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The crystal structure of lawsonbauerite, $(Mn,Mg)_9Zn_4(SO_4)_2(OH)_{22} \cdot 8H_2O$, and its relation to mooreite[1]

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Abstract

Lawsonbauerite, $(Mn,Mg)_9Zn_4(SO_4)_2(OH)_{22}\cdot 8H_2O$, is monoclinic, space group $P2_1/c$ with $a = 10.50(5)$Å, $b = 9.64(5)$Å, $c = 16.41(8)$Å, $\beta = 95.21(10)°$, and $Z = 2$. Like the closely related mineral mooreite, it contains brucite-like sheets of octahedrally coordinated Mg and Mn atoms; in lawsonbauerite, the sheets are parallel to (100). Two ninths of the sites are vacant, and oxygen atoms of the vacant sites are coordinated to tetrahedrally bonded zinc atoms above and below the sheet. Zinc atoms on adjacent sheets are bonded in a "cis" arrangement to an interlayer $[(Mn,Mg)(OH)_2(H_2O)_4]^{2-}$ octahedron, which provides the only linkage between successive sheets. Sulphate groups present in the inter-sheet region are loosely held by hydrogen bonds. Apart from its chemistry lawsonbauerite differs from mooreite by having more vacancies in the octahedral layer, and therefore a different arrangement of vacancies, zinc tetrahedra, and interlayer cations. The revision of the lawsonbauerite formula required by this structure analysis should also be applied to the isostructural mineral torreyite, which has Mg > Mn.

Introduction

Lawsonbauerite, previously defined as $(Mn,Mg)_5Zn_2(SO_4)(OH)_{12}\cdot 4H_2O$, is a rare mineral found in only a few specimens from the Sterling Hill Mine, Ogdensburg, Sussex Co., New Jersey (Dunn *et al.*, 1979). Its formula implies close similarity to mooreite, $Mg_{9.1}Mn_{1.9}Zn_{4.0}(SO_4)_2(OH)_{26}\cdot 8H_2O$, a rare mineral also found only at Sterling Hill (Bauer and Berman, 1929; Hill, 1980). The mooreite structure is based on brucite-like layers of octahedrally coordinated Mg and Mn cations with some vacant sites. Zinc atoms on both sides of the layer are bonded to hydroxyls around the vacant octahedral sites. The tetrahedral zinc atoms of adjacent layers are bonded through interlayer $Mn(OH)_2(H_2O)_4^{2-}$ and SO_4^{2-} groups (Hill, 1980). In order to determine the specific relations between lawsonbauerite and mooreite, a structure solution was attempted using a specimen of type lawsonbauerite, kindly provided by Mr. P. Dunn.

Experimental

Lawsonbauerite is monoclinic with space group $P2_1/c$. Lattice parameters are $a = 10.50(5)$Å, $b = 9.64(5)$Å, $c = 16.41(8)$Å, $\beta = 95.21(10)°$, $Z = 2$, as determined using Weissenberg and precession methods (Dunn *et al.*, 1979).

Intensity data were obtained from a fragment of a platy crystal, measuring 0.21 × 0.19 × 0.06 mm, mounted for rotation about the b axis. Intensities were measured with a Supper-Pace diffractometer, which utilizes Weissenberg equiinclination geometry, by scanning across a diffraction and measuring backgrounds on either side. Mo$K\alpha$ radiation was used, and was monochromated with a flat graphite crystal, and detected with a scintillation counter. Intensities of 3045 symmetry-independent reflections ranging from k = 0 to k = 9 and with $\sin\theta < 0.46$ were measured, although mechanical limitations imposed more severe constraints on the higher levels. Of the reflections, 809 had intensities below observable limits. Data were corrected for Lorentz, polarization, and absorption effects ($\mu = 58.1$ cm^{-1}) with a modified version of the program ABSRP written by Dr. C. W. Burnham. No extinction corrections were applied.

The first attempt to solve the structure was through a three-dimensional Patterson function, whose features confirmed the presence of a brucite-like sheet. Further study of the Patterson function was inconclusive, and the structure was therefore

[1]Contribution No. 380 from the Mineralogical Laboratory, Department of Geological Sciences, The University of Michigan.

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NBA'ERITE AGAIN

H	K	L	F(OBS)		F(CALC)
0	0	-20	8.2	*	15.5
1	0	-20	29.4		34.4
2	0	-20	8.3	*	13.0
1	1	-20	38.1		44.7
2	1	-20	17.4		13.7
1	2	-20	8.5	*	5.2
2	2	-20	8.5	*	16.0
3	2	-20	22.4		21.9
1	3	-20	23.0		12.8
2	3	-20	8.6	*	5.7
3	3	-20	8.4	*	4.1
4	3	-20	8.7	*	11.0
1	1	-19	22.5		12.9
2	1	-19	8.2	*	12.3
3	1	-19	8.4	*	15.9
4	1	-19	8.4	*	9.6
5	1	-19	8.9	*	17.3
1	2	-19	15.4		25.5
2	2	-19	8.4	*	7.7
3	2	-19	33.6		32.2
4	2	-19	69.3		71.3
5	2	-19	33.0		26.0
1	3	-19	32.6		32.7
2	3	-19	8.2	*	4.6
3	3	-19	8.3	*	5.4
4	3	-19	34.5		42.7
5	3	-19	8.7	*	5.7
6	3	-19	17.2		3.6
-4	0	-18	69.7		61.3
-3	0	-18	32.5		30.1
-2	0	-18	8.2	*	26.0
-1	0	-18	67.2		61.6
0	0	-18	98.8		89.9
1	0	-18	227.0		216.9
2	0	-18	154.8		138.5
3	0	-18	63.3		58.4
4	0	-18	16.8		17.0
5	0	-18	8.4	*	9.1
6	0	-18	43.7		33.8
1	1	-18	17.7		20.4
2	1	-18	25.5		19.9
3	1	-18	8.3	*	6.4
4	1	-18	17.5		17.9
5	1	-18	19.2		19.5
6	1	-18	18.7		21.7
1	2	-18	8.1	*	1.4
2	2	-18	34.9		34.9
3	2	-18	50.4		54.2
4	2	-18	20.7		20.1
5	2	-18	45.3		38.3
6	2	-18	8.7	*	2.6
7	2	-18	8.8	*	17.4
1	3	-18	8.1	*	6.1

NBA'ERITE AGAIN

H	K	L	F(OBS)		F(CALC)
2	3	-18	8.1	*	7.0
3	3	-18	14.8		11.8
4	3	-18	8.7	*	8.5
5	3	-18	8.6	*	6.7
6	3	-18	8.3	*	9.1
7	3	-18	22.7		7.8
1	4	-18	18.4		15.6
2	4	-18	21.2		15.3
3	4	-18	29.0		30.5
4	4	-18	34.2		33.2
1	5	-18	8.4	*	14.5
2	5	-18	8.4	*	9.9
3	5	-18	8.3	*	1.3
4	5	-18	24.7		16.7
1	6	-18	160.5		139.6
2	6	-18	147.9		127.6
3	6	-18	36.0		25.9
4	6	-18	8.6	*	3.6
1	1	-17	35.7		39.0
2	1	-17	8.3	*	19.3
3	1	-17	8.3	*	3.0
4	1	-17	38.4		39.2
5	1	-17	8.4	*	5.1
6	1	-17	21.0		5.5
7	1	-17	29.2		32.7
1	2	-17	61.0		62.9
2	2	-17	19.4		6.9
3	2	-17	32.4		30.9
4	2	-17	69.1		65.2
5	2	-17	33.0		35.3
6	2	-17	8.4	*	15.9
7	2	-17	18.4		28.6
8	2	-17	8.2	*	4.2
1	3	-17	16.8		18.3
2	3	-17	15.0		13.3
3	3	-17	24.5		37.3
4	3	-17	25.6		28.5
5	3	-17	39.9		45.6
6	3	-17	21.6		25.6
7	3	-17	18.6		11.1
8	3	-17	19.1		19.3
1	4	-17	37.2		42.7
2	4	-17	23.8		27.1
3	4	-17	54.5		48.0
4	4	-17	39.3		37.2
5	4	-17	54.3		56.2
6	4	-17	25.8		31.2
1	5	-17	26.6		26.5
2	5	-17	19.3		15.2
3	5	-17	8.1	*	0.5
4	5	-17	21.9		25.7
5	5	-17	8.6	*	12.7
1	6	-17	26.0		24.2

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
2	6	-17	25.3	17.6
3	6	-17	8.4 *	7.5
4	6	-17	8.7 *	0.8
5	6	-17	20.1	1.9
1	7	-17	19.9	1.3
2	7	-17	8.7 *	14.5
3	7	-17	16.3	19.2
4	7	-17	20.6	14.2
-6	0	-16	27.4	27.1
-5	0	-16	59.0	56.5
-4	0	-16	24.7	17.9
-3	0	-16	57.0	55.6
-2	0	-16	71.2	67.1
-1	0	-16	69.1	68.0
0	0	-16	16.6	11.4
1	0	-16	67.1	66.4
2	0	-16	19.9	30.2
3	0	-16	13.9	4.0
4	0	-16	49.3	49.0
5	0	-16	31.0	23.6
6	0	-16	33.7	32.4
7	0	-16	7.9 *	8.1
8	0	-16	18.2	13.4
1	1	-16	40.0	38.2
2	1	-16	20.3	3.6
3	1	-16	38.7	38.1
4	1	-16	100.5	104.0
5	1	-16	45.0	45.6
6	1	-16	8.0 *	4.4
7	1	-16	33.9	37.4
8	1	-16	7.9 *	7.4
1	2	-16	23.9	22.2
2	2	-16	7.9 *	1.6
3	2	-16	8.3 *	13.3
5	2	-16	22.1	23.5
6	2	-16	19.2	21.4
7	2	-16	16.2	11.5
8	2	-16	8.1 *	15.3
9	2	-16	16.8	11.7
1	3	-16	27.3	30.8
2	3	-16	21.1	28.3
3	3	-16	22.2	26.5
4	3	-16	8.5 *	17.2
5	3	-16	8.2 *	5.6
6	3	-16	8.1 *	0.7
7	3	-16	8.2 *	3.6
8	3	-16	15.5	8.9
9	3	-16	8.4 *	16.5
1	4	-16	26.4	26.3
2	4	-16	14.6	8.3
3	4	-16	23.4	11.2
4	4	-16	8.2 *	13.5
5	4	-16	8.4 *	17.7

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
6	4	-16	20.8	17.5
7	4	-16	8.0 *	0.3
1	5	-16	8.2 *	12.7
2	5	-16	8.6 *	26.6
3	5	-16	64.9	65.2
4	5	-16	63.8	59.2
5	5	-16	63.8	64.9
6	5	-16	23.3	25.0
7	5	-16	17.4	13.9
1	6	-16	34.3	33.2
2	6	-16	8.5 *	2.9
3	6	-16	17.7	16.7
4	6	-16	35.0	33.8
5	6	-16	8.7 *	12.9
6	6	-16	8.5 *	17.2
7	6	-16	8.4 *	10.1
1	7	-16	30.9	30.7
2	7	-16	8.5 *	9.4
3	7	-16	20.5	14.0
4	7	-16	84.1	85.2
5	7	-16	17.1	7.2
1	1	-15	46.6	45.5
2	1	-15	15.6	1.6
3	1	-15	30.6	32.4
5	1	-15	7.8 *	0.1
6	1	-15	23.7	28.9
7	1	-15	54.6	59.0
8	1	-15	41.2	40.1
9	1	-15	15.2	11.5
1	2	-15	8.1 *	6.3
2	2	-15	8.1 *	6.4
3	2	-15	8.2 *	1.6
4	2	-15	17.1	22.3
5	2	-15	8.1 *	8.2
6	2	-15	24.9	27.3
7	2	-15	30.8	32.6
8	2	-15	8.1 *	5.1
9	2	-15	15.7	2.9
1	3	-15	126.2	136.1
2	3	-15	156.8	169.5
3	3	-15	56.3	57.1
4	3	-15	71.1	87.8
5	3	-15	52.2	63.2
6	3	-15	130.3	131.7
7	3	-15	88.5	111.3
8	3	-15	26.4	34.5
9	3	-15	8.0 *	12.2
1	4	-15	22.7	18.4
2	4	-15	15.6	8.5
3	4	-15	8.2 *	6.7
4	4	-15	32.1	31.0
5	4	-15	15.9	16.8
6	4	-15	42.0	45.3

ONBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
7	4	-15	15.5	16.0
8	4	-15	7.9 *	2.0
1	5	-15	35.6	35.1
2	5	-15	8.2 *	7.6
3	5	-15	32.1	32.0
4	5	-15	44.7	42.7
5	5	-15	32.1	27.5
6	5	-15	8.0 *	2.3
7	5	-15	39.8	37.5
8	5	-15	22.1	28.9
1	6	-15	8.0 *	7.2
2	6	-15	8.0 *	11.7
3	6	-15	14.3	6.8
4	6	-15	8.3 *	2.5
5	6	-15	8.3 *	4.8
6	6	-15	15.4	11.7
7	6	-15	8.2 *	9.3
1	7	-15	8.6 *	19.6
2	7	-15	15.5	4.1
3	7	-15	29.1	28.1
4	7	-15	38.4	35.1
5	7	-15	31.8	30.1
6	7	-15	24.2	21.0
1	8	-15	22.6	11.4
2	8	-15	20.8	3.5
3	8	-15	16.2	4.5
-8	0	-14	15.6	2.4
-7	0	-14	32.0	27.1
-6	0	-14	7.8 *	8.1
-5	0	-14	15.3	7.2
-4	0	-14	8.1 *	8.7
-3	0	-14	26.0	24.6
-2	0	-14	8.0 *	13.6
-1	0	-14	7.9 *	9.0
0	0	-14	14.7	17.8
1	0	-14	82.1	83.3
2	0	-14	37.1	33.7
3	0	-14	41.5	37.7
4	0	-14	55.4	50.7
5	0	-14	58.5	57.0
6	0	-14	41.2	42.1
7	0	-14	40.8	43.6
8	0	-14	24.3	24.9
9	0	-14	53.7	43.9
10	0	-14	71.4	67.7
1	1	-14	97.9	104.2
2	1	-14	8.0 *	0.7
3	1	-14	61.7	67.0
4	1	-14	46.7	53.1
5	1	-14	39.1	38.8
6	1	-14	23.9	26.1
7	1	-14	40.6	44.1
8	1	-14	7.9 *	20.8

BAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
9	1	-14	24.7	22.0
10	1	-14	39.6	39.6
1	2	-14	26.2	24.9
2	2	-14	8.2 *	15.9
3	2	-14	19.4	7.8
4	2	-14	17.9	28.6
5	2	-14	32.4	36.1
6	2	-14	37.7	40.8
7	2	-14	17.5	10.0
8	2	-14	7.6 *	15.7
9	2	-14	34.2	34.4
10	2	-14	20.9	16.0
1	3	-14	30.3	12.8
2	3	-14	36.9	12.5
3	3	-14	8.3 *	16.2
4	3	-14	19.0	22.2
5	3	-14	7.9 *	24.6
6	3	-14	8.2 *	17.5
7	3	-14	7.8 *	15.5
8	3	-14	19.9	12.2
9	3	-14	7.9 *	9.1
10	3	-14	7.9 *	10.2
1	4	-14	8.1 *	16.0
2	4	-14	8.0 *	7.0
3	4	-14	21.8	22.4
4	4	-14	19.8	24.3
5	4	-14	15.9	20.4
6	4	-14	7.8 *	9.5
7	4	-14	21.2	20.1
8	4	-14	7.7 *	2.4
9	4	-14	27.5	23.5
1	5	-14	27.4	27.8
2	5	-14	37.6	42.9
3	5	-14	79.6	84.0
4	5	-14	28.5	29.5
5	5	-14	45.8	46.6
6	5	-14	42.3	41.5
7	5	-14	16.1	15.8
8	5	-14	7.9 *	6.8
1	6	-14	40.2	40.3
2	6	-14	23.5	17.4
3	6	-14	29.3	19.0
4	6	-14	53.9	53.5
5	6	-14	38.0	31.8
6	6	-14	40.3	34.3
7	6	-14	8.2 *	17.7
8	6	-14	8.0 *	1.1
1	7	-14	84.6	83.1
2	7	-14	24.3	24.4
3	7	-14	18.4	19.5
4	7	-14	44.8	48.0
5	7	-14	8.5 *	20.7
6	7	-14	8.3 *	15.7

ONBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
7	7	-14	34.5	32.2
1	8	-14	38.9	32.6
2	8	-14	24.0	24.8
3	8	-14	8.3 *	1.6
4	8	-14	18.0	14.3
5	8	-14	8.5 *	19.2
1	1	-13	61.0	63.2
2	1	-13	25.7	29.3
3	1	-13	8.1 *	3.8
4	1	-13	38.1	42.6
5	1	-13	19.5	15.7
6	1	-13	16.5	12.7
7	1	-13	25.2	30.6
8	1	-13	28.2	17.1
9	1	-13	14.1	8.2
10	1	-13	7.9 *	11.9
1	2	-13	57.2	59.0
2	2	-13	40.9	38.6
3	2	-13	37.3	38.8
4	2	-13	120.2	132.3
5	2	-13	30.9	34.1
6	2	-13	18.4	16.9
7	2	-13	23.6	25.5
8	2	-13	22.5	22.4
9	2	-13	67.1	71.3
10	2	-13	63.9	60.3
1	3	-13	46.2	48.8
2	3	-13	8.0 *	0.1
3	3	-13	49.0	57.6
4	3	-13	25.5	22.4
5	3	-13	37.2	45.7
6	3	-13	45.9	51.5
7	3	-13	7.7 *	14.3
8	3	-13	28.3	32.9
9	3	-13	7.6 *	9.0
10	3	-13	7.9 *	11.9
1	4	-13	21.4	22.6
2	4	-13	7.9 *	7.2
3	4	-13	93.7	94.1
4	4	-13	73.9	73.3
5	4	-13	49.4	52.1
6	4	-13	24.3	25.6
7	4	-13	19.6	23.2
8	4	-13	7.6 *	12.1
9	4	-13	83.0	80.4
1	5	-13	31.8	33.3
2	5	-13	8.3 *	18.8
3	5	-13	8.1 *	10.9
4	5	-13	37.1	38.5
5	5	-13	7.8 *	0.5
6	5	-13	17.2	19.8
7	5	-13	7.9 *	16.9
8	5	-13	27.4	25.7

ONBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
9	5	-13	7.8 *	12.6
1	6	-13	8.3 *	11.8
2	6	-13	17.5	15.0
3	6	-13	8.1 *	9.1
4	6	-13	7.9 *	8.6
5	6	-13	19.7	16.8
6	6	-13	18.4	21.9
7	6	-13	19.4	16.8
8	6	-13	16.0	14.1
9	6	-13	7.7 *	7.2
1	7	-13	8.3 *	12.4
2	7	-13	8.2 *	4.7
3	7	-13	15.4	17.3
4	7	-13	8.0 *	16.3
5	7	-13	7.9 *	9.4
6	7	-13	17.7	15.9
7	7	-13	7.9 *	1.5
8	7	-13	7.8 *	3.3
1	8	-13	54.3	51.6
2	8	-13	8.2 *	13.8
3	8	-13	31.6	34.6
4	8	-13	73.3	71.0
5	8	-13	16.9	22.8
6	8	-13	8.1 *	2.4
1	9	-13	37.1	31.5
2	9	-13	23.7	15.2
-9	0	-12	27.4	28.7
-8	0	-12	15.7	10.4
-7	0	-12	7.7 *	2.6
-6	0	-12	57.2	53.5
-5	0	-12	202.5	198.4
-4	0	-12	134.0	133.2
-3	0	-12	171.3	165.7
-2	0	-12	69.9	60.6
-1	0	-12	164.5	159.8
0	0	-12	205.5	201.3
1	0	-12	188.0	189.9
2	0	-12	67.4	64.8
3	0	-12	7.3 *	9.2
4	0	-12	35.9	50.3
5	0	-12	167.1	171.3
6	0	-12	172.2	178.3
7	0	-12	255.3	263.2
8	0	-12	70.8	68.2
9	0	-12	35.9	37.3
10	0	-12	29.0	25.5
11	0	-12	29.6	33.5
1	1	-12	31.8	26.1
2	1	-12	7.8 *	2.3
3	1	-12	25.8	25.9
4	1	-12	42.7	43.3
5	1	-12	15.3	10.5
6	1	-12	59.5	64.1

H	K	L	F(OBS)		F(CALC)
7	1	-12	60.9		61.3
8	1	-12	7.7	*	17.9
9	1	-12	20.7		17.3
10	1	-12	21.0		17.8
1	2	-12	7.9	*	2.1
2	2	-12	41.5		35.5
3	2	-12	91.3		99.1
4	2	-12	37.0		38.3
5	2	-12	44.9		47.0
6	2	-12	16.6		20.9
7	2	-12	7.5	*	13.9
8	2	-12	18.0		15.4
9	2	-12	46.7		49.0
10	2	-12	21.1		21.3
11	2	-12	32.3		30.2
1	3	-12	23.3		16.7
2	3	-12	25.2		25.1
3	3	-12	24.1		21.1
4	3	-12	18.5		15.1
5	3	-12	7.6	*	14.7
6	3	-12	14.3		8.3
7	3	-12	7.4	*	7.5
8	3	-12	7.3	*	13.5
9	3	-12	7.7	*	11.0
10	3	-12	7.7	*	8.5
11	3	-12	7.7	*	8.2
1	4	-12	8.0	*	8.5
2	4	-12	16.3		15.2
3	4	-12	69.1		76.0
4	4	-12	56.2		54.8
5	4	-12	35.2		31.9
6	4	-12	30.7		27.4
7	4	-12	7.5	*	3.8
8	4	-12	7.6	*	1.9
9	4	-12	58.7		54.8
10	4	-12	28.1		25.1
1	5	-12	27.9		31.6
2	5	-12	14.2		11.6
3	5	-12	8.0	*	3.1
4	5	-12	7.7	*	8.3
5	5	-12	7.4	*	8.0
6	5	-12	24.5		27.5
7	5	-12	62.8		69.7
8	5	-12	16.9		4.8
9	5	-12	27.0		25.4
1	6	-12	134.3		128.1
2	6	-12	89.5		77.7
3	6	-12	22.5		33.2
4	6	-12	7.8	*	1.0
5	6	-12	92.2		90.8
6	5	-12	157.1		152.0
7	5	-12	181.9		170.6
8	6	-12	74.2		70.1

NBAUERITE AGAIN

H	K	L	F(OBS)		F(CALC)
9	6	-12	13.5		10.3
1	7	-12	22.0		12.3
2	7	-12	8.2	*	11.0
3	7	-12	8.1	*	19.9
4	7	-12	29.3		34.5
5	7	-12	7.7	*	6.8
6	7	-12	54.2		52.4
7	7	-12	26.8		27.7
8	7	-12	26.2		20.3
1	8	-12	30.2		26.0
2	8	-12	8.4	*	7.0
3	8	-12	27.3		29.0
4	8	-12	44.8		42.4
5	8	-12	7.8	*	13.3
6	8	-12	7.9	*	5.5
7	8	-12	21.5		24.4
1	9	-12	8.3	*	8.3
2	9	-12	18.7		7.9
3	9	-12	8.4	*	1.6
4	9	-12	17.1		3.6
1	1	-11	17.3		14.4
2	1	-11	13.8		3.7
3	1	-11	34.7		32.0
4	1	-11	38.4		37.5
5	1	-11	13.4		19.8
6	1	-11	39.9		47.0
7	1	-11	7.3	*	1.6
8	1	-11	7.4	*	11.1
9	1	-11	44.1		44.8
10	1	-11	28.3		30.6
11	1	-11	7.4	*	1.9
1	2	-11	87.7		95.6
2	2	-11	35.3		41.8
3	2	-11	50.2		60.2
4	2	-11	96.7		106.9
5	2	-11	16.0		13.0
6	2	-11	38.6		49.5
7	2	-11	44.5		49.3
8	2	-11	23.8		25.3
9	2	-11	16.3		11.8
10	2	-11	48.6		54.4
11	2	-11	17.4		14.5
1	3	-11	75.7		84.6
2	3	-11	41.7		46.4
3	3	-11	35.1		38.7
4	3	-11	80.9		87.7
5	3	-11	45.1		46.1
6	3	-11	61.9		71.3
7	3	-11	3.9		16.8
8	3	-11	7.3	*	2.6
9	3	-11	45.8		54.3
10	3	-11	60.5		76.4
11	3	-11	7.6	*	5.1

ONBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
1	4	-11	56.8	61.2
2	4	-11	7.7 *	6.5
3	4	-11	106.4	110.6
4	4	-11	29.8	29.4
5	4	-11	71.4	75.5
6	4	-11	82.3	88.7
7	4	-11	7.4 *	18.1
8	4	-11	7.3 *	3.5
9	4	-11	29.4	27.8
10	4	-11	24.8	27.1
1	5	-11	27.9	24.1
2	5	-11	8.2 *	19.2
3	5	-11	18.2	17.1
4	5	-11	17.8	26.2
5	5	-11	25.9	18.5
6	5	-11	42.9	46.7
7	5	-11	7.3 *	2.8
8	5	-11	7.3 *	2.4
9	5	-11	25.9	28.4
10	5	-11	31.9	29.9
1	6	-11	37.3	33.8
2	6	-11	25.6	23.8
3	6	-11	21.1	17.9
4	6	-11	7.5 *	10.2
5	6	-11	13.5	11.1
6	6	-11	29.5	29.1
7	6	-11	28.1	31.8
8	6	-11	36.9	34.7
9	6	-11	27.6	31.7
10	6	-11	23.3	20.4
1	7	-11	8.0 *	2.0
2	7	-11	7.9 *	5.4
3	7	-11	25.4	24.2
4	7	-11	25.9	29.8
5	7	-11	7.6 *	1.7
6	7	-11	7.6 *	5.5
7	7	-11	30.5	30.3
8	7	-11	20.7	13.0
9	7	-11	17.0	19.7
1	8	-11	54.9	61.2
2	8	-11	15.9	18.5
3	8	-11	40.9	40.4
4	8	-11	57.3	59.1
5	8	-11	7.5 *	2.2
6	8	-11	7.6 *	18.6
7	8	-11	39.3	41.8
1	9	-11	18.3	18.6
2	9	-11	8.4 *	1.2
3	9	-11	35.9	33.0
4	9	-11	44.1	46.2
5	9	-11	16.5	16.2
-7	0	-10	16.0	5.1
-6	0	-10	42.9	47.6

ONBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
-5	0	-10	72.9	75.9
-4	0	-10	15.1	20.6
-3	0	-10	115.7	115.3
-2	0	-10	117.6	115.7
-1	0	-10	7.4 *	6.9
0	0	-10	53.2	55.0
1	0	-10	175.8	182.8
2	0	-10	121.9	129.6
3	0	-10	6.9 *	15.5
4	0	-10	68.3	73.3
5	0	-10	6.7 *	7.5
6	0	-10	36.1	35.8
7	0	-10	7.0 *	10.3
8	0	-10	7.0 *	6.7
9	0	-10	19.8	22.1
10	0	-10	7.5 *	18.6
11	0	-10	54.1	55.3
1	1	-10	48.7	60.7
2	1	-10	57.7	60.9
3	1	-10	98.0	104.6
4	1	-10	121.8	129.8
5	1	-10	41.7	48.1
6	1	-10	70.7	74.3
7	1	-10	25.3	31.5
8	1	-10	40.9	43.0
9	1	-10	89.1	93.5
10	1	-10	74.7	76.3
11	1	-10	23.1	19.1
2	2	-10	16.8	20.1
3	2	-10	63.3	67.7
4	2	-10	7.2 *	18.8
5	2	-10	50.1	53.2
6	2	-10	45.8	49.5
7	2	-10	25.1	22.4
8	2	-10	35.9	34.7
9	2	-10	30.4	26.1
10	2	-10	32.8	29.1
11	2	-10	22.1	17.0
1	3	-10	32.3	30.4
2	3	-10	7.6 *	7.6
3	3	-10	19.1	28.9
4	3	-10	26.0	26.7
5	3	-10	7.0 *	13.8
6	3	-10	7.2 *	4.7
7	3	-10	15.2	18.5
8	3	-10	17.3	17.0
9	3	-10	7.3 *	10.4
10	3	-10	7.5 *	5.4
11	3	-10	7.5 *	0.3
1	4	-10	7.7 *	6.0
2	4	-10	7.6 *	9.4
3	4	-10	42.1	41.8
4	4	-10	7.4 *	11.5

SONBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
5	4	-10	7.3 *	17.9
6	4	-10	21.7	25.1
7	4	-10	7.1 *	11.4
8	4	-10	7.4 *	12.5
9	4	-10	7.4 *	9.3
10	4	-10	7.3 *	11.8
1	5	-10	34.1	42.9
2	5	-10	53.3	50.7
3	5	-10	58.1	63.8
4	5	-10	115.6	123.8
5	5	-10	7.4 *	14.1
6	5	-10	56.4	56.9
7	5	-10	16.9	18.7
8	5	-10	25.4	22.5
9	5	-10	86.6	91.8
10	5	-10	67.3	63.3
1	6	-10	51.4	51.7
2	6	-10	25.2	26.8
3	6	-10	35.1	31.8
4	6	-10	30.1	30.8
5	6	-10	13.2	11.9
6	6	-10	25.1	28.0
7	6	-10	7.3 *	5.9
8	6	-10	7.5 *	3.4
9	6	-10	7.6 *	0.2
10	6	-10	7.8 *	9.7
1	7	-10	22.0	30.6
2	7	-10	35.8	35.0
3	7	-10	52.5	55.6
4	7	-10	99.4	102.0
5	7	-10	7.6 *	18.7
6	7	-10	32.3	36.9
7	7	-10	7.6 *	17.7
8	7	-10	16.6	21.5
9	7	-10	59.3	64.4
1	8	-10	52.9	56.0
2	8	-10	33.5	35.8
3	8	-10	16.4	7.4
4	8	-10	18.6	20.6
5	8	-10	19.5	10.1
6	8	-10	7.4 *	11.5
7	8	-10	7.6 *	6.9
8	8	-10	7.6 *	3.5
1	9	-10	8.4 *	5.3
2	9	-10	8.2 *	12.2
3	9	-10	8.0 *	11.7
4	9	-10	7.7 *	2.2
5	9	-10	16.1	0.8
6	9	-10	7.5 *	0.6
1	1	-9	66.8	71.8
2	1	-9	47.9	53.2
3	1	-9	69.7	71.3
4	1	-9	80.6	88.9

SONBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
5	1	-9	18.7	14.3
6	1	-9	16.8	12.9
7	1	-9	32.6	37.6
8	1	-9	56.3	57.4
9	1	-9	45.1	45.7
10	1	-9	52.8	50.3
11	1	-9	7.5 *	9.7
1	2	-9	7.5 *	9.4
2	2	-9	7.2 *	16.5
3	2	-9	13.3	15.0
4	2	-9	42.1	46.0
5	2	-9	50.8	55.0
6	2	-9	78.1	82.9
7	2	-9	24.7	32.9
8	2	-9	22.0	16.0
9	2	-9	37.2	37.6
10	2	-9	18.4	4.7
11	2	-9	18.4	34.8
12	2	-9	76.3	72.9
1	3	-9	358.5	371.0
2	3	-9	219.5	239.7
3	3	-9	23.2	20.2
4	3	-9	6.8 *	9.8
5	3	-9	33.0	36.2
6	3	-9	127.3	134.8
7	3	-9	175.7	187.5
8	3	-9	63.1	66.4
9	3	-9	37.2	49.4
10	3	-9	54.6	65.3
11	3	-9	45.7	55.2
12	3	-9	86.3	105.0
1	4	-9	35.2	35.3
2	4	-9	23.7	30.4
3	4	-9	27.9	26.0
4	4	-9	27.4	26.0
5	4	-9	27.4	26.0
6	4	-9	13.9	14.6
7	4	-9	74.2	79.0
8	4	-9	19.9	12.8
9	4	-9	55.2	51.9
10	4	-9	7.4 *	10.3
11	4	-9	54.6	49.6
1	5	-9	17.2	16.3
2	5	-9	28.2	24.2
3	5	-9	52.5	53.2
4	5	-9	68.0	69.8
5	5	-9	6.9 *	1.2
6	5	-9	7.3 *	5.4
7	5	-9	21.3	27.2
8	5	-9	45.8	41.9
9	5	-9	45.8	42.6
10	5	-9	40.4	37.0
1	6	-9	25.4	26.5

SONBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
2	6	-9	17.0	14.9
3	6	-9	30.6	28.7
4	6	-9	36.0	34.1
5	6	-9	38.5	32.5
6	6	-9	41.3	39.2
7	6	-9	29.7	28.6
8	6	-9	7.3 *	11.5
9	6	-9	7.4 *	6.3
10	6	-9	7.5 *	5.7
1	7	-9	27.7	31.7
2	7	-9	7.6 *	0.9
3	7	-9	64.6	72.8
4	7	-9	47.4	48.2
5	7	-9	18.0	19.9
6	7	-9	15.7	21.1
7	7	-9	17.2	5.1
8	7	-9	17.2	16.3
9	7	-9	47.7	47.9
10	7	-9	32.5	26.6
1	8	-9	8.2 *	11.7
2	8	-9	36.6	36.8
3	8	-9	22.1	24.5
4	8	-9	28.6	35.5
5	8	-9	28.0	29.0
6	8	-9	45.4	43.3
7	8	-9	23.4	13.8
8	8	-9	28.0	26.6
1	9	-9	195.2	186.1
2	9	-9	92.7	89.4
3	9	-9	23.2	23.1
4	9	-9	23.0	25.8
5	9	-9	43.9	40.7
6	9	-9	85.7	82.9
-6	0	-8	46.3	44.8
-5	0	-8	5.7 *	2.4
-4	0	-8	6.6 *	13.6
-3	0	-8	32.8	33.8
-2	0	-8	6.8 *	2.8
-1	0	-8	102.0	98.0
0	0	-8	112.7	112.0
1	0	-8	7.1 *	2.3
2	0	-8	17.1	20.5
3	0	-8	90.6	96.0
4	0	-8	92.1	100.3
5	0	-8	51.5	55.5
6	0	-8	100.4	107.0
7	0	-8	39.7	40.2
8	0	-8	12.4	13.8
9	0	-8	123.4	125.0
10	0	-8	33.7	36.2
11	0	-8	22.3	15.4
12	0	-8	45.0	42.2
1	1	-8	122.2	129.6

SONBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
2	1	-8	63.6	68.8
3	1	-8	118.3	122.5
4	1	-8	82.8	93.7
5	1	-8	35.7	37.8
6	1	-8	49.4	53.4
7	1	-8	43.0	44.4
8	1	-8	44.7	47.0
9	1	-8	14.5	5.9
10	1	-8	42.0	44.2
11	1	-8	24.3	20.2
12	1	-8	24.5	23.2
1	2	-8	111.4	117.8
2	2	-8	89.3	100.4
3	2	-8	12.8	7.9
4	2	-8	52.3	53.1
5	2	-8	18.4	21.1
6	2	-8	36.5	44.9
7	2	-8	25.8	28.3
8	2	-8	32.2	31.8
9	2	-8	19.1	8.0
10	2	-8	47.2	50.3
11	2	-8	24.1	28.4
12	2	-8	7.9 *	5.6
1	3	-8	7.5 *	15.5
2	3	-8	26.9	23.5
3	3	-8	21.5	21.2
4	3	-8	6.7 *	13.0
5	3	-8	6.7 *	6.4
6	3	-8	6.7 *	0.4
7	3	-8	7.0 *	9.6
8	3	-8	28.3	17.8
9	3	-8	17.7	19.8
10	3	-8	7.4 *	14.4
11	3	-8	15.7	11.5
12	3	-8	7.5 *	4.3
1	4	-8	7.4 *	5.5
2	4	-8	15.4	10.9
3	4	-8	23.1	25.4
4	4	-8	77.8	84.0
5	4	-8	29.2	29.4
6	4	-8	6.7 *	3.1
7	4	-8	35.2	36.4
8	4	-8	17.1	14.6
9	4	-8	30.5	31.7
10	4	-8	27.8	30.0
11	4	-8	21.3	17.1
1	5	-8	39.3	44.6
2	5	-8	24.5	17.6
3	5	-8	111.9	118.4
4	5	-8	46.8	52.4
5	5	-8	37.9	42.3
6	5	-8	69.8	77.5
7	5	-8	15.4	3.6

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
8	5	-8	7.1 *	1.8
9	5	-8	37.0	40.3
10	5	-8	18.4	15.3
11	5	-8	14.9	10.3
1	6	-8	76.9	80.6
2	6	-8	60.2	64.9
3	6	-8	55.3	54.9
4	6	-8	52.9	53.9
5	6	-8	45.1	48.4
6	6	-8	63.2	65.3
7	6	-8	7.0 *	7.7
8	6	-8	40.0	35.6
9	6	-8	53.5	53.0
10	6	-8	56.3	52.9
11	6	-8	16.4	22.3
1	7	-8	63.5	64.2
2	7	-8	14.1	16.9
3	7	-8	76.7	80.5
4	7	-8	72.1	72.4
5	7	-8	7.0 *	2.3
6	7	-8	7.2 *	1.0
7	7	-8	45.3	45.9
8	7	-8	28.5	33.1
9	7	-8	7.4 *	8.9
10	7	-8	28.2	27.1
1	8	-8	30.6	33.4
2	8	-8	27.1	27.4
3	8	-8	34.0	31.6
4	8	-8	21.2	0.9
5	8	-8	37.1	36.1
6	8	-8	49.5	50.2
7	8	-8	16.3	6.2
8	8	-8	7.3 *	0.7
9	8	-8	15.3	19.3
1	9	-8	15.7	2.4
2	9	-8	8.5 *	16.3
3	9	-8	22.2	25.2
4	9	-8	31.7	29.5
5	9	-8	25.1	26.3
6	9	-8	7.3 *	5.1
7	9	-8	7.6 *	2.0
1	1	-7	40.0	42.0
2	1	-7	39.7	39.4
3	1	-7	6.3 *	4.0
4	1	-7	73.3	79.8
5	1	-7	42.4	44.7
6	1	-7	17.3	22.9
7	1	-7	19.4	19.0
8	1	-7	25.4	23.6
9	1	-7	19.6	20.8
10	1	-7	7.4 *	20.5
11	1	-7	40.2	33.1
12	1	-7	7.9 *	18.5

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
1	2	-7	33.9	38.0
2	2	-7	41.9	44.0
3	2	-7	163.7	179.3
4	2	-7	139.9	156.9
5	2	-7	17.8	21.2
6	2	-7	68.7	71.7
7	2	-7	20.5	21.0
8	2	-7	7.1 *	17.6
9	2	-7	113.1	118.9
10	2	-7	49.9	46.8
11	2	-7	7.5 *	5.0
12	2	-7	24.7	22.5
1	3	-7	15.6	19.0
2	3	-7	6.5 *	12.5
3	3	-7	72.4	80.5
4	3	-7	29.9	31.6
5	3	-7	22.6	20.0
6	3	-7	70.7	78.1
7	3	-7	29.1	27.5
8	3	-7	41.7	43.6
9	3	-7	15.8	19.0
10	3	-7	20.6	17.9
11	3	-7	7.5 *	6.7
12	3	-7	7.6 *	6.4
1	4	-7	84.8	89.5
2	4	-7	96.7	102.4
3	4	-7	83.9	90.7
4	4	-7	147.3	157.6
5	4	-7	6.6 *	7.9
6	4	-7	55.9	56.9
7	4	-7	15.6	20.9
8	4	-7	39.9	41.0
9	4	-7	79.0	82.5
10	4	-7	64.3	64.4
11	4	-7	13.7	13.4
1	5	-7	80.5	85.5
2	5	-7	56.2	56.4
3	5	-7	18.5	2.2
4	5	-7	6.6 *	13.4
5	5	-7	35.1	34.4
6	5	-7	33.9	34.7
7	5	-7	7.1 *	13.7
8	5	-7	7.0 *	0.9
9	5	-7	18.2	13.8
10	5	-7	18.5	10.8
11	5	-7	24.3	17.8
1	6	-7	32.9	39.3
2	6	-7	12.6	9.2
3	6	-7	17.4	1.6
4	6	-7	6.8 *	8.4
5	6	-7	7.1 *	16.7
6	6	-7	24.2	25.9
7	6	-7	38.9	34.7

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
8	6	-7	25.1	27.5
9	6	-7	17.1	14.1
10	6	-7	7.4 *	9.6
11	6	-7	7.7 *	4.7
1	7	-7	8.3 *	9.5
2	7	-7	7.3 *	6.6
3	7	-7	43.9	42.8
4	7	-7	14.3	9.0
5	7	-7	19.7	8.2
6	7	-7	7.0 *	0.1
7	7	-7	7.2 *	2.7
8	7	-7	7.2 *	8.1
9	7	-7	7.3 *	8.0
10	7	-7	19.8	9.3
1	8	-7	27.2	30.8
2	8	-7	25.5	26.0
3	8	-7	102.5	106.1
4	8	-7	71.1	74.1
5	8	-7	29.7	26.0
6	8	-7	52.4	48.9
7	8	-7	19.0	21.6
8	8	-7	14.9	21.7
9	8	-7	60.4	62.1
1	9	-7	36.8	41.4
2	9	-7	40.1	38.6
3	9	-7	16.6	10.8
4	9	-7	46.6	42.1
5	9	-7	7.3 *	13.1
6	9	-7	7.4 *	14.7
7	9	-7	7.5 *	12.4
-5	0	-6	344.2	357.6
-4	0	-6	223.1	221.4
-3	0	-6	14.8	2.0
-2	0	-6	70.8	73.1
-1	0	-6	46.7	29.7
0	0	-6	316.4	335.4
1	0	-6	244.1	267.0
2	0	-6	323.0	340.5
3	0	-6	173.8	173.7
4	0	-6	178.2	192.8
5	0	-6	241.8	262.5
6	0	-6	212.7	228.9
7	0	-6	132.0	139.7
8	0	-6	13.6	12.1
9	0	-6	31.7	29.0
10	0	-6	34.2	41.4
11	0	-6	89.3	88.5
12	0	-6	147.2	139.8
1	1	-6	13.6	13.9
2	1	-6	34.4	33.7
3	1	-6	10.8	2.3
5	1	-6	26.7	28.9
6	1	-6	66.5	72.7

ONBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
7	1	-6	36.1	37.0
8	1	-6	6.8 *	11.0
9	1	-6	7.0 *	1.5
10	1	-6	7.1 *	3.1
11	1	-6	51.1	57.2
12	1	-6	33.0	36.8
1	2	-6	17.4	1.0
2	2	-6	55.5	61.8
3	2	-6	59.4	60.7
4	2	-6	125.5	139.2
5	2	-6	21.8	23.7
6	2	-6	21.6	24.2
7	2	-6	21.5	21.5
9	2	-6	46.5	48.4
10	2	-6	48.1	50.8
11	2	-6	7.3 *	12.3
12	2	-6	7.7 *	4.1
1	3	-6	30.4	31.1
2	3	-6	20.8	20.9
3	3	-6	19.2	23.6
4	3	-6	30.2	37.5
5	3	-6	42.1	46.8
6	3	-6	37.1	41.3
7	3	-6	28.0	29.3
8	3	-6	24.5	25.7
9	3	-6	23.5	24.8
10	3	-6	18.1	20.4
11	3	-6	7.5 *	19.3
12	3	-6	26.6	13.4
1	4	-6	37.6	36.6
2	4	-6	39.9	39.5
3	4	-6	78.5	86.5
4	4	-6	85.6	86.6
5	4	-6	6.4 *	11.7
6	4	-6	22.6	19.9
7	4	-6	15.9	13.6
8	4	-6	39.4	36.9
9	4	-6	62.8	66.0
10	4	-6	25.8	30.0
11	4	-6	7.1 *	11.5
1	5	-6	52.6	57.1
2	5	-6	25.0	32.0
3	5	-6	39.4	40.0
4	5	-6	6.4 *	0.3
5	5	-6	54.2	55.5
6	5	-6	30.3	33.1
7	5	-6	61.1	61.8
8	5	-6	33.1	30.9
9	5	-6	19.5	18.7
10	5	-6	33.7	29.1
11	5	-6	68.0	69.7
1	6	-6	197.5	204.8
2	6	-6	157.4	159.4

ONBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
3	6	-6	119.7	122.1
4	6	-6	88.3	86.3
5	6	-6	167.0	169.9
7	6	-6	87.9	85.9
8	6	-6	7.0 *	5.8
9	6	-6	7.4 *	14.3
10	6	-6	18.7	18.2
11	6	-6	85.0	80.0
1	7	-6	38.9	42.0
2	7	-6	78.4	84.9
3	7	-6	52.3	58.3
4	7	-6	58.1	60.0
5	7	-6	6.8 *	0.1
6	7	-6	52.5	46.0
7	7	-6	13.5	15.2
8	7	-6	6.9 *	7.1
9	7	-6	7.3 *	16.1
10	7	-6	21.2	19.7
1	8	-6	16.2	13.7
2	8	-6	7.6 *	6.6
3	8	-6	59.8	60.8
4	8	-6	51.4	53.0
5	8	-6	6.9 *	1.8
6	8	-6	7.2 *	14.5
7	8	-6	20.8	14.0
8	8	-6	27.7	25.6
9	8	-6	32.3	33.0
1	9	-6	8.4 *	15.0
2	9	-6	15.2	16.0
3	9	-6	24.8	9.8
4	9	-6	15.1	10.7
5	9	-6	20.3	17.0
6	9	-6	21.1	15.6
7	9	-6	20.2	11.7
1	1	-5	6.5 *	10.8
2	1	-5	31.6	28.2
3	1	-5	70.6	76.5
4	1	-5	5.9 *	1.0
5	1	-5	86.8	88.6
6	1	-5	129.5	137.7
7	1	-5	66.0	66.2
8	1	-5	13.1	10.5
9	1	-5	59.9	60.9
10	1	-5	21.1	22.9
11	1	-5	7.4 *	14.4
12	1	-5	48.4	44.2
1	2	-5	99.8	106.2
2	2	-5	147.4	156.4
3	2	-5	57.7	65.0
4	2	-5	101.0	108.3
5	2	-5	13.0	11.1
6	2	-5	88.4	95.0
7	2	-5	6.5 *	1.8

ONBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
8	2	-5	47.5	52.2
9	2	-5	28.5	32.6
10	2	-5	35.2	38.0
11	2	-5	27.3	22.9
12	2	-5	18.4	21.7
1	3	-5	72.7	77.9
2	3	-5	115.1	127.1
3	3	-5	32.2	34.1
5	3	-5	35.7	35.6
6	3	-5	76.8	84.1
7	3	-5	6.7 *	0.4
8	3	-5	74.9	77.2
9	3	-5	83.5	86.8
10	3	-5	90.8	102.5
11	3	-5	45.4	50.8
12	3	-5	26.3	24.4
1	4	-5	48.3	48.8
2	4	-5	35.2	39.2
4	4	-5	48.3	44.8
5	4	-5	16.7	10.0
6	4	-5	47.4	50.4
7	4	-5	38.4	38.1
8	4	-5	69.2	74.3
9	4	-5	18.0	19.7
10	4	-5	32.4	31.0
11	4	-5	7.3 *	3.2
1	5	-5	27.0	22.2
2	5	-5	24.9	26.5
3	5	-5	42.6	44.0
4	5	-5	21.5	23.6
5	5	-5	26.0	21.6
6	5	-5	54.8	62.5
7	5	-5	23.1	25.2
8	5	-5	7.0 *	9.3
9	5	-5	36.7	38.7
10	5	-5	17.7	21.3
11	5	-5	17.8	21.0
1	6	-5	13.2	4.7
2	6	-5	17.3	0.5
3	6	-5	6.4 *	1.4
4	6	-5	6.3 *	2.7
5	6	-5	6.6 *	7.7
6	6	-5	6.8 *	12.7
7	6	-5	22.2	20.0
8	6	-5	17.8	17.1
9	6	-5	7.2 *	14.8
10	6	-5	7.4 *	8.2
11	6	-5	7.7 *	7.2
1	7	-5	7.7 *	0.2
2	7	-5	7.1 *	1.6
3	7	-5	34.8	38.6
4	7	-5	53.0	55.7
5	7	-5	30.6	30.5

ONBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
6	7	-5	6.8 *	5.5
7	7	-5	32.3	31.7
8	7	-5	28.3	25.2
9	7	-5	37.9	38.1
10	7	-5	13.5	13.4
11	7	-5	7.9 *	12.7
1	8	-5	19.2	23.0
2	8	-5	20.7	27.1
3	8	-5	78.9	82.6
5	8	-5	6.8 *	10.3
6	8	-5	36.1	38.5
7	8	-5	7.0 *	7.3
8	8	-5	23.9	21.9
9	8	-5	33.9	32.1
1	9	-5	18.2	12.4
2	9	-5	7.6 *	16.2
3	9	-5	78.3	77.5
4	9	-5	23.2	20.5
5	9	-5	25.1	25.8
6	9	-5	66.9	65.4
7	9	-5	7.1 *	9.0
8	9	-5	33.6	31.9
-4	0	-4	73.0	71.9
-3	0	-4	89.3	98.1
-2	0	-4	190.0	188.9
2	0	-4	72.0	85.4
3	0	-4	89.0	90.0
4	0	-4	38.2	34.3
5	0	-4	5.7 *	4.3
6	0	-4	5.9 *	12.5
7	0	-4	38.2	39.0
8	0	-4	6.5 *	4.1
9	0	-4	27.1	27.4
10	0	-4	13.6	12.2
11	0	-4	7.2 *	17.1
12	0	-4	15.3	14.0
2	1	-4	143.4	147.4
3	1	-4	138.7	153.1
4	1	-4	128.0	136.8
5	1	-4	45.1	47.3
6	1	-4	119.1	122.0
7	1	-4	45.4	45.2
8	1	-4	55.9	64.4
9	1	-4	122.1	124.0
10	1	-4	39.4	42.8
11	1	-4	29.4	26.3
12	1	-4	42.4	41.8
2	2	-4	54.8	58.2
3	2	-4	36.2	38.9
4	2	-4	14.3	13.2
5	2	-4	30.8	36.3
7	2	-4	31.3	30.8
8	2	-4	21.8	22.6

ONBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
9	2	-4	13.3	19.5
10	2	-4	15.7	1.8
11	2	-4	7.3 *	0.8
12	2	-4	17.1	5.3
2	3	-4	52.0	54.5
3	3	-4	49.4	51.2
4	3	-4	29.8	32.4
5	3	-4	16.4	18.5
6	3	-4	16.5	15.1
7	3	-4	6.6 *	10.0
8	3	-4	14.7	12.5
9	3	-4	18.8	15.9
10	3	-4	17.4	14.5
11	3	-4	16.1	15.4
12	3	-4	14.3	17.0
13	3	-4	14.2	16.3
2	4	-4	10.3	6.3
3	4	-4	43.0	51.5
4	4	-4	6.0 *	14.8
5	4	-4	6.2 *	10.7
6	4	-4	11.5	12.2
7	4	-4	6.6 *	3.4
8	4	-4	6.8 *	3.4
9	4	-4	7.2 *	12.3
10	4	-4	7.2 *	6.1
11	4	-4	7.4 *	5.1
12	4	-4	7.6 *	5.6
1	5	-4	130.9	143.0
2	5	-4	132.4	146.9
3	5	-4	83.6	90.5
4	5	-4	122.3	129.6
5	5	-4	13.7	4.0
6	5	-4	29.7	32.2
7	5	-4	28.0	28.2
8	5	-4	104.9	109.0
9	5	-4	53.0	55.7
10	5	-4	62.0	61.3
11	5	-4	42.8	43.4
1	6	-4	39.6	44.2
2	6	-4	29.3	34.7
3	6	-4	61.1	62.8
4	6	-4	18.7	20.5
5	6	-4	6.4 *	0.5
6	6	-4	27.0	22.8
7	6	-4	19.4	6.5
8	6	-4	7.0 *	14.1
9	6	-4	25.2	8.9
10	6	-4	7.4 *	10.5
11	6	-4	15.6	17.2
1	7	-4	7.4 *	16.6
2	7	-4	63.7	66.2
3	7	-4	89.2	94.6
4	7	-4	84.0	87.5

ONBAUERITE AGAIN

H	K	L	F(OBS)		F(CALC)
5	7	-4	6.7	*	12.8
6	7	-4	81.4		82.3
7	7	-4	43.4		40.8
8	7	-4	7.0	*	14.1
9	7	-4	111.9		110.4
10	7	-4	7.4	*	10.3
11	7	-4	7.5	*	1.5
1	8	-4	49.7		55.3
2	8	-4	31.6		34.5
3	8	-4	15.0		13.4
4	8	-4	7.0	*	5.8
5	8	-4	22.5		20.3
6	8	-4	24.1		21.0
7	8	-4	7.0	*	4.8
8	8	-4	7.2	*	8.7
9	8	-4	14.3		10.7
1	9	-4	7.6	*	4.5
2	9	-4	34.3		35.5
3	9	-4	43.6		47.9
4	9	-4	36.4		36.0
5	9	-4	17.9		18.6
6	9	-4	7.3	*	5.7
7	9	-4	7.1	*	9.5
8	9	-4	18.1		6.2
3	1	-3	181.5		191.7
4	1	-3	35.8		46.4
5	1	-3	34.7		30.2
6	1	-3	59.9		64.9
7	1	-3	38.2		34.0
8	1	-3	27.4		29.0
9	1	-3	86.3		86.4
10	1	-3	12.3		14.6
11	1	-3	7.2	*	12.0
12	1	-3	23.3		18.4
3	2	-3	96.9		100.4
4	2	-3	59.6		59.9
5	2	-3	55.3		59.2
7	2	-3	105.2		114.6
8	2	-3	6.8	*	0.1
9	2	-3	17.0		13.1
10	2	-3	23.3		19.3
11	2	-3	14.6		17.2
12	2	-3	75.4		74.4
13	2	-3	16.8		18.7
3	3	-3	5.6	*	13.7
4	3	-3	30.1		23.4
8	3	-3	53.6		58.0
9	3	-3	7.1	*	9.1
10	3	-3	7.0	*	6.8
11	3	-3	61.1		75.7
12	3	-3	48.4		66.2
13	3	-3	42.4		57.3
3	4	-3	42.0		41.5

IBAUERITE AGAIN

H	K	L	F(OBS)		F(CALC)
4	4	-3	5.8	*	1.7
5	4	-3	66.5		71.8
6	4	-3	76.2		80.9
8	4	-3	28.1		27.1
9	4	-3	32.4		29.9
10	4	-3	36.4		32.7
11	4	-3	58.4		58.2
12	4	-3	41.8		45.1
1	5	-3	23.0		26.2
2	5	-3	20.5		21.4
3	5	-3	94.2		98.5
4	5	-3	69.6		71.1
5	5	-3	6.3	*	11.0
6	5	-3	6.5	*	2.9
7	5	-3	16.5		9.1
8	5	-3	41.2		42.7
9	5	-3	54.1		57.8
10	5	-3	7.1	*	7.4
11	5	-3	17.2		16.7
1	6	-3	21.5		28.7
2	6	-3	19.2		11.7
3	6	-3	16.5		13.3
4	6	-3	29.0		28.2
5	6	-3	20.7		18.8
6	6	-3	26.0		17.5
7	6	-3	19.8		18.3
8	6	-3	12.4		1.7
9	6	-3	7.2	*	0.5
10	6	-3	7.5	*	9.4
11	6	-3	7.5	*	9.0
1	7	-3	27.9		27.9
2	7	-3	63.6		58.2
3	7	-3	62.7		65.1
4	7	-3	56.2		65.0
5	7	-3	17.2		15.8
6	7	-3	16.5		25.3
7	7	-3	16.9		3.2
8	7	-3	39.6		35.8
9	7	-3	51.4		49.6
10	7	-3	26.0		22.9
11	7	-3	7.4	*	4.6
1	8	-3	7.1	*	10.3
2	8	-3	6.7	*	10.9
3	8	-3	20.4		18.1
4	8	-3	7.2	*	14.1
5	8	-3	7.0	*	5.3
6	8	-3	81.7		81.7
7	8	-3	21.9		23.9
8	8	-3	24.5		30.8
9	8	-3	18.8		16.7
1	9	-3	87.6		82.2
2	9	-3	26.8		22.7
3	9	-3	34.4		37.0

OMBAUERITE AGAIN

H	K	L	F(OBS)		F(CALC)
4	9	-3	53.0		52.4
5	9	-3	136.7		133.7
6	9	-3	178.9		177.8
7	9	-3	116.7		108.9
8	9	-3	53.3		46.0
-4	0	-2	15.2		15.5
-3	0	-2	110.1		117.5
3	0	-2	225.4		240.4
4	0	-2	40.5		40.8
5	0	-2	44.5		45.8
6	0	-2	152.5		156.5
7	0	-2	26.9		27.5
8	0	-2	32.2		38.5
9	0	-2	132.0		134.4
10	0	-2	42.8		41.8
11	0	-2	7.2	*	7.8
12	0	-2	40.0		37.2
4	1	-2	81.2		84.8
5	1	-2	48.9		51.7
6	1	-2	49.7		57.5
7	1	-2	39.1		40.0
8	1	-2	54.2		56.8
9	1	-2	32.5		34.0
10	1	-2	28.6		26.8
11	1	-2	17.1		6.6
12	1	-2	30.1		25.2
3	2	-2	13.7		2.2
4	2	-2	79.5		82.7
5	2	-2	49.8		47.7
6	2	-2	35.6		40.1
7	2	-2	11.9		11.1
8	2	-2	46.7		50.6
9	2	-2	27.0		28.6
10	2	-2	58.3		56.0
11	2	-2	51.1		51.6
12	2	-2	7.8	*	2.3
13	2	-2	7.7	*	14.4
3	3	-2	72.6		72.1
4	3	-2	54.3		55.5
5	3	-2	16.4		21.1
6	3	-2	6.3	*	12.0
7	3	-2	6.4	*	8.6
8	3	-2	12.5		15.5
9	3	-2	21.6		23.6
10	3	-2	19.7		21.9
11	3	-2	7.3	*	9.4
12	3	-2	7.3	*	1.5
13	3	-2	7.9	*	3.3
3	4	-2	42.6		43.6
4	4	-2	52.8		59.3
5	4	-2	29.1		37.3
6	4	-2	15.1		20.9
7	4	-2	30.0		32.6

