1	29.81	33.02	-5	-2	1	20.91	23.43
-3	-2	1	86.90	87.19	-2	-2	1	52.17	49.06	-1	-2	1	15.02	13.89	1	-2	1	150.11	142.07
2	-2	1	78.07	77.16	6	-2	1	23.90	20.24	-3	-1	1	27.85	30.15	-2	-1	1	57.66	58.03
0	-1	1	78.63	67.49	1	-1	1	25.74	27.20	2	-1	1	147.66	150.75	5	-1	1	21.33	22.83
-6	0	1	20.13	22.18	-4	0	1	25.12	25.67	-2	0	1	139.46	145.64	-1	0	1	70.73	74.72
0	0	1	50.97	42.88	1	0	1	55.89	53.15	2	0	1	73.18	77.75	3	0	1	91.56	98.38
5	0	1	25.95	29.30	-4	1	1	40.62	42.06	-3	1	1	24.55	26.14	-1	1	1	185.97	199.36
0	1	1	23.68	29.19	1	1	1	46.94	45.85	2	1	1	97.13	98.10	3	1	1	35.72	37.91
-7	2	1	22.14	22.59	-5	2	1	30.85	32.09	-4	2	1	21.57	21.61	-2	2	1	46.41	47.68
-1	2	1	79.33	84.35	0	2	1	173.69	181.23	1	2	1	11.87	12.01	3	2	1	31.86	32.38
4	2	1	49.96	51.25	6	2	1	16.79	15.40	-4	3	1	56.42	59.48	-3	3	1	12.87	12.85
-2	3	1	35.38	34.88	-1	3	1	112.29	120.29	0	3	1	65.39	75.30	2	3	1	17.11	17.66
3	3	1	28.29	29.42	6	3	1	17.31	22.47	-4	4	1	31.25	32.12	-3	4	1	72.74	77.72
-2	4	1	11.87	7.95	-1	4	1	23.68	23.64	0	4	1	44.03	50.13	1	4	1	96.05	98.95
2	4	1	36.41	41.97	3	4	1	29.09	33.17	5	4	1	20.74	24.55	-4	5	1	35.08	39.70
-3	5	1	34.47	39.17	-2	5	1	48.78	54.47	0	5	1	56.42	70.85	1	5	1	25.05	24.10
2	5	1	28.84	31.10	-3	6	1	24.70	30.53	-2	6	1	52.77	65.67	-1	6	1	45.37	58.73
0	6	1	22.76	29.74	1	6	1	49.03	52.77	2	6	1	19.33	21.59	-5	7	1	16.04	10.45
-3	7	1	33.06	36.84	-2	7	1	19.78	20.15	-1	7	1	22.92	30.30	0	7	1	24.41	30.63
2	7	1	26.62	30.49	-5	8	1	18.87	15.85	-4	8	1	21.08	16.63	-2	8	1	26.88	33.38
0	8	1	20.31	21.01	1	8	1	35.53	37.35	-1	9	1	25.12	31.12	-2	10	1	19.24	24.08
1	-10	2	29.27	28.57	2	-10	2	21.24	16.80	0	-9	2	25.88	22.21	2	-9	2	27.59	26.01
3	-9	2	21.98	17.05	-4	-8	2	19.78	19.32	-2	-8	2	26.91	22.23	-1	-8	2	25.19	17.89
0	-8	2	26.08	24.34	1	-8	2	39.25	38.62	3	-8	2	35.38	31.54	4	-8	2	33.95	26.86
-1	-7	2	32.95	25.98	0	-7	2	31.08	30.08	2	-7	2	69.90	63.73	5	-7	2	25.61	18.36
-3	-6	2	33.80	33.05	-2	-6	2	26.88	24.41	-1	-6	2	34.42	31.47	0	-6	2	45.41	44.68
1	-6	2	68.58	63.24	2	-6	2	15.14	10.57	3	-6	2	32.19	28.32	5	-6	2	19.78	20.10
6	-6	2	20.22	17.17	-1	-5	2	86.80	77.28	0	-5	2	23.60	24.18	1	-5	2	42.36	37.56
2	-5	2	75.01	68.01	3	-5	2	45.84	41.79	4	-5	2	18.11	15.15	-6	-4	2	20.99	25.48
-4	-4	2	33.06	32.01	-3	-4	2	16.58	18.25	-2	-4	2	72.48	64.07	-1	-4	2	24.12	20.19
0	-4	2	53.63	48.56	1	-4	2	44.63	40.41	2	-4	2	103.95	97.07	3	-4	2	65.47	62.54
4	-4	2	32.03	30.78	-4	-3	2	27.72	27.58	-3	-3	2	21.33	22.73	-2	-3	2	29.03	26.60
-1	-3	2	112.95	99.02	0	-3	2	103.20	96.60	1	-3	2	64.28	56.14	2	-3	2	22.92	19.49
3	-3	2	79.48	78.41	-6	-2	2	16.04	15.70	-5	-2	2	20.31	18.07	-2	-2	2	28.47	29.70
0	-2	2	138.65	130.51	1	-2	2	103.78	95.21	2	-2	2	21.24	19.66	4	-2	2	78.46	80.96
6	-2	2	15.72	18.59	-5	-1	2	14.78	16.60	-4	-1	2	44.75	46.07	-3	-1	2	52.13	53.60
-2	-1	2	39.29	38.91	-1	-1	2	39.74	40.87	0	-1	2	176.87	175.80	1	-1	2	34.26	29.05
2	-1	2	63.78	65.86	3	-1	2	37.88	38.83	5	-1	2	17.91	17.84	-6	0	2	19.24	19.70
-5	0	2	12.73	11.94	-4	0	2	49.00	50.57	-3	0	2	57.44	57.09	-2	0	2	73.39	78.37
0	0	2	34.72	27.93	1	0	2	221.71	217.41	2	0	2	34.82	36.24	4	0	2	21.16	24.46
5	0	2	23.00	27.31	-4	1	2	24.48	24.44	-3	1	2	77.00	79.17	-2	1	2	21.33	20.99
-1	1	2	69.27	70.78	0	1	2	109.47	103.28	1	1	2	41.52	42.12	2	1	2	104.17	103.81

h	k	l	Fo	Fc	h	k	l	Fo	Fc	h	k	l	Fo	Fc	h	k	l	Fo	Fc
3	1	2	12.31	13.01	7	1	2	17.41	18.68	-4	2	2	11.57	9.69	-2	2	2	167.45	178.85
-1	2	2	62.89	64.33	0	2	2	46.64	49.49	3	2	2	42.86	46.79	4	2	2	18.78	20.17
-7	3	2	15.93	13.17	-3	3	2	49.92	52.23	-2	3	2	30.10	30.14	-1	3	2	104.34	109.02
1	3	2	51.18	50.76	2	3	2	64.09	69.72	3	3	2	46.37	49.37	-5	4	2	35.03	35.25
-2	4	2	50.83	53.60	-1	4	2	70.90	76.82	0	4	2	64.99	74.31	1	4	2	60.43	62.96
2	4	2	19.42	20.84	4	4	2	19.87	21.50	-4	5	2	20.31	19.93	-2	5	2	27.91	27.43
-1	5	2	58.21	68.27	0	5	2	49.00	58.79	1	5	2	31.81	34.56	2	5	2	17.51	20.42
3	5	2	30.10	33.80	-4	6	2	29.27	31.68	-3	6	2	29.21	36.01	-2	6	2	24.48	30.28
-1	6	2	30.97	39.53	1	6	2	44.03	43.48	2	6	2	19.87	23.12	-3	7	2	29.21	34.33
-2	7	2	19.33	23.26	0	7	2	40.88	46.53	-2	8	2	21.16	26.78	-1	8	2	29.57	33.19
1	8	2	20.40	18.69	0	9	2	22.61	26.76	1	10	2	23.82	15.89	2	-10	3	19.87	13.67
-1	-9	3	23.60	18.03	0	-9	3	28.10	28.09	3	-9	3	27.47	27.78	1	-8	3	46.03	45.73
2	-8	3	33.38	33.46	4	-8	3	27.85	23.53	-1	-7	3	15.93	13.92	0	-7	3	52.03	52.08
2	-7	3	30.16	28.84	3	-7	3	41.31	36.34	5	-7	3	21.41	16.39	-2	-6	3	43.95	34.86
-1	-6	3	51.90	49.21	1	-6	3	68.53	64.29	2	-6	3	26.55	26.04	3	-6	3	39.12	37.08
4	-6	3	47.98	46.52	-5	-5	3	20.91	17.77	-4	-5	3	24.91	26.85	-3	-5	3	30.22	27.68
-1	-5	3	25.19	24.95	0	-5	3	73.99	72.39	1	-5	3	55.19	50.30	2	-5	3	66.75	62.26
4	-5	3	29.45	27.94	5	-5	3	19.60	17.77	-4	-4	3	22.30	21.78	-3	-4	3	20.22	19.58
-2	-4	3	54.13	47.57	-1	-4	3	53.40	52.86	0	-4	3	71.15	65.88	1	-4	3	132.90	118.46
2	-4	3	45.30	42.03	3	-4	3	18.01	14.77	5	-4	3	34.00	34.80	-5	-3	3	18.87	14.98
-3	-3	3	37.74	37.15	-2	-3	3	42.98	42.35	-1	-3	3	67.02	61.84	1	-3	3	98.50	89.25
2	-3	3	78.41	74.37	3	-3	3	61.65	61.39	4	-3	3	22.22	22.06	6	-3	3	18.01	17.16