EBAUERITE AGAIN

H	K	L	F(OBS)		F(CALC)
8	4	-2	53.9		52.9
9	4	-2	36.6		35.8
10	4	-2	27.7		29.2
11	4	-2	24.4		24.0
12	4	-2	16.4		12.9
2	5	-2	79.4		87.8
4	5	-2	86.0		90.6
5	5	-2	49.0		54.2
6	5	-2	36.3		37.6
7	5	-2	29.0		29.1
8	5	-2	45.3		49.0
9	5	-2	19.8		21.9
10	5	-2	26.8		28.4
11	5	-2	18.7		21.5
1	6	-2	43.7		51.0
2	6	-2	75.7		76.7
4	6	-2	54.6		58.3
5	6	-2	6.3	*	1.9
6	6	-2	79.1		81.8
7	6	-2	15.6		1.1
8	6	-2	50.5		53.5
9	6	-2	74.1		70.0
10	6	-2	60.1		59.1
11	6	-2	34.1		31.2
1	7	-2	21.0		21.3
2	7	-2	31.7		35.6
4	7	-2	40.3		38.6
5	7	-2	6.4	*	2.9
6	7	-2	62.8		66.0
7	7	-2	6.8	*	1.1
8	7	-2	7.3	*	18.0
9	7	-2	37.5		29.0
10	7	-2	24.7		19.8
11	7	-2	7.5	*	3.5
1	8	-2	6.5	*	15.6
2	8	-2	28.5		27.4
3	8	-2	38.9		43.7
4	8	-2	6.8	*	5.7
5	8	-2	12.9		12.7
6	8	-2	57.0		55.7
7	8	-2	23.3		23.6
8	8	-2	7.2	*	7.2
9	8	-2	35.6		34.6
1	9	-2	13.6		6.3
2	9	-2	6.6	*	16.8
3	9	-2	18.3		4.1
4	9	-2	7.0	*	8.6
5	9	-2	7.3	*	9.0
6	9	-2	25.0		26.5
7	9	-2	21.4		23.2
8	9	-2	19.7		17.1
3	1	-1	69.0		73.3
4	1	-1	5.7	*	10.6

ONBAUERITE AGAIN

H	K	L	F(OBS)		F(CALC)
5	1	-1	20.8		23.1
6	1	-1	30.2		27.2
7	1	-1	6.4	*	0.5
8	1	-1	6.6	*	4.9
9	1	-1	13.9		6.4
10	1	-1	16.5		11.3
11	1	-1	7.3	*	9.9
12	1	-1	7.3	*	4.2
3	2	-1	172.2		184.0
4	2	-1	77.9		87.2
5	2	-1	5.8	*	8.6
7	2	-1	63.1		66.4
8	2	-1	70.4		76.1
9	2	-1	137.8		141.6
10	2	-1	49.2		49.4
11	2	-1	24.3		22.3
12	2	-1	47.3		42.3
13	2	-1	19.6		11.9
3	3	-1	60.6		64.7
4	3	-1	5.7	*	1.0
5	3	-1	5.9	*	2.2
6	3	-1	36.5		38.6
7	3	-1	6.5	*	7.9
8	3	-1	16.4		15.6
9	3	-1	35.0		37.9
10	3	-1	7.1	*	3.9
11	3	-1	17.4		17.3
12	3	-1	7.5	*	6.3
13	3	-1	7.9	*	9.2
6	4	-1	58.6		56.8
7	4	-1	22.8		21.5
8	4	-1	71.3		73.4
9	4	-1	106.8		108.0
10	4	-1	68.0		66.3
11	4	-1	63.8		56.0
12	4	-1	7.5	*	4.4
2	5	-1	56.1		65.2
3	5	-1	6.2	*	15.7
4	5	-1	35.2		38.8
5	5	-1	6.3	*	17.0
6	5	-1	51.1		53.8
7	5	-1	22.5		25.1
8	5	-1	20.9		21.0
9	5	-1	15.6		13.3
10	5	-1	14.7		15.2
11	5	-1	7.6	*	7.9
2	6	-1	34.8		31.9
3	6	-1	6.4	*	13.5
4	6	-1	21.3		21.8
5	6	-1	39.8		36.8
6	6	-1	53.3		52.2
7	6	-1	65.9		66.7
8	6	-1	60.3		58.4

NBAUERITE AGAIN

H	K	L	F(OBS)		F(CALC)
9	6	-1	34.1		34.5
10	6	-1	13.1		16.8
11	6	-1	7.6	*	7.7
2	7	-1	6.2	*	10.2
3	7	-1	42.1		45.4
4	7	-1	14.8		15.3
5	7	-1	25.1		26.7
6	7	-1	6.7	*	20.7
7	7	-1	6.9	*	10.0
8	7	-1	7.0	*	3.0
9	7	-1	7.0	*	0.5
10	7	-1	13.9		13.2
11	7	-1	7.5	*	2.0
2	8	-1	45.2		52.8
3	8	-1	114.3		118.2
4	8	-1	32.9		34.1
5	8	-1	23.2		12.7
6	8	-1	72.3		74.7
7	8	-1	31.2		28.2
8	8	-1	49.0		46.1
9	8	-1	96.6		96.8
-12	0	0	88.3		92.7
2	9	-1	31.6		30.0
3	9	-1	26.2		21.6
4	9	-1	7.1	*	13.0
5	9	-1	7.1	*	3.2
6	9	-1	27.2		31.2
7	9	-1	17.3		14.5
8	9	-1	7.3	*	11.8
-4	0	0	178.0		162.7
3	1	0	36.4		41.8
4	1	0	41.5		38.6
5	1	0	88.6		88.8
6	1	0	36.4		39.2
7	1	0	67.0		69.8
8	1	0	13.9		19.2
9	1	0	7.2	*	21.4
10	1	0	31.4		33.7
11	1	0	71.4		73.6
12	1	0	56.0		58.7
3	2	0	51.4		56.6
4	2	0	113.1		115.6
5	2	0	54.5		61.7
6	2	0	6.1	*	1.7
7	2	0	6.5	*	14.8
8	2	0	102.8		107.6
9	2	0	36.0		34.3
10	2	0	55.2		57.7
11	2	0	22.7		20.3
12	2	0	7.5	*	8.3
13	2	0	7.7	*	0.3
3	3	0	21.6		21.4
4	3	0	17.3		14.9

NBAUERITE AGAIN

H	K	L	F(OBS)		F(CALC)
5	3	0	5.8	*	9.3
6	3	0	20.8		20.9
7	3	0	29.0		28.2
8	3	0	26.4		31.5
9	3	0	25.0		21.2
10	3	0	6.9	*	5.4
11	3	0	7.3	*	5.8
12	3	0	14.3		10.9
13	3	0	7.8	*	9.7
3	4	0	38.5		36.5
5	4	0	65.0		67.6
6	4	0	11.2		12.7
7	4	0	26.2		21.4
8	4	0	53.8		54.0
9	4	0	61.0		60.8
10	4	0	37.3		36.7
11	4	0	18.2		19.4
12	4	0	7.6	*	12.7
3	5	0	45.7		47.3
4	5	0	6.0	*	9.4
5	5	0	44.9		42.3
6	5	0	32.6		29.4
7	5	0	60.9		64.4
8	5	0	13.8		0.2
9	5	0	22.1		16.5
10	5	0	33.5		35.0
11	5	0	50.4		52.7
3	6	0	17.9		19.9
4	6	0	16.0		11.0
5	6	0	124.7		125.0
8	6	0	58.7		57.1
9	6	0	37.3		42.2
10	6	0	79.4		77.5
11	6	0	79.8		78.7
2	7	0	12.4		8.3
3	7	0	20.8		24.9
4	7	0	6.8	*	6.9
5	7	0	22.9		25.9
6	7	0	58.0		52.7
7	7	0	41.1		39.2
8	7	0	12.7		5.5
9	7	0	21.2		23.3
10	7	0	7.5	*	18.1
11	7	0	47.0		45.2
2	8	0	21.3		20.9
3	8	0	59.1		56.8
4	8	0	36.7		36.3
5	8	0	15.0		11.5
6	8	0	16.2		22.8
7	8	0	26.0		23.1
8	8	0	23.7		27.5
9	8	0	61.3		55.8
2	9	0	11.9		7.8

NBAUERITE AGAIN

H	K	L	F(OBS)		F(CALC)
3	9	0	6.6	*	7.7
4	9	0	6.8	*	4.2
5	9	0	16.4		12.2
6	9	0	6.9	*	6.8
7	9	0	7.2	*	1.7
8	9	0	7.2	*	8.9
3	1	1	110.2		115.7
4	1	1	14.8		6.5
5	1	1	5.8	*	7.2
6	1	1	69.6		70.1
7	1	1	6.5	*	14.3
8	1	1	25.9		34.0
9	1	1	51.5		50.6
10	1	1	7.1	*	1.0
11	1	1	15.3		16.8
12	1	1	23.8		29.4
4	2	1	24.2		26.9
5	2	1	6.0	*	14.7
6	2	1	41.9		45.0
7	2	1	6.5	*	4.9
8	2	1	48.2		50.1
9	2	1	32.4		36.3
10	2	1	12.3		12.1
11	2	1	7.2	*	3.1
12	2	1	31.3		29.1
3	3	1	81.6		89.8
4	3	1	93.0		90.4
5	3	1	19.5		14.5
6	3	1	93.2		98.4
7	3	1	49.1		50.5
8	3	1	98.9		106.1
9	3	1	52.5		53.8
10	3	1	49.3		53.1
11	3	1	65.8		76.6
12	3	1	17.7		21.1
13	3	1	24.9		25.9
3	4	1	84.8		91.2
4	4	1	103.8		110.5
5	4	1	67.7		66.6
6	4	1	16.9		15.6
7	4	1	55.3		53.7
8	4	1	85.7		86.4
9	4	1	7.0	*	3.5
10	4	1	21.6		18.3
11	4	1	19.2		23.8
12	4	1	7.6	*	6.0
2	5	1	57.0		54.7
3	5	1	35.9		34.6
4	5	1	42.1		41.3
5	5	1	16.1		13.3
6	5	1	55.4		57.2
7	5	1	23.0		23.6
8	5	1	7.1	*	22.8

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
9	5	1	29.9	26.6
10	5	1	7.4 *	18.0
11	5	1	32.2	28.1
2	6	1	48.5	48.4
3	6	1	47.1	44.2
4	6	1	39.6	41.8
5	6	1	41.5	44.0
6	6	1	24.1	23.0
7	6	1	6.8 *	8.4
8	6	1	6.9 *	1.8
9	6	1	6.9 *	4.1
10	6	1	7.3 *	5.0
11	6	1	19.0	20.5
2	7	1	47.9	53.0
3	7	1	36.9	36.6
4	7	1	26.5	30.2
5	7	1	6.5 *	8.0
6	7	1	36.8	38.8
7	7	1	15.5	0.8
8	7	1	35.8	34.1
9	7	1	24.8	23.1
10	7	1	13.4	14.1
11	7	1	19.3	23.7
2	8	1	35.5	28.8
3	8	1	118.8	124.6
4	8	1	12.4	13.0
5	8	1	13.5	9.7
6	8	1	50.7	49.1
7	8	1	16.8	15.6
8	8	1	20.6	17.5
9	8	1	36.3	35.1
2	9	1	36.0	32.6
3	9	1	80.9	80.8
4	9	1	36.6	30.0
5	9	1	7.1 *	5.4
6	9	1	38.5	38.1
7	9	1	20.5	19.0
8	9	1	49.7	50.7
3	1	2	178.0	187.4
4	1	2	84.2	90.8
5	1	2	19.4	21.1
6	1	2	126.4	132.7
7	1	2	57.8	62.2
8	1	2	52.8	57.8
9	1	2	116.9	119.7
10	1	2	7.2 *	20.8
11	1	2	39.7	38.0
12	1	2	7.4 *	1.8
3	2	2	5.6 *	5.1
4	2	2	40.3	35.3
5	2	2	18.1	17.0
6	2	2	26.8	22.4
7	2	2	32.2	24.3

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
8	2	2	29.2	32.1
9	2	2	39.8	39.7
10	2	2	17.8	20.3
11	2	2	23.3	20.8
12	2	2	7.5 *	5.9
3	3	2	36.7	36.6
4	3	2	48.4	48.7
5	3	2	44.4	41.1
6	3	2	21.4	24.0
7	3	2	6.4 *	2.4
8	3	2	6.7 *	7.3
9	3	2	14.4	0.9
10	3	2	22.8	5.8
11	3	2	7.6 *	11.7
12	3	2	22.5	15.7
3	4	2	27.7	23.8
4	4	2	30.7	32.1
5	4	2	36.5	39.5
6	4	2	27.5	29.9
7	4	2	12.5	6.0
8	4	2	14.0	9.4
9	4	2	16.0	5.3
10	4	2	12.4	2.9
11	4	2	7.6 *	12.8
1	5	2	28.1	29.3
2	5	2	170.7	181.7
3	5	2	111.9	117.1
5	5	2	77.6	83.0
6	5	2	45.1	46.8
7	5	2	6.9 *	8.6
8	5	2	81.4	84.1
9	5	2	67.1	69.5
10	5	2	31.2	34.7
11	5	2	41.6	38.7
1	6	2	19.5	22.4
2	6	2	44.7	49.0
3	6	2	66.2	67.7
4	6	2	13.9	16.1
5	6	2	6.5 *	2.7
6	6	2	26.3	33.7
7	6	2	6.9 *	9.4
8	6	2	6.8 *	1.3
9	6	2	21.9	27.6
10	6	2	7.2 *	6.7
11	6	2	7.7 *	11.1
1	7	2	19.5	18.5
2	7	2	81.9	87.5
3	7	2	111.1	113.5
4	7	2	46.6	46.6
5	7	2	6.7 *	17.4
6	7	2	76.1	74.6
7	7	2	46.6	50.7
8	7	2	30.7	30.5

ONBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
9	7	2	88.7	89.5
10	7	2	13.5	3.1
11		2	15.9	20.0
1	8	2	6.5 *	6.4
2	8	2	6.5 *	4.4
3	8	2	37.7	40.4
4	8	2	7.1 *	13.0
5	8	2	20.7	22.7
6	8	2	19.0	19.2
7	8	2	6.8 *	10.1
8	8	2	7.0 *	10.5
9	8	2	7.4 *	4.2
1	9	2	20.1	22.0
2	9	2	37.7	37.2
3	9	2	38.8	37.0
4	9	2	7.4 *	20.1
5	9	2	7.3 *	5.5
6	9	2	6.9 *	0.1
7	9	2	7.2 *	10.3
8	9	2	14.7	12.1
2	1	3	58.4	61.5
3	1	3	155.8	161.3
4	1	3	5.9 *	12.3
5	1	3	5.9 *	3.2
6	1	3	68.8	73.2
7	1	3	63.3	64.8
8	1	3	27.7	27.5
9	1	3	91.2	91.7
10	1	3	7.1 *	0.7
11	1	3	21.3	21.8
12	1	3	7.7 *	8.3
3	2	3	17.7	18.3
5	2	3	103.5	112.8
6	2	3	17.2	16.6
7	2	3	64.3	66.1
8	2	3	57.1	53.9
9	2	3	7.1 *	0.8
10	2	3	33.0	37.9
11	2	3	71.8	73.6
12	2	3	71.6	73.5
2	3	3	253.7	239.7
6	3	3	123.0	130.7
7	3	3	57.7	60.2
8	3	3	23.8	24.9
9	3	3	20.7	8.6
10	3	3	66.4	77.6
11	3	3	122.2	136.7
12	3	3	68.4	77.6
2	4	3	55.1	54.8
3	4	3	38.8	36.9
4	4	3	71.5	74.0
5	4	3	47.0	47.9
6	4	3	41.4	42.0

ONBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
7	4	3	33.9	32.3
8	4	3	28.6	27.6
9	4	3	7.1 *	11.2
10	4	3	53.3	51.8
11	4	3	64.6	57.5
0	5	3	116.2	120.0
1	5	3	85.6	83.9
2	5	3	40.2	38.7
3	5	3	87.3	90.0
4	5	3	67.8	73.0
5	5	3	56.1	61.7
6	5	3	14.5	13.9
7	5	3	35.0	31.2
8	5	3	7.2 *	13.5
9	5	3	75.8	79.8
10	5	3	7.3 *	7.2
11	5	3	7.3 *	6.4
0	6	3	25.9	27.9
1	6	3	23.7	25.6
2	6	3	28.0	25.3
3	6	3	15.0	17.0
4	6	3	15.5	11.8
5	6	3	22.0	21.7
6	6	3	31.4	30.5
7	6	3	21.3	26.3
8	6	3	26.9	23.4
9	6	3	21.1	22.6
10	6	3	7.5 *	11.4
11	6	3	7.4 *	8.6
0	7	3	25.1	26.1
1	7	3	7.0 *	8.5
2	7	3	77.9	77.1
3	7	3	54.0	50.5
4	7	3	45.8	43.2
5	7	3	32.4	36.0
6	7	3	6.8 *	9.8
7	7	3	14.6	18.2
8	7	3	45.3	46.5
9	7	3	32.7	41.2
10	7	3	13.4	17.1
0	8	3	34.2	32.5
1	8	3	39.8	41.1
2	8	3	20.8	22.3
3	8	3	14.7	15.2
4	8	3	24.8	22.5
5	8	3	39.3	38.9
6	8	3	42.1	43.7
7	8	3	21.0	20.6
8	8	3	31.6	23.1
9	8	3	7.3 *	0.7
0	9	3	193.9	181.4
1	9	3	121.1	109.5
2	9	3	107.6	94.8

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
3	9	3	58.6	53.2
4	9	3	109.2	99.9
5	9	3	142.0	137.0
6	9	3	104.5	102.7
7	9	3	24.3	18.0
8	9	3	7.4 *	8.9
1	1	4	122.6	120.5
2	1	4	61.9	62.2
3	1	4	146.8	154.6
4	1	4	28.1	29.2
5	1	4	57.8	63.5
6	1	4	29.6	30.1
7	1	4	6.6 *	12.6
8	1	4	68.1	72.7
9	1	4	25.3	24.3
10	1	4	7.2 *	3.5
11	1	4	7.4 *	6.9
12	1	4	33.3	32.8
2	2	4	27.5	30.5
3	2	4	97.2	102.0
4	2	4	6.0 *	4.3
5	2	4	24.7	22.4
6	2	4	31.5	31.7
7	2	4	21.5	22.1
8	2	4	44.0	48.7
9	2	4	38.9	37.5
10	2	4	15.5	3.6
11	2	4	32.4	34.0
12	2	4	20.2	19.7
1	3	4	13.1	9.3
2	3	4	15.6	15.5
3	3	4	38.1	37.1
4	3	4	52.5	58.5
5	3	4	50.0	52.0
6	3	4	45.1	45.9
7	3	4	31.3	35.6
8	3	4	25.0	22.6
9	3	4	19.3	18.2
10	3	4	7.4 *	20.7
11	3	4	7.7 *	14.0
12	3	4	7.7 *	13.9
1	4	4	6.4 *	12.4
2	4	4	45.7	45.1
3	4	4	67.0	69.9
4	4	4	6.2 *	10.5
5	4	4	5.4 *	12.9
6	4	4	42.5	46.1
7	4	4	25.8	23.9
8	4	4	44.7	45.5
9	4	4	32.1	33.3
10	4	4	14.9	8.3
11	4	4	34.5	32.6
0	5	4	7.4 *	3.7

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
1	5	4	32.4	26.7
2	5	4	127.6	125.8
3	5	4	86.7	91.2
4	5	4	38.2	36.1
5	5	4	64.0	69.6
6	5	4	6.5 *	3.1
7	5	4	25.2	23.1
8	5	4	79.4	84.2
9	5	4	7.1 *	2.7
10	5	4	16.4	20.0
11	5	4	30.0	28.5
0	6	4	25.9	25.8
1	6	4	12.4	0.6
2	6	4	88.9	84.9
3	6	4	106.9	109.0
4	6	4	12.7	14.2
5	6	4	33.0	38.0
6	6	4	52.1	48.7
7	6	4	46.3	41.1
8	6	4	98.6	95.7
9	6	4	80.2	75.4
10	6	4	30.2	27.2
11	6	4	53.2	45.6
0	7	4	127.7	129.2
1	7	4	110.0	107.3
2	7	4	7.0 *	2.7
3	7	4	111.2	108.0
4	7	4	6.7 *	12.3
5	7	4	35.7	35.0
6	7	4	28.1	27.0
7	7	4	33.5	30.6
8	7	4	22.2	14.9
9	7	4	48.8	50.4
10	7	4	7.8 *	19.5
0	8	4	21.2	18.2
1	8	4	7.5 *	7.9
2	8	4	24.4	23.7
3	8	4	45.5	41.9
4	8	4	7.2 *	1.1
5	8	4	22.8	17.2
6	8	4	15.5	13.2
7	8	4	24.0	14.9
8	8	4	33.0	27.9
9	8	4	19.2	16.4
0	9	4	8.4 *	5.9
1	9	4	7.5 *	7.7
2	9	4	7.2 *	3.1
3	9	4	28.3	23.2
4	9	4	41.2	37.8
5	9	4	19.8	20.5
6	9	4	7.3 *	16.8
7	9	4	19.7	15.8
0	1	5	71.0	73.7

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
1	1	5	82.8	74.8
2	1	5	39.2	34.7
3	1	5	96.0	97.1
4	1	5	70.9	70.3
5	1	5	55.1	55.7
6	1	5	58.3	59.2
7	1	5	37.6	39.5
8	1	5	7.0 *	15.7
9	1	5	7.1 *	10.0
10	1	5	15.4	4.8
11	1	5	25.9	22.0
12	1	5	22.0	19.4
0	2	5	153.1	148.2
1	2	5	125.6	112.7
2	2	5	79.1	83.4
4	2	5	95.5	103.3
5	2	5	104.1	106.4
6	2	5	15.4	17.0
7	2	5	66.5	69.2
8	2	5	69.7	69.6
9	2	5	103.7	105.5
10	2	5	22.4	21.6
11	2	5	57.9	49.4
12	2	5	21.3	7.9
0	3	5	25.9	31.3
1	3	5	35.8	38.2
2	3	5	118.0	117.2
3	3	5	19.2	16.9
4	3	5	48.5	52.1
5	3	5	29.1	31.6
6	3	5	6.5 *	2.8
7	3	5	22.8	25.8
8	3	5	6.9 *	8.4
9	3	5	51.9	55.9
10	3	5	16.8	18.4
11	3	5	18.6	19.4
12	3	5	7.7 *	13.8
0	4	5	7.5	70.3
1	4	5	6.5 *	2.3
2	4	5	193.9	196.3
3	4	5	81.3	82.6
4	4	5	68.4	73.8
5	4	5	38.9	38.1
6	4	5	86.6	88.9
7	4	5	93.8	98.3
8	4	5	62.6	62.3
9	4	5	65.7	70.3
10	4	5	22.2	18.4
11	4	5	67.0	65.1
0	5	5	16.9	9.0
1	5	5	18.9	18.1
2	5	5	31.9	32.0
3	5	5	23.6	24.6

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
4	5	5	21.4	22.5
5	5	5	25.9	24.1
6	5	5	25.0	26.5
7	5	5	13.5	3.0
8	5	5	7.1 *	9.6
9	5	5	7.2 *	7.2
10	5	5	7.5 *	7.5
11	5	5	7.5 *	8.1
0	6	5	20.2	12.9
1	6	5	7.4 *	7.9
2	6	5	17.0	13.1
3	6	5	6.5 *	15.5
4	6	5	6.6 *	1.4
5	6	5	7.0 *	17.0
6	6	5	23.9	21.5
7	6	5	23.8	25.8
8	6	5	22.2	19.6
9	6	5	7.1 *	4.3
10	6	5	7.6 *	2.6
11	6	5	7.9 *	2.7
0	7	5	28.1	30.6
1	7	5	22.2	15.6
2	7	5	36.8	33.0
3	7	5	6.7 *	3.6
4	7	5	17.9	18.0
5	7	5	19.8	23.8
6	7	5	7.0 *	9.2
7	7	5	6.9 *	2.4
8	7	5	7.2 *	2.4
9	7	5	7.4 *	3.8
10	7	5	7.5 *	0.4
0	8	5	65.1	67.0
1	8	5	7.9 *	5.0
2	8	5	94.2	87.5
3	8	5	82.9	79.8
4	8	5	31.3	34.7
5	8	5	27.8	26.6
6	8	5	28.5	28.9
7	8	5	40.8	35.6
8	8	5	69.0	65.3
9	8	5	39.4	38.9
0	9	5	38.5	35.8
1	9	5	14.7	17.9
2	9	5	7.5 *	0.7
3	9	5	60.0	56.6
4	9	5	37.3	34.0
5	9	5	15.9	23.4
6	9	5	13.8	24.9
7	9	5	17.3	3.3
0	1	6	38.2	35.6
1	1	6	29.1	22.5
2	1	6	11.9	9.1
3	1	6	14.7	3.9

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
4	1	6	20.5	21.1
5	1	6	117.6	121.8
6	1	6	62.4	68.4
7	1	6	66.9	67.5
8	1	6	38.1	36.2
9	1	6	12.4	11.0
10	1	6	15.4	17.2
11	1	6	56.6	53.7
0	2	6	119.2	118.8
1	2	6	77.8	76.6
2	2	6	96.1	89.8
3	2	6	63.6	65.0
4	2	6	82.3	82.7
5	2	6	64.0	66.4
6	2	6	6.5 *	13.1
7	2	6	21.1	26.3
8	2	6	52.6	50.9
9	2	6	51.4	48.6
10	2	6	7.3 *	4.4
11	2	6	7.4 *	8.6
12	2	6	19.4	19.1
0	3	6	52.7	55.6
1	3	6	84.3	82.0
2	3	6	70.1	72.1
3	3	6	39.6	39.7
4	3	6	16.3	17.3
5	3	6	6.5 *	3.2
6	3	6	6.7 *	4.6
7	3	6	6.9 *	12.6
8	3	6	20.1	19.9
9	3	6	7.6 *	20.4
10	3	6	7.4 *	20.8
11	3	6	15.7	12.5
12	3	6	8.1 *	7.1
0	4	6	37.8	38.0
1	4	6	16.0	19.4
2	4	6	108.1	109.5
3	4	6	70.6	71.8
4	4	6	40.2	41.0
5	4	6	48.5	48.2
6	4	6	6.9 *	3.5
7	4	6	17.6	18.5
8	4	6	67.4	60.1
9	4	6	42.9	41.3
10	4	6	7.5 *	3.2
11	4	6	16.9	3.1
0	5	6	83.1	82.1
1	5	6	50.4	49.2
2	5	6	25.0	22.7
3	5	6	35.9	35.2
4	5	6	38.7	39.5
5	5	6	46.9	47.1
6	5	6	102.4	107.0

:ONBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
7	5	6	7.0 *	0.7
8	5	6	24.6	26.4
9	5	6	30.2	30.9
10	5	6	39.1	39.0
0	6	6	225.3	219.7
1	6	6	21.1	22.3
2	6	6	39.2	42.7
3	6	6	29.9	25.5
4	6	6	120.1	115.5
5	6	6	265.8	257.1
6	6	6	201.7	194.8
7	6	6	87.7	85.9
8	6	6	24.7	18.5
9	6	6	7.6 *	12.3
10	6	6	45.0	46.7
0	7	6	20.0	15.6
1	7	6	8.0 *	10.1
2	7	6	15.1	6.9
3	7	6	7.0 *	7.2
4	7	6	6.8 *	4.8
5	7	6	103.1	102.1
6	7	6	7.2 *	9.6
7	7	6	62.0	60.9
8	7	6	40.7	38.9
9	7	6	7.5 *	13.2
10	7	6	7.8 *	9.3
0	8	6	55.6	58.8
1	8	6	27.9	27.3
2	8	6	56.1	50.3
3	8	6	34.5	36.2
4	8	6	37.8	35.0
5	8	6	20.1	15.6
6	8	6	7.1 *	9.8
7	8	6	31.7	30.6
8	8	6	20.5	14.9
0	9	6	23.2	19.1
1	9	6	35.0	34.3
2	9	6	23.1	28.5
3	9	6	15.1	18.4
4	9	6	22.9	23.4
5	9	6	7.2 *	9.4
6	9	6	7.2 *	1.0
7	9	6	7.4 *	5.1
0	1	7	12.4	6.4
1	1	7	57.3	51.8
2	1	7	150.3	151.8
3	1	7	18.8	17.1
4	1	7	46.8	49.7
5	1	7	52.4	54.3
6	1	7	30.6	29.2
7	1	7	17.1	16.1
8	1	7	65.5	66.8
9	1	7	7.3 *	7.5