-6	-2	3	16.15	17.63	-4	-2	3	25.68	28.10	-1	-2	3	35.48	34.95	2	-2	3	160.07	159.85
3	-2	3	31.75	32.53	6	-2	3	15.71	8.54	-7	-1	3	21.49	23.84	-2	-1	3	71.10	72.23
-1	-1	3	90.16	89.67	0	-1	3	124.74	117.13	1	-1	3	91.85	84.66	2	-1	3	23.38	19.03
3	-1	3	96.91	101.31	-5	0	3	34.93	35.35	-4	0	3	14.30	14.59	-3	0	3	16.37	19.85
-2	0	3	12.73	11.85	-1	0	3	139.54	154.55	0	0	3	49.96	44.06	1	0	3	23.07	19.32
2	0	3	39.43	39.21	3	0	3	16.37	17.69	4	0	3	56.30	59.14	-3	1	3	44.03	45.52
-2	1	3	29.09	29.13	-1	1	3	26.95	27.50	0	1	3	162.74	163.69	1	1	3	13.28	12.17
2	1	3	17.21	19.61	3	1	3	65.53	67.44	4	1	3	20.31	20.76	-6	2	3	23.82	22.60
-4	2	3	57.10	59.22	-3	2	3	18.59	19.73	-1	2	3	55.92	54.97	0	2	3	70.78	74.99
1	2	3	141.47	142.25	5	2	3	23.15	25.15	-3	3	3	89.40	90.50	-2	3	3	10.79	13.00
-1	3	3	52.00	53.52	0	3	3	78.00	90.10	1	3	3	61.45	64.54	2	3	3	23.90	28.65
3	3	3	17.81	16.13	-4	4	3	16.79	14.99	-3	4	3	35.08	35.74	-2	4	3	86.74	90.97
-1	4	3	16.58	22.12	0	4	3	26.62	31.46	1	4	3	42.44	40.26	2	4	3	58.27	64.36
3	4	3	15.60	21.63	4	4	3	21.65	24.97	6	4	3	18.40	17.60	-3	5	3	46.90	48.83
-2	5	3	33.38	36.67	-1	5	3	45.37	49.56	0	5	3	25.19	31.76	1	5	3	56.52	58.11
2	5	3	14.42	18.23	3	5	3	18.40	20.71	-5	6	3	19.96	18.22	-3	6	3	15.14	14.49
-2	6	3	23.45	28.57	-1	6	3	47.57	57.07	0	6	3	37.08	43.88	1	6	3	34.11	29.07
2	6	3	27.01	30.67	-2	7	3	34.16	39.22	0	7	3	22.06	23.96	1	7	3	20.91	19.28
-4	8	3	21.57	17.84	-2	8	3	14.94	18.61	-1	8	3	22.06	31.79	2	8	3	21.24	23.40
0	9	3	19.87	21.54	2	-10	4	28.47	26.94	1	-9	4	34.00	31.14	3	-9	4	20.22	25.07
-2	-8	4	17.71	9.12	-1	-8	4	37.22	36.09	0	-8	4	26.15	21.65	1	-8	4	20.40	19.06
2	-8	4	34.17	35.44	4	-8	4	20.91	21.86	5	-8	4	19.51	19.13	-2	-7	4	24.70	21.18
0	-7	4	35.48	33.87	1	-7	4	29.81	30.81	3	-7	4	48.20	48.57	5	-7	4	16.90	9.00
-6	-6	4	18.40	19.06	-2	-6	4	44.55	42.16	-1	-6	4	37.69	35.34	0	-6	4	16.04	16.56
1	-6	4	51.04	47.94	2	-6	4	75.20	71.29	-2	-5	4	20.91	22.46	0	-5	4	82.57	84.73
2	-5	4	38.75	37.73	3	-5	4	59.70	57.76	4	-5	4	34.00	32.35	-5	-4	4	28.29	31.20
-3	-4	4	37.41	36.91	-2	-4	4	36.31	32.59	-1	-4	4	82.04	78.89	0	-4	4	34.42	30.82
1	-4	4	34.98	30.65	2	-4	4	17.31	17.44	3	-4	4	57.29	57.14	4	-4	4	49.21	49.64
-3	-3	4	34.52	37.79	-2	-3	4	20.22	23.39	-1	-3	4	32.79	30.99	1	-3	4	79.55	75.84
2	-3	4	35.38	33.36	3	-3	4	24.55	23.03	4	-3	4	44.27	44.49	-6	-2	4	22.95	20.62
-4	-2	4	33.11	37.15	-3	-2	4	13.41	15.34	-2	-2	4	12.31	10.00	-1	-2	4	28.84	31.15
1	-2	4	118.21	111.37	2	-2	4	69.45	67.18	3	-2	4	13.14	15.08	5	-2	4	37.32	37.16
-3	-1	4	71.94	69.22	-2	-1	4	81.04	81.20	-1	-1	4	56.01	55.18	0	-1	4	18.78	18.92
1	-1	4	149.14	140.89	2	-1	4	11.57	12.21	3	-1	4	32.57	33.68	4	-1	4	19.60	21.19
-5	0	4	27.01	23.87	-3	0	4	66.57	70.69	-2	0	4	87.99	94.10	-1	0	4	66.78	72.17
0	0	4	60.72	51.72	1	0	4	24.12	23.16	2	0	4	144.61	146.83	3	0	4	17.71	20.56
4	0	4	16.26	16.27	5	0	4	14.18	13.32	6	0	4	16.04	14.76	-7	1	4	17.61	15.94
-3	1	4	35.08	33.04	-2	1	4	93.22	95.39	-1	1	4	35.53	34.05	0	1	4	44.51	46.51
1	1	4	109.40	102.46	2	1	4	22.30	25.93	3	1	4	61.76	63.98	-5	2	4	20.13	18.53
-4	2	4	13.01	9.43	-2	2	4	18.30	16.78	-1	2	4	144.73	153.47	0	2	4	43.02	40.02
2	2	4	63.03	66.34	3	2	4	47.46	50.06	4	2	4	17.00	18.10	-6	3	4	16.26	10.17
-5	3	4	20.31	16.24	-2	3	4	63.42	62.83	-1	3	4	32.47	31.85	0	3	4	84.76	87.73
2	3	4	25.68	27.25	3	3	4	32.68	36.26	4	3	4	17.11	20.62	-4	4	4	45.57	45.28
-3	4	4	17.21	16.76	-1	4	4	70.88	69.86	0	4	4	57.20	67.89	1	4	4	62.05	63.01
2	4	4	30.91	32.81	-3	5	4	35.53	36.09	-1	5	4	36.16	36.06	0	5	4	45.45	52.44
1	5	4	38.34	39.81	2	5	4	15.82	21.23	3	5	4	16.04	13.95	4	5	4	19.33	16.82
-4	6	4	16.15	16.63	-3	6	4	31.75	33.51	-2	6	4	32.03	35.40	-1	6	4	26.95	30.16
0	6	4	25.33	28.68	2	6	4	18.40	19.10	3	6	4	16.95	15.68	-3	7	4	21.08	20.01
-2	7	4	19.87	21.82	-1	7	4	24.12	24.84	1	7	4	35.28	36.61	-1	8	4	19.05	20.84

h	k	l	Fo	Fc	h	k	l	Fo	Fc	h	k	l	Fo	Fc	h	k	l	Fo	Fc
0	8	4	25.47	26.61	-2	9	4	21.41	25.03	0	-10	5	22.37	19.94	1	-10	5	19.69	18.81
1	-9	5	24.34	24.03	-1	-8	5	16.00	16.15	0	-8	5	22.53	21.57	2	-8	5	30.33	36.29
3	-8	5	25.40	28.54	-3	-7	5	19.21	13.64	-2	-7	5	23.38	22.42	-1	-7	5	17.00	8.31
1	-7	5	50.69	54.19	2	-7	5	15.48	8.62	3	-7	5	14.87	18.66	4	-7	5	25.19	25.51
-4	-6	5	19.01	19.19	-1	-6	5	45.68	43.81	0	-6	5	50.83	54.60	2	-6	5	56.08	55.31
3	-6	5	18.87	18.50	4	-6	5	24.48	26.74	5	-6	5	30.51	26.55	-3	-5	5	21.82	23.47
-2	-5	5	52.13	47.25	0	-5	5	28.97	29.23	1	-5	5	73.37	70.85	2	-5	5	38.06	39.19
3	-5	5	46.94	47.26	-6	-4	5	18.20	13.80	-3	-4	5	34.37	34.62	-2	-4	5	31.19	30.59
-1	-4	5	61.65	60.92	0	-4	5	28.04	25.97	1	-4	5	67.07	66.80	2	-4	5	98.64	95.55
3	-4	5	29.86	30.06	6	-4	5	21.65	18.82	-7	-3	5	18.59	16.33	-4	-3	5	15.37	16.11
-2	-3	5	61.33	59.62	-1	-3	5	38.34	40.48	0	-3	5	69.29	70.38	1	-3	5	18.30	12.35
2	-3	5	78.39	75.77	3	-3	5	48.64	48.76	4	-3	5	34.21	33.27	-5	-2	5	18.40	20.77
-3	-2	5	28.78	32.63	-2	-2	5	42.19	43.64	-1	-2	5	106.11	112.44	0	-2	5	43.47	40.93
1	-2	5	23.90	19.42	2	-2	5	15.37	13.84	3	-2	5	92.88	92.04	4	-2	5	17.61	19.86
-6	-1	5	26.08	19.61	-4	-1	5	19.33	19.67	-3	-1	5	13.80	9.61	-1	-1	5	79.01	84.16
0	-1	5	68.42	66.48	1	-1	5	79.33	74.97	2	-1	5	50.52	50.26	3	-1	5	21.57	19.16