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
9	2	8	40.8	35.2
10	2	8	32.8	29.6
11	2	8	7.9 *	11.7
0	3	8	7.1 *	1.2
1	3	8	7.3 *	2.8
2	3	8	17.2	11.4
3	3	8	18.8	16.9
4	3	8	20.6	22.6
5	3	8	17.9	21.8
6	3	8	15.8	14.7
7	3	8	7.4 *	14.1
8	3	8	19.5	16.3
9	3	8	7.5 *	13.8
10	3	8	7.6 *	10.1
11	3	8	7.9 *	7.2
0	4	8	28.5	26.7
1	4	8	7.6 *	9.2
2	4	8	55.6	55.0
3	4	8	19.4	19.8
4	4	8	36.0	34.0
5	4	8	21.2	20.3
6	4	8	7.1 *	4.1
7	4	8	13.4	4.2
8	4	8	7.5 *	7.8
9	4	8	13.8	14.0
10	4	8	19.5	11.3
0	5	8	70.3	70.9
1	5	8	66.0	65.7
2	5	8	84.6	82.0
3	5	8	127.3	120.9
4	5	8	21.9	20.4
5	5	8	55.5	59.0
6	5	8	37.8	36.8
7	5	8	61.6	62.4
8	5	8	73.6	75.5
9	5	8	79.8	78.1
10	5	8	16.1	11.9
0	6	8	7.5 *	1.8
1	6	8	33.7	26.8
2	6	8	19.0	2.9
3	6	8	58.6	52.8
4	6	8	30.1	27.5
5	6	8	20.2	13.8
6	6	8	7.2 *	3.6
7	6	8	15.6	13.3
8	6	8	7.3 *	0.9
9	6	8	19.9	21.8
10	6	8	7.9 *	2.7
0	7	8	24.0	15.8
1	7	8	7.8 *	6.1
2	7	8	129.9	123.5
3	7	8	60.0	55.4
4	7	8	25.4	24.7

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
5	7	8	58.6	58.8
6	7	8	19.5	17.0
7	7	8	34.2	33.6
8	7	8	67.0	61.5
9	7	8	51.4	49.1
0	8	8	8.3 *	1.0
1	8	8	16.9	10.2
2	8	8	7.6 *	12.2
3	8	8	44.5	43.8
4	8	8	16.0	22.5
5	8	8	7.6 *	15.9
6	8	8	13.6	18.6
7	8	8	7.4 *	2.9
8	8	8	7.5 *	3.1
0	9	8	9.0 *	17.3
1	9	8	8.9 *	10.9
2	9	8	8.2 *	3.6
3	9	8	7.8 *	0.2
4	9	8	18.5	11.5
5	9	8	27.8	20.3
6	9	8	13.4	18.0
0	1	9	26.6	27.0
1	1	9	45.5	46.1
2	1	9	78.6	78.7
3	1	9	73.7	69.1
4	1	9	33.2	26.7
5	1	9	52.4	52.9
6	1	9	16.6	13.7
7	1	9	41.5	39.0
8	1	9	52.4	53.9
9	1	9	43.7	44.8
10	1	9	7.7 *	4.5
0	2	9	19.7	23.6
1	2	9	19.2	17.3
3	2	9	7.1 *	1.2
4	2	9	16.1	9.0
5	2	9	91.7	92.3
6	2	9	7.3 *	9.6
7	2	9	51.2	52.5
8	2	9	18.0	11.5
9	2	9	16.6	23.7
10	2	9	50.4	50.2
11	2	9	68.4	60.8
0	3	9	394.4	397.8
1	3	9	161.9	156.8
2	3	9	7.3 *	16.1
3	3	9	7.3 *	15.5
4	3	9	49.9	48.3
5	3	9	175.7	168.8
5	3	9	142.1	144.6
7	3	9	53.0	54.2
8	3	9	69.6	75.0
9	3	9	29.5	38.1

ONBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
10	1	7	27.2	28.4
11	1	7	51.1	48.6
0	2	7	98.7	99.7
1	2	7	86.4	85.6
2	2	7	86.2	84.4
3	2	7	148.8	151.9
4	2	7	6.5 *	7.3
5	2	7	56.2	55.2
6	2	7	16.0	13.8
7	2	7	7.1 *	2.1
8	2	7	45.5	43.5
9	2	7	39.0	34.3
10	2	7	22.7	22.1
11	2	7	7.8 *	10 6
0	3	7	68.3	68.7
1	3	7	54.3	52.2
2	3	7	129.0	124.0
3	3	7	143.7	146.8
4	3	7	6.4 *	6.3
5	3	7	29.9	27.8
6	3	7	77.7	78.8
7	3	7	48.3	51.1
8	3	7	89.0	88.3
9	3	7	64.4	71.0
10	3	7	7.3 *	10.9
11	3	7	15.8	21.2
0	4	7	40.7	43.7
1	4	7	56.0	60.2
2	4	7	96.5	94.1
3	4	7	107.7	105.5
4	4	7	34.6	36.2
5	4	7	85.9	90.0
6	4	7	20.1	19.5
7	4	7	33.9	29.9
8	4	7	62.6	61.7
9	4	7	7.2 *	6.8
10	4	7	14.0	11.5
0	5	7	35.0	32.4
1	5	7	7.2 *	7.2
2	5	7	38.3	39.9
3	5	7	68.5	64.6
4	5	7	19.3	20.7
5	5	7	30.3	30.3
6	5	7	7.0 *	3.4
7	5	7	7.0 *	7.7
8	5	7	58.0	61.3
9	5	7	13.7	15.3
10	5	7	7.7 *	3.4
0	6	7	51.3	48.8
1	6	7	58.3	54.2
2	6	7	52.8	51.5
3	6	7	31.6	27.9
4	6	7	7.0 *	1.4

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
5	6	7	7.3 *	2.2
6	6	7	7.0 *	2.8
7	6	7	7.2 *	4.4
8	6	7	15.0	15.2
9	6	7	14.9	17.7
10	6	7	14.4	12.1
0	7	7	30.8	34.7
1	7	7	7.7 *	15.4
2	7	7	37.1	33.2
3	7	7	45.3	47.2
4	7	7	7.0 *	4.1
5	7	7	18.1	13.5
6	7	7	27.7	31.6
7	7	7	17.9	19.8
8	7	7	26.3	29.4
9	7	7	31.6	27.8
0	8	7	43.2	47.6
1	8	7	33.1	34.2
2	8	7	58.3	52.2
3	8	7	77.6	76.3
4	8	7	6.9 *	9.7
5	8	7	7.2 *	15.9
6	8	7	31.0	30.4
7	8	7	25.5	25.9
8	8	7	13.8	7.9
0	9	7	8.5 *	11.3
1	9	7	8.6 *	8.9
2	9	7	83.8	69.1
3	9	7	67.5	60.6
4	9	7	20.4	14.6
5	9	7	39.9	36.7
6	9	7	15.1	17.2
0	1	8	21.1	25.6
1	1	8	19.3	24.8
2	1	8	159.3	157.6
3	1	8	118.8	117.7
4	1	8	12.9	14.0
5	1	8	88.1	90.2
6	1	8	37.6	39.5
7	1	8	80.6	80.0
8	1	8	81.4	80.7
9	1	8	91.2	89.0
10	1	8	7.5 *	1.0
11	1	8	54.6	50.9
0	2	8	58.7	58.8
1	2	8	36.4	33.4
2	2	8	52.1	51.0
3	2	8	6.8 *	4.4
4	2	8	31.4	30.1
5	2	8	32.8	35.4
6	2	8	24.0	23.9
7	2	8	33.0	34.4
8	2	8	19.6	19.9

DNBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
10	3	9	85.4	93.4
11	3	9	64.9	77.6
0	4	9	50.2	58.2
1	4	9	56.1	53.5
2	4	9	47.9	51.2
3	4	9	70.3	69.5
4	4	9	59.2	54.9
5	4	9	41.3	38.9
6	4	9	49.0	46.5
7	4	9	20.2	22.1
8	4	9	7.5 *	13.9
9	4	9	7.8 *	0.5
10	4	9	73.2	67.1
0	5	9	49.1	51.6
1	5	9	63.8	63.4
2	5	9	49.6	44.9
3	5	9	49.7	43.4
4	5	9	34.7	32.8
5	5	9	47.4	49.9
6	5	9	14.6	10.9
7	5	9	41.5	42.0
8	5	9	30.1	28.6
9	5	9	52.9	52.6
0	6	9	17.2	26.6
1	6	9	7.8 *	10.7
2	6	9	22.6	15.3
3	6	9	7.6 *	20.0
4	6	9	14.8	23.3
5	6	9	43.0	42.8
6	6	9	49.5	48.9
7	6	9	41.7	38.6
8	6	9	27.1	27.4
9	6	9	7.9 *	16.7
0	7	9	7.8 *	13.7
1	7	9	15.8	0.5
2	7	9	82.1	79.2
3	7	9	51.7	45.3
4	7	9	7.3 *	3.4
5	7	9	7.3 *	2.8
6	7	9	7.5 *	11.9
7	7	9	31.9	27.2
8	7	9	50.0	50.4
9	7	9	15.0	14.0
0	8	9	18.5	1.2
1	8	9	26.7	29.5
2	8	9	25.6	25.3
3	8	9	27.1	24.9
4	8	9	20.4	19.7
5	8	9	59.9	53.4
6	8	9	23.6	15.8
7	8	9	19.5	20.2
0	9	9	201.4	182.3
1	9	9	86.4	74.4

DNBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
2	9	9	17.8	8.1
3	9	9	15.2	4.6
4	9	9	34.5	23.6
5	9	9	124.5	112.0
0	1	10	69.2	72.2
1	1	10	92.8	97.7
2	1	10	65.0	63.1
3	1	10	94.8	95.9
4	1	10	20.2	11.9
5	1	10	45.9	49.9
6	1	10	7.5 *	15.4
7	1	10	7.4 *	7.3
8	1	10	48.3	41.0
9	1	10	7.8 *	8.3
10	1	10	20.4	15.9
0	2	10	41.5	47.8
1	2	10	63.0	62.1
2	2	10	7.6 *	15.3
3	2	10	75.4	74.7
4	2	10	25.0	23.5
5	2	10	7.4 *	12.1
6	2	10	38.3	36.0
7	2	10	50.4	48.0
8	2	10	18.2	13.4
9	2	10	35.7	35.0
10	2	10	23.9	21.4
0	3	10	45.4	46.8
1	3	10	41.2	42.9
2	3	10	7.7 *	20.2
3	3	10	7.4 *	8.0
4	3	10	25.4	27.4
5	3	10	18.0	24.0
6	3	10	14.7	16.8
7	3	10	7.5 *	8.8
8	3	10	7.3 *	2.9
9	3	10	7.6 *	2.3
10	3	10	7.7 *	0.4
0	4	10	38.3	41.5
1	4	10	46.7	45.7
2	4	10	13.8	21.0
3	4	10	71.4	70.9
4	4	10	26.8	23.8
5	4	10	7.5 *	11.4
6	4	10	27.5	26.3
7	4	10	31.8	29.8
8	4	10	29.6	27.9
9	4	10	27.8	27.6
0	5	10	49.8	53.6
1	5	10	76.8	74.3
2	5	10	60.1	61.8
3	5	10	51.1	58.2
4	5	10	7.5 *	14.4
5	5	10	50.9	49.5

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
6	5	10	17.4	12.5
7	5	10	7.4 *	11.8
8	5	10	25.6	28.8
9	5	10	7.8 *	11.2
0	6	10	29.4	26.0
1	6	10	43.8	44.2
2	6	10	76.7	68.6
3	6	10	84.3	78.2
4	6	10	7.6 *	9.7
5	6	10	38.1	33.9
6	6	10	7.5 *	7.8
7	6	10	62.4	54.1
8	6	10	65.8	62.4
9	6	10	31.2	29.8
0	7	10	52.0	54.7
1	7	10	61.0	57.4
2	7	10	45.4	47.5
3	7	10	60.0	53.2
4	7	10	15.4	16.2
5	7	10	28.7	28.0
6	7	10	7.5 *	3.0
7	7	10	7.7 *	12.1
8	7	10	26.9	21.7
0	8	10	23.9	20.5
1	8	10	7.9 *	3.0
2	8	10	30.1	27.5
3	8	10	26.6	29.0
4	8	10	7.6 *	4.0
5	8	10	26.8	23.4
6	8	10	7.6 *	4.5
7	8	10	7.7 *	2.1
0	9	10	8.2 *	10.0
1	9	10	19.8	16.3
2	9	10	16.0	17.5
3	9	10	7.8 *	8.2
4	9	10	7.9 *	8.0
0	1	11	19.7	20.4
1	1	11	34.7	35.0
2	1	11	7.7 *	4.6
3	1	11	40.1	39.7
4	1	11	21.6	20.4
5	1	11	7.5 *	11.6
6	1	11	7.6 *	5.1
7	1	11	7.5 *	1.0
8	1	11	7.6 *	5.0
9	1	11	15.1	2.0
10	1	11	7.9 *	14.9
0	2	11	7.7 *	21.4
1	2	11	45.9	42.8
2	2	11	161.7	163.3
3	2	11	66.2	64.4
4	2	11	22.4	14.9
5	2	11	74.5	77.1

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
6	2	11	21.7	25.7
7	2	11	51.5	47.1
8	2	11	77.4	73.1
9	2	11	33.5	32.9
10	2	11	8.0 *	0.4
0	3	11	18.5	14.1
1	3	11	20.4	11.2
2	3	11	39.6	37.6
3	3	11	34.3	37.2
4	3	11	29.9	24.4
5	3	11	7.6 *	13.0
6	3	11	16.3	2.4
7	3	11	34.0	35.8
8	3	11	7.6 *	12.4
9	3	11	14.6	33.0
10	3	11	18.3	12.1
0	4	11	35.5	36.9
1	4	11	67.5	68.3
2	4	11	91.3	87.4
3	4	11	109.6	108.9
4	4	11	36.6	39.5
5	4	11	30.4	24.2
6	4	11	53.5	49.2
7	4	11	75.0	71.6
8	4	11	50.9	42.4
9	4	11	53.2	52.9
0	5	11	20.7	6.1
1	5	11	7.8 *	6.0
2	5	11	7.9 *	10.6
3	5	11	22.1	18.2
4	5	11	7.5 *	3.2
5	5	11	7.5 *	7.2
6	5	11	7.4 *	1.0
7	5	11	7.6 *	4.0
8	5	11	7.7 *	1.9
9	5	11	17.8	13.0
0	6	11	54.0	51.5
1	6	11	52.6	50.2
2	6	11	50.8	47.8
3	6	11	41.7	42.1
4	6	11	26.5	26.3
5	6	11	18.4	8.6
6	6	11	7.6 *	3.3
7	6	11	7.8 *	1.5
8	6	11	7.9 *	2.3
9	6	11	8.2 *	12.5
0	7	11	15.3	3.1
1	7	11	7.9 *	13.1
2	7	11	30.7	19.7
3	7	11	7.9 *	1.4
4	7	11	7.7 *	0.8
5	7	11	7.7 *	0.2
6	7	11	7.8 *	3.3