4	-1	5	49.64	51.75	-7	0	5	18.40	12.99	-6	0	5	17.41	17.22	-4	0	5	42.86	43.41
-1	0	5	21.57	23.61	2	0	5	19.42	21.75	3	0	5	26.22	26.77	4	0	5	24.91	23.66
5	0	5	20.05	20.91	-6	1	5	18.20	16.32	-4	1	5	23.75	21.49	-3	1	5	32.90	28.91
-2	1	5	54.42	55.32	-1	1	5	58.21	61.35	0	1	5	16.37	15.55	1	1	5	141.26	125.83
4	1	5	33.00	33.78	-5	2	5	17.41	19.37	-3	2	5	84.28	79.40	-2	2	5	21.08	18.57
0	2	5	42.77	41.59	1	2	5	41.43	40.10	2	2	5	73.08	73.42	3	2	5	23.15	23.69
6	2	5	17.00	12.99	-2	3	5	72.40	72.07	0	3	5	22.30	22.37	1	3	5	82.55	79.52
2	3	5	33.22	33.73	3	3	5	15.82	14.39	-6	4	5	16.90	12.33	-3	4	5	24.91	22.72
-2	4	5	36.55	35.89	-1	4	5	78.28	77.83	0	4	5	22.30	26.65	1	4	5	22.61	26.54
2	4	5	21.82	24.36	3	4	5	36.89	39.92	-5	5	5	21.33	18.57	-3	5	5	17.91	17.41
-2	5	5	52.64	51.94	-1	5	5	44.19	45.14	0	5	5	27.34	32.04	1	5	5	16.04	14.74
2	5	5	23.07	27.51	-4	6	5	26.22	23.01	-2	6	5	20.99	18.38	-1	6	5	22.84	26.30
0	6	5	36.75	41.76	1	6	5	27.34	30.08	2	6	5	18.96	20.38	-1	7	5	27.40	32.02
0	7	5	19.96	19.72	-2	8	5	20.05	22.92	0	8	5	26.02	23.61	2	-9	6	24.48	28.38
0	-8	6	33.90	34.54	1	-8	6	23.22	27.14	3	-8	6	25.47	30.50	-1	-7	6	28.78	28.91
0	-7	6	17.11	14.74	1	-7	6	29.81	31.68	2	-7	6	31.25	34.46	4	-7	6	29.27	31.75
-5	-6	6	23.90	20.92	-3	-6	6	24.12	23.34	-1	-6	6	28.29	29.62	0	-6	6	36.41	40.67
1	-6	6	22.30	20.22	2	-6	6	31.31	33.64	3	-6	6	49.46	53.65	-6	-5	6	19.96	15.36
-2	-5	6	18.49	18.17	-1	-5	6	29.15	31.69	1	-5	6	63.39	66.07	3	-5	6	22.14	21.32
4	-5	6	38.34	39.87	-4	-4	6	27.14	29.44	-2	-4	6	32.19	32.35	-1	-4	6	26.42	27.94
1	-4	6	25.81	25.93	2	-4	6	40.75	41.44	4	-4	6	42.36	42.79	5	-4	6	23.68	23.74
-2	-3	6	50.97	50.51	0	-3	6	40.23	39.11	1	-3	6	96.18	91.27	2	-3	6	59.64	57.55
3	-3	6	25.54	27.49	5	-3	6	24.26	23.51	-6	-2	6	16.90	10.32	-5	-2	6	25.61	23.95
-3	-2	6	58.33	58.06	-2	-2	6	30.16	28.80	-1	-2	6	19.33	20.16	0	-2	6	26.88	25.14
1	-2	6	102.56	93.85	2	-2	6	73.11	69.87	3	-2	6	17.21	18.62	6	-2	6	17.61	18.26
-4	-1	6	15.25	13.31	-2	-1	6	56.95	58.21	-1	-1	6	53.77	61.54	0	-1	6	34.11	34.44
1	-1	6	34.21	31.89	2	-1	6	89.04	85.47	-4	0	6	17.00	17.15	-2	0	6	76.87	79.99
-1	0	6	65.93	79.75	0	0	6	46.45	42.42	1	0	6	50.97	49.05	2	0	6	15.37	12.07
3	0	6	86.27	87.26	5	0	6	16.48	15.47	-6	1	6	18.59	13.04	-5	1	6	20.05	19.57
-4	1	6	18.11	18.50	-3	1	6	16.04	17.80	-2	1	6	27.53	25.76	1	1	6	50.07	42.35
2	1	6	53.83	54.69	3	1	6	20.74	19.09	4	1	6	21.73	22.87	-7	2	6	20.48	16.64
-5	2	6	18.11	16.05	-4	2	6	27.27	25.67	-2	2	6	30.16	28.98	0	2	6	128.13	125.86
1	2	6	27.91	25.12	3	2	6	33.80	35.24	4	2	6	24.12	23.11	-4	3	6	25.47	26.32
-1	3	6	63.84	65.30	0	3	6	14.30	12.26	1	3	6	66.41	67.09	2	3	6	16.37	15.79
3	3	6	21.90	22.61	4	3	6	16.58	17.82	-3	4	6	56.70	51.68	-2	4	6	18.40	19.19
0	4	6	54.22	53.73	1	4	6	38.39	39.90	2	4	6	29.63	35.31	3	4	6	20.48	22.59
-4	5	6	17.00	16.83	-3	5	6	14.78	11.16	-2	5	6	38.34	34.95	0	5	6	32.19	30.37
1	5	6	30.04	31.08	2	5	6	20.99	19.96	-3	6	6	21.65	18.77	-2	6	6	26.29	26.80
-1	6	6	31.75	30.50	0	6	6	25.68	26.75	1	6	6	21.57	21.89	-2	7	6	22.22	19.14
2	7	6	19.33	21.69	-2	-8	7	22.06	21.57	1	-8	7	23.15	25.11	3	-8	7	24.34	28.33
0	-7	7	17.81	15.77	2	-7	7	43.47	50.67	-3	-6	7	27.21	25.25	-2	-6	7	16.79	16.74
0	-6	7	39.79	42.88	1	-6	7	40.92	47.86	3	-6	7	29.22	32.71	-2	-5	7	16.48	16.64
-1	-5	7	48.64	52.57	1	-5	7	20.31	24.41	2	-5	7	46.71	51.97	3	-5	7	21.41	23.61
4	-5	7	23.68	23.83	-4	-4	7	17.61	18.42	-2	-4	7	43.39	41.62	-1	-4	7	21.82	17.87
0	-4	7	48.31	50.77	1	-4	7	15.14	11.11	2	-4	7	51.69	50.61	3	-4	7	64.96	64.49
4	-4	7	23.68	22.24	-1	-3	7	64.44	71.33	0	-3	7	45.02	46.93	1	-3	7	62.44	59.65
3	-3	7	53.14	53.10	4	-3	7	22.84	24.80	-5	-2	7	16.37	8.89	-4	-2	7	19.96	21.82
-1	-2	7	49.36	52.75	0	-2	7	106.56	106.41	1	-2	7	42.28	40.90	2	-2	7	14.18	18.82
4	-2	7	46.83	49.83	-5	-1	7	21.33	19.46	-4	-1	7	20.48	18.59	-3	-1	7	19.96	22.18
-2	-1	7	21.16	16.99	-1	-1	7	22.84	24.18	0	-1	7	72.96	70.58	2	-1	7	39.83	39.79
3	-1	7	38.06	39.34	5	-1	7	24.34	24.67	-3	0	7	50.35	49.90	-2	0	7	19.69	20.49
0	0	7	19.96	17.74	2	0	7	34.57	36.61	4	0	7	18.30	17.79	-5	1	7	15.02	12.24
-3	1	7	33.85	32.34	-2	1	7	29.33	26.74	-1	1	7	34.26	43.45	0	1	7	53.21	49.74
2	1	7	69.37	66.77	-4	2	7	18.68	17.04	-2	2	7	75.34	74.58	-1	2	7	24.34	26.71
1	2	7	49.39	44.98	2	2	7	34.82	31.45	3	2	7	36.46	38.72	-3	3	7	26.29	21.51
-1	3	7	69.88	68.00	0	3	7	14.18	10.41	1	3	7	17.41	16.83	2	3	7	50.80	50.21

h	k	l	Fo	Fc	h	k	l	Fo	Fc	h	k	l	Fo	Fc	h	k	l	Fo	Fc
3	3	7	18.40	20.40	-5	4	7	22.37	19.34	-2	4	7	32.03	28.89	-1	4	7	31.31	32.24
0	4	7	56.83	53.37	1	4	7	21.90	21.13	-4	5	7	22.53	18.12	-1	5	7	47.16	43.97
0	5	7	21.24	23.04	1	5	7	20.48	22.85	-3	6	7	21.90	22.69	-2	6	7	19.60	15.67
0	6	7	20.22	21.19	1	6	7	24.26	24.62	2	6	7	20.05	18.72	-2	7	7	18.11	16.87
0	7	7	25.12	24.46	-1	8	7	20.22	18.61	-1	-9	8	20.05	16.50	1	-8	8	21.82	30.59
2	-8	8	21.82	25.05	-1	-7	8	16.65	15.83	0	-7	8	32.23	33.16	2	-7	8	18.59	23.06
3	-7	8	24.19	30.98	-4	-6	8	21.90	20.26	-2	-6	8	20.40	20.18	-1	-6	8	21.08	22.54
0	-6	8	21.57	28.79	1	-6	8	38.89	43.79	3	-6	8	23.68	25.02	4	-6	8	30.68	36.75