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
7	7	11	7.8 *	9.9
8	7	11	8.2 *	4.2
0	8	11	7.8 *	6.5
1	8	11	18.9	18.3
2	8	11	105.3	99.5
3	8	11	48.1	40.4
4	8	11	7.9 *	10.8
5	8	11	56.6	55.2
6	8	11	7.9 *	6.9
0	9	11	8.1 *	16.5
1	9	11	23.7	22.1
2	9	11	8.3 *	10.6
3	9	11	29.0	24.8
4	9	11	8.0 *	17.4
0	1	12	55.7	63.3
1	1	12	26.6	29.5
2	1	12	8.1 *	10.1
3	1	12	21.7	26.9
4	1	12	7.8 *	14.7
5	1	12	86.1	84.6
6	1	12	7.6 *	7.4
7	1	12	7.6 *	5.9
8	1	12	26.0	22.3
9	1	12	7.9 *	8.2
0	2	12	35.6	40.3
1	2	12	68.0	64.6
2	2	12	54.5	52.3
3	2	12	69.1	70.4
4	2	12	22.3	23.3
5	2	12	20.6	8.0
6	2	12	21.6	18.9
7	2	12	56.3	53.5
8	2	12	15.3	16.8
9	2	12	58.5	53.6
0	3	12	7.6 *	12.0
1	3	12	17.7	14.7
2	3	12	8.1 *	20.6
3	3	12	8.4 *	27.7
4	3	12	28.4	32.5
5	3	12	26.7	24.4
6	3	12	7.4 *	7.4
7	3	12	7.6 *	3.6
8	3	12	7.9 *	5.8
9	3	12	21.5	3.0
0	4	12	27.9	30.1
1	4	12	43.8	42.9
2	4	12	70.5	66.7
3	4	12	41.1	40.9
4	4	12	7.8 *	10.8
5	4	12	17.7	10.5
6	4	12	7.6 *	11.6
7	4	12	43.9	44.2
8	4	12	42.8	35.3

NBAUERITE AGAIN

H	K	L	F(OBS)	F(CALC)
0	5	12	42.4	50.1
1	5	12	32.8	29.5
2	5	12	20.8	15.9
3	5	12	14.9	1.6
4	5	12	43.2	41.1
5	5	12	41.6	39.4
6	5	12	40.2	41.8
7	5	12	17.9	20.7
8	5	12	8.0 *	2.9
0	6	12	162.2	148.0
1	6	12	109.9	100.1
2	6	12	58.7	51.0
3	6	12	104.6	91.6
4	6	12	128.4	117.8
5	6	12	140.2	129.1
6	6	12	60.1	52.8
7	6	12	7.9 *	2.2
8	6	12	8.1 *	0.3
0	7	12	16.5	11.3
1	7	12	7.8 *	11.4
2	7	12	8.0 *	9.6
3	7	12	20.9	19.7
4	7	12	7.9 *	12.3
5	7	12	49.2	49.9
6	7	12	7.8 *	2.0
7	7	12	22.6	18.0
0	8	12	19.8	1.7
1	8	12	22.9	20.7
2	8	12	50.4	48.3
3	8	12	15.8	20.3
4	8	12	20.0	15.1
5	8	12	42.1	33.8
0	9	12	17.7	16.3
1	9	12	22.3	25.7
2	9	12	25.3	24.1
0	1	13	31.9	31.2
1	1	13	21.9	11.3
3	1	13	8.4 *	17.0
4	1	13	7.8 *	2.7
5	1	13	48.8	48.1
6	1	13	29.2	27.0
7	1	13	7.8 *	2.2
8	1	13	63.9	61.5
9	1	13	7.9 *	3.4
0	2	13	33.1	33.7
1	2	13	98.4	102.9
2	2	13	43.6	41.9
3	2	13	50.3	48.1
4	2	13	17.0	13.1
5	2	13	81.8	79.1
6	2	13	40.6	40.3
7	2	13	18.2	10.6
8	2	13	17.3	24.5

NBAUERITE AGAIN

H	K	L	F(OBS)		F(CALC)
9	2	13	8.5	*	24.0
0	3	13	7.6	*	8.4
1	3	13	61.2		60.7
2	3	13	59.9		54.6
3	3	13	100.0		100.3
4	3	13	59.5		62.0
5	3	13	17.1		21.3
6	3	13	7.8	*	0.7
7	3	13	60.9		60.8
8	3	13	85.8		91.2
9	3	13	40.5		43.9
0	4	13	33.0		31.8
1	4	13	85.6		83.0
2	4	13	34.5		28.4
3	4	13	73.2		67.4
4	4	13	24.9		25.1
5	4	13	37.9		33.0
6	4	13	7.9	*	13.5
7	4	13	18.5		17.7
8	4	13	31.7		24.8
0	5	13	7.9	*	0.7
1	5	13	25.8		19.5
2	5	13	32.1		27.6
3	5	13	29.6		28.5
4	5	13	7.9	*	13.6
5	5	13	21.4		24.5
6	5	13	19.0		15.5
7	5	13	16.3		3.6
0	6	13	18.2		11.5
1	6	13	7.7	*	6.8
2	6	13	7.8	*	1.9
3	6	13	18.6		3.9
4	6	13	7.9	*	10.7
5	6	13	8.0	*	13.6
6	6	13	17.3		17.9
7	6	13	27.7		21.0
0	7	13	19.2		20.8
1	7	13	26.9		27.8
2	7	13	18.5		20.5
3	7	13	32.7		29.3
4	7	13	16.9		10.3
5	7	13	21.1		15.3
6	7	13	8.1	*	9.9
0	8	13	8.0	*	14.9
1	8	13	22.5		19.2
2	8	13	62.8		60.0
3	8	13	26.2		23.1
4	8	13	21.4		11.3
0	9	13	8.1	*	1.8
0	1	14	28.3		25.6
1	1	14	28.0		22.0
2	1	14	116.3		116.4
3	1	14	60.6		58.1

NBAUERITL AGAIN

H	K	L	F(OBS)		F(CALC)
4	1	14	25.2		23.5
5	1	14	46.8		37.6
6	1	14	8.0	*	2.5
7	1	14	57.4		56.2
8	1	14	50.2		58.8
0	2	14	19.5		14.1
1	2	14	37.9		34.7
2	2	14	15.8		11.8
3	2	14	24.0		22.2
4	2	14	18.0		7.2
6	2	14	22.0		6.3
7	2	14	8.0	*	7.0
8	2	14	23.2		6.8
0	3	14	24.5		12.8
1	3	14	7.8	*	18.5
2	3	14	8.0	*	20.1
3	3	14	8.3	*	15.0
4	3	14	9.6	*	11.2
5	3	14	9.4	*	13.5
6	3	14	8.9	*	15.5
7	3	14	23.1		19.6
8	3	14	16.3		21.9
0	4	14	7.8	*	1.8
1	4	14	15.4		19.9
2	4	14	7.9	*	5.6
3	4	14	24.9		14.9
4	4	14	8.2	*	10.8
5	4	14	8.2	*	2.5
6	4	14	8.0	*	1.8
7	4	14	8.0	*	1.0
0	5	14	45.6		46.0
1	5	14	68.2		65.4
2	5	14	67.6		60.9
3	5	14	69.8		66.8
4	5	14	31.9		31.1
5	5	14	8.0	*	12.4
6	5	14	8.2	*	18.4
7	5	14	77.8		71.9
0	6	14	18.6		9.5
1	6	14	28.7		21.9
2	6	14	8.0	*	3.3
3	6	14	22.4		19.1
4	6	14	8.0	*	9.5
5	6	14	8.2	*	0.8
6	6	14	8.1	*	1.8
7	6	14	14.9		13.0
0	7	14	35.4		29.0
1	7	14	8.0	*	15.4
2	7	14	85.0		80.3
3	7	14	32.3		29.9
4	7	14	8.2	*	3.9
5	7	14	48.6		44.2
6	7	14	17.8		16.3

H	K	L	F(OBS)	F(CALC)
0	8	14	8.1 *	6.2
1	8	14	8.2 *	7.1
2	8	14	8.2 *	5.2
3	8	14	16.2	16.4
0	1	15	23.9	23.0
1	1	15	17.9	1.1
2	1	15	106.3	107.5
3	1	15	14.8	11.8
4	1	15	26.5	26.4
5	1	15	41.3	32.3
6	1	15	24.3	16.6
7	1	15	38.6	26.9
0	2	15	32.0	24.0
1	2	15	28.2	22.9
2	2	15	7.8 *	0.1
3	2	15	8.2 *	1.0
4	2	15	38.4	32.4
5	2	15	72.3	69.3
6	2	15	28.1	25.4
7	2	15	8.2 *	10.8
0	3	15	105.8	101.9
1	3	15	21.7	29.1
2	3	15	7.9 *	3.7
3	3	15	54.8	46.1
4	3	15	146.6	154.3
5	3	15	152.4	153.8
6	3	15	115.0	115.7
7	3	15	17.3	5.1
8	3	15	8.7 *	23.2
0	4	15	32.9	34.7
1	4	15	37.4	32.5
2	4	15	14.4	9.9
3	4	15	8.1 *	4.1
4	4	15	30.6	27.3
5	4	15	79.8	71.8
6	4	15	8.4 *	12.3
0	5	15	7.9 *	1.7
1	5	15	30.2	33.6
2	5	15	45.6	43.4
3	5	15	24.6	21.4
4	5	15	17.8	14.6
5	5	15	30.5	26.2
6	5	15	8.4 *	17.1
0	6	15	7.9 *	1.3
1	6	15	7.8 *	3.7
2	6	15	7.8 *	6.6
3	6	15	8.1 *	0.9
4	6	15	16.5	3.7
5	6	15	8.1 *	1.7
6	6	15	8.6 *	11.1
0	7	15	8.2 *	5.4
1	7	15	38.7	40.8
2	7	15	37.3	33.5

H	K	L	F(OBS)	F(CALC)
3	7	15	27.4	30.7
4	7	15	15.6	12.9
5	7	15	17.4	10.3
0	8	15	8.2 *	6.6
1	8	15	8.0 *	0.6
0	1	16	21.2	12.8
1	1	16	75.1	73.8
2	1	16	53.9	50.8
3	1	16	40.0	36.6
4	1	16	8.0 *	4.8
5	1	16	47.3	41.3
6	1	16	26.7	22.3
0	2	16	7.8 *	3.8
1	2	16	33.5	35.1
2	2	16	28.9	17.1
3	2	16	39.6	35.3
4	2	16	30.5	33.0
5	2	16	8.5 *	9.6
6	2	16	8.6 *	1.7
7	2	16	19.9	18.2
0	3	16	29.9	25.3
1	3	16	21.1	18.3
2	3	16	8.1 *	16.8
3	3	16	8.1 *	15.4
4	3	16	8.6 *	9.6
5	3	16	8.4 *	10.9
6	3	16	23.0	9.6
7	3	16	19.3	9.3
0	4	16	15.1	3.3
1	4	16	28.7	31.8
2	4	16	23.5	17.2
3	4	16	34.9	32.2
4	4	16	38.0	23.3
5	4	16	24.0	15.4
0	5	16	18.2	24.0
1	5	16	64.1	66.2
2	5	16	35.1	32.5
3	5	16	45.0	43.3
4	5	16	30.7	26.6
5	5	16	8.4 *	6.2
0	6	16	8.0 *	1.9
1	6	16	50.3	46.4
2	6	16	67.1	56.4
3	6	16	44.7	41.8
4	6	16	27.4	24.0
5	6	16	22.4	23.6
0	7	16	8.2 *	4.2
1	7	16	44.2	35.9
2	7	16	53.0	53.3
3	7	16	8.4 *	9.2
0	1	17	30.1	28.9
1	1	17	7.9 *	11.4
2	1	17	28.0	24.3

)BAUERITE AGAIN

H	K	L	F(OBS)		F(CALC)
3	1	17	7.9	*	3.1
4	1	17	8.3	*	5.9
5	1	17	8.6	*	7.5
0	2	17	7.8	*	13.5
1	2	17	37.7		35.1
2	2	17	79.1		80.5
3	2	17	23.9		18.2
4	2	17	30.9		32.5
5	2	17	40.5		35.3
6	2	17	8.7	*	12.2
0	3	17	7.7	*	0.1
1	3	17	19.7		26.0
2	3	17	7.9	*	12.6
3	3	17	25.8		27.2
4	3	17	23.9		34.2
5	3	17	26.8		8.9
6	3	17	8.4	*	0.6
0	4	17	7.9	*	0.8
1	4	17	42.3		40.0
2	4	17	67.3		64.3
3	4	17	36.7		34.2
4	4	17	45.2		47.6
0	5	17	7.9	*	7.6
1	5	17	8.2	*	9.7
2	5	17	8.0	*	5.1
3	5	17	22.3		20.4
4	5	17	8.4	*	5.7
0	5	17	33.1		33.4
1	6	17	25.6		28.3
2	6	17	21.0		15.4
3	6	17	8.4	*	6.4
0	7	17	8.1	*	3.4
1	7	17	22.9		4.3
2	7	17	8.6	*	10.4
0	1	18	38.3		36.0
1	1	18	15.9		17.5
2	1	18	14.0		7.1
3	1	18	8.2	*	5.3
4	1	18	17.0		21.3
0	2	18	7.8	*	7.1
1	2	18	39.3		39.2
2	2	18	37.4		30.2
3	2	18	30.8		26.2
4	2	18	20.1		21.2
5	2	18	19.9		6.1
0	3	18	8.0	*	5.6
1	3	18	19.2		0.1
2	3	18	8.0	*	0.1
3	3	18	8.4	*	3.4
4	3	18	8.3	*	4.0
5	3	18	8.6	*	7.8
0	4	18	7.7	*	7.3
1	4	18	48.5		44.7

)NBAUERITE AGAIN

H	K	L	F(OBS)		F(CALC)
2	4	18	21.6		23.5
0	5	18	8.0	*	3.2
1	5	18	8.0	*	10.3
2	5	18	16.2		17.8
0	6	18	102.9		87.8
1	6	18	46.5		35.9
2	6	18	17.8		14.7
0	1	19	18.7		0.8
1	1	19	25.2		24.0
2	1	19	8.6	*	22.9
3	1	19	15.1		18.1
0	2	19	7.9	*	10.1
1	2	19	43.4		36.6
2	2	19	42.9		43.7
3	2	19	8.4	*	6.3
0	3	19	17.6		6.7
1	3	19	45.3		47.6
2	3	19	37.6		45.5
3	3	19	32.9		35.5
0	1	20	14.9		19.8
0	2	20	8.3	*	11.9
1	2	20	8.6	*	24.4
0	3	20	20.5		17.4
1	3	20	15.7		10.9

TABLE 3.

	O(16)	O(17)	O(18)	O(19)
β_{11}	.0063(8)	.0060(8)	.0041(7)	.0065(8)
β_{22}	.0074(11)	.0037(10)	.0094(12)	.0049(10)
β_{33}	.0018(3)	.0023(3)	.0025(3)	.0019(3)
β_{12}	-.0002(7)	.0003(6)	.0011(7)	.0010(7)
β_{13}	.0006(4)	.0003(4)	-.0001(4)	.0000(4)
β_{23}	.0004(4)	.0000(4)	-.0017(5)	.0002(4)