-5	-5	8	20.82	17.54	-1	-5	8	15.60	13.10	0	-5	8	34.11	41.22	2	-5	8	44.87	51.28
5	-5	8	23.45	22.09	-3	-4	8	25.47	25.45	-2	-4	8	19.42	21.27	-1	-4	8	27.47	32.11
0	-4	8	25.95	26.58	1	-4	8	72.40	72.17	3	-4	8	21.57	24.11	5	-4	8	23.60	23.50
-1	-3	8	44.11	46.66	1	-3	8	29.03	30.51	2	-3	8	55.51	56.38	3	-3	8	28.16	30.07
4	-3	8	12.94	11.72	-4	-2	8	26.75	29.58	-2	-2	8	62.64	60.67	-1	-2	8	17.41	19.66
0	-2	8	33.22	30.52	2	-2	8	78.05	74.62	3	-2	8	39.56	39.69	-2	-1	8	19.87	18.83
-1	-1	8	54.97	63.46	0	-1	8	50.14	48.77	1	-1	8	33.00	37.59	2	-1	8	25.61	21.78
3	-1	8	56.76	56.57	-5	0	8	21.16	19.89	-1	0	8	67.12	79.93	0	0	8	55.25	53.31
1	0	8	25.33	22.22	2	0	8	24.55	28.05	4	0	8	42.48	40.92	-4	1	8	15.82	16.27
-3	1	8	21.82	23.25	-2	1	8	16.90	11.74	-1	1	8	21.33	25.36	0	1	8	76.84	74.60
1	1	8	17.41	16.10	3	1	8	32.14	34.92	-6	2	8	21.65	14.72	-4	2	8	26.35	23.89
-3	2	8	23.82	22.72	-1	2	8	22.53	29.15	1	2	8	94.14	80.44	2	2	8	20.48	19.48
-4	3	8	16.48	15.32	-3	3	8	43.10	37.76	-1	3	8	16.48	19.59	0	3	8	52.47	50.19
1	3	8	21.08	19.34	2	3	8	33.74	32.30	-2	4	8	55.89	49.20	1	4	8	36.26	33.63
2	4	8	22.30	23.36	-3	5	8	18.96	18.50	-1	5	8	24.19	25.97	0	5	8	17.11	18.54
1	5	8	21.16	20.70	2	5	8	20.48	24.88	-2	6	8	23.38	20.40	-1	6	8	20.13	18.26
0	6	8	24.25	23.12	1	6	8	20.22	19.77	1	8	8	18.49	6.14	-1	-8	9	22.37	25.78
1	-8	9	17.61	16.52	2	-8	9	17.81	20.46	3	-7	9	28.16	33.11	-4	-6	9	18.01	16.64
-2	-6	9	24.29	23.74	-1	-6	9	21.33	19.12	1	-6	9	27.98	31.75	2	-6	9	36.12	44.74
-1	-5	9	16.79	17.92	0	-5	9	43.99	50.68	2	-5	9	19.42	21.84	3	-5	9	39.96	41.62
4	-5	9	20.31	17.80	-5	-4	9	20.13	19.21	-2	-4	9	20.57	20.22	-1	-4	9	46.71	49.10
1	-4	9	37.55	37.35	3	-4	9	24.19	26.44	4	-4	9	34.16	38.71	-3	-3	9	20.13	20.81
-2	-3	9	19.60	14.04	0	-3	9	51.39	56.03	1	-3	9	32.30	30.65	2	-3	9	35.53	34.54
4	-3	9	19.33	25.83	-4	-2	9	16.48	15.84	0	-2	9	40.62	38.29	1	-2	9	76.57	75.83
2	-2	9	23.53	23.67	5	-2	9	23.90	24.50	-4	-1	9	19.87	13.92	-3	-1	9	32.84	31.71
-2	-1	9	23.00	24.25	-1	-1	9	28.97	31.71	0	-1	9	17.00	18.56	2	-1	9	32.30	34.50
3	-1	9	21.24	22.80	4	-1	9	19.33	17.65	-3	0	9	15.60	15.04	-2	0	9	50.31	54.16
-1	0	9	19.96	21.44	2	0	9	67.70	65.44	3	0	9	18.01	16.47	-2	1	9	26.49	31.75
-1	1	9	24.98	26.74	0	1	9	21.90	18.39	1	1	9	55.16	43.91	3	1	9	40.88	40.28
-5	2	9	17.78	9.36	-1	2	9	43.23	57.41	0	2	9	20.74	23.18	2	2	9	34.00	33.68
3	2	9	19.50	14.09	4	2	9	18.20	19.38	-2	3	9	28.10	24.19	0	3	9	49.18	47.32
3	3	9	19.87	21.53	-4	4	9	27.27	21.50	-1	4	9	26.75	25.56	0	4	9	23.38	20.54
1	4	9	31.75	32.52	2	4	9	15.60	13.86	-3	5	9	25.41	20.30	0	5	9	34.00	30.62
-3	6	9	19.69	10.30	-2	6	9	24.34	21.38	-3	7	9	20.13	12.95	-2	-7	10	18.40	13.85
1	-7	10	29.09	30.30	-1	-6	10	22.30	21.88	0	-6	10	22.30	21.03	1	-6	10	18.01	21.27
2	-6	10	32.19	33.21	-3	-5	10	17.71	14.26	-2	-5	10	18.20	19.48	0	-5	10	16.79	13.39
1	-5	10	36.70	39.41	3	-5	10	29.09	34.89	-2	-4	10	27.27	26.36	-1	-4	10	26.55	28.50
1	-4	10	27.34	27.52	2	-4	10	50.49	53.55	-2	-3	10	17.71	21.55	0	-3	10	35.62	36.33
2	-3	10	17.51	21.16	3	-3	10	35.38	38.20	-3	-2	10	22.37	24.44	-1	-2	10	43.99	49.25
1	-2	10	16.69	18.54	3	-2	10	40.27	41.06	4	-2	10	21.73	25.10	-1	-1	10	20.13	21.37
0	-1	10	43.51	44.09	1	-1	10	33.06	21.58	2	-1	10	23.00	20.85	4	-1	10	24.41	24.58
-6	0	10	18.68	12.07	-4	0	10	22.30	20.54	0	0	10	62.84	60.84	1	0	10	43.43	36.76
2	0	10	16.58	14.26	-3	1	10	23.38	21.59	-2	1	10	20.13	21.21	-1	1	10	18.49	19.90
1	1	10	61.30	51.84	4	1	10	18.96	18.54	-3	2	10	30.91	28.97	-2	2	10	24.48	23.72
0	2	10	24.70	27.04	2	2	10	51.69	43.04	-2	3	10	29.57	29.43	1	3	10	42.90	36.07
3	3	10	18.40	15.50	-1	4	10	30.74	33.78	2	4	10	21.33	21.32	3	4	10	18.11	11.88
-2	5	10	29.21	21.47	0	5	10	20.05	19.59	-1	6	10	18.40	15.95	2	-6	11	18.68	17.14
3	-6	11	27.14	30.44	1	-5	11	31.75	37.12	0	-4	11	37.69	44.81	2	-4	11	24.12	29.07
4	-4	11	17.81	16.73	-2	-3	11	23.68	24.44	1	-3	11	47.13	47.26	2	-3	11	20.74	20.22
3	-3	11	18.59	24.30	-3	-2	11	26.55	24.46	-1	-2	11	19.15	18.63	1	-2	11	31.08	29.61
2	-2	11	45.28	45.28	-2	-1	11	29.27	27.21	0	-1	11	18.87	22.05	1	-1	11	19.87	19.04
2	-1	11	34.54	35.21	-3	0	11	17.21	6.01	-1	0	11	32.25	38.25	1	0	11	18.40	16.13
3	0	11	39.21	36.92	-1	1	11	25.40	33.99	1	1	11	18.20	14.70	2	1	11	28.97	25.76
4	1	11	21.73	15.89	0	2	11	48.56	44.35	-1	3	11	18.59	19.90	1	3	11	27.72	27.97
-3	4	11	24.70	17.93	0	4	11	21.41	21.08	-2	5	11	22.45	16.69	-1	6	11	19.51	13.93
0	-6	12	18.30	18.89	2	-5	12	25.95	27.06	3	-4	12	37.74	35.39	-1	-3	12	22.83	25.58
1	-3	12	25.74	28.56	-3	-2	12	16.69	5.05	0	-2	12	40.79	43.65	0	-1	12	17.31	15.64
1	-1	12	31.47	31.89	-3	0	12	16.54	18.79	1	0	12	41.26	34.69	2	0	12	28.54	25.70
2	1	12	30.10	28.45	-2	2	12	23.45	25.64	1	2	12	21.08	18.45	3	2	12	26.82	19.10
2	3	12	28.16	21.61	0	4	12	22.37	23.71	1	-4	13	33.38	29.82	-1	-3	13	20.99	20.53
2	-3	13	27.21	29.05	-2	-2	13	22.69	22.56	2	-2	13	24.84	21.76	-1	-1	13	23.60	25.83
3	-1	13	19.87	21.00	0	0	13	28.60	28.05	0	1	13	26.29	22.05	1	1	13	19.42	16.05
1	2	13	35.43	24.80	2	2	13	19.15	10.47	1	-4	14	18.49	16.63	0	-3	14	20.91	19.73
1	-2	14	29.39	28.62	-1	-2	15	19.24	16.48										