MPG No. 32.3.120 $m'\bar{3}'m$ [Type III, cubic]

Table 1: Wyckoff site: `1o`, site symmetry: `m'-3'm`

No.	position	mapping
1	[0, 0, 0]	`[1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,`
		`25,26,27,28,29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48]`

Table 2: Wyckoff site: `6a`, site symmetry: `4'm.m'`

No.	position	mapping
1	$[x, 0, 0]$	`[1,2,17,18,31,32,39,40]`
2	$[-x, 0, 0]$	`[3,4,19,20,29,30,37,38]`
3	$[0, x, 0]$	`[9,11,13,15,26,28,46,48]`
4	$[0, -x, 0]$	`[10,12,14,16,25,27,45,47]`
5	$[0, 0, x]$	`[5,8,21,24,34,35,42,43]`
6	$[0, 0, -x]$	`[6,7,22,23,33,36,41,44]`

Table 3: Wyckoff site: `8b`, site symmetry: `.3m`

No.	position	mapping
1	$[x, x, x]$	`[1,5,9,13,17,21]`
2	$[-x, -x, x]$	`[4,8,12,16,20,24]`
3	$[-x, x, -x]$	`[3,7,11,15,19,23]`
4	$[x, -x, -x]$	`[2,6,10,14,18,22]`
5	$[x, x, -x]$	`[28,32,36,40,44,48]`
6	$[-x, -x, -x]$	`[25,29,33,37,41,45]`
7	$[x, -x, x]$	`[27,31,35,39,43,47]`
8	$[-x, x, x]$	`[26,30,34,38,42,46]`

Table 4: Wyckoff site: `12c`, site symmetry: `m'.m2'`

No.	position	mapping
1	$[0, y, y]$	`[1,17,30,38]`
2	$[0, -y, y]$	`[4,20,31,39]`
3	$[0, y, -y]$	`[3,19,32,40]`
4	$[0, -y, -y]$	`[2,18,29,37]`
5	$[y, 0, y]$	`[9,13,27,47]`
6	$[y, 0, -y]$	`[10,14,28,48]`
7	$[-y, 0, y]$	`[12,16,26,46]`
8	$[-y, 0, -y]$	`[11,15,25,45]`
9	$[y, y, 0]$	`[5,21,36,44]`

continued ...

Table 4

No.	position	mapping
10	$[-y, y, 0]$	`[7,23,34,42]`
11	$[y, -y, 0]$	`[6,22,35,43]`
12	$[-y, -y, 0]$	`[8,24,33,41]`

Table 5: Wyckoff site: `24d`, site symmetry: `m'..`

No.	position	mapping
1	$[0, y, z]$	`[1,38]`
2	$[0, -y, z]$	`[4,39]`
3	$[0, y, -z]$	`[3,40]`
4	$[0, -y, -z]$	`[2,37]`
5	$[z, 0, y]$	`[9,47]`
6	$[z, 0, -y]$	`[10,48]`
7	$[-z, 0, y]$	`[12,46]`
8	$[-z, 0, -y]$	`[11,45]`
9	$[y, z, 0]$	`[5,44]`
10	$[-y, z, 0]$	`[7,42]`
11	$[y, -z, 0]$	`[6,43]`
12	$[-y, -z, 0]$	`[8,41]`
13	$[y, 0, -z]$	`[14,28]`
14	$[-y, 0, -z]$	`[15,25]`
15	$[y, 0, z]$	`[13,27]`
16	$[-y, 0, z]$	`[16,26]`
17	$[0, z, -y]$	`[19,32]`
18	$[0, z, y]$	`[17,30]`
19	$[0, -z, -y]$	`[18,29]`
20	$[0, -z, y]$	`[20,31]`
21	$[z, y, 0]$	`[21,36]`
22	$[z, -y, 0]$	`[22,35]`
23	$[-z, y, 0]$	`[23,34]`
24	$[-z, -y, 0]$	`[24,33]`

Table 6: Wyckoff site: `24e`, site symmetry: `..m`

No.	position	mapping
1	$[x, x, z]$	`[1,13]`
2	$[-x, -x, z]$	`[4,16]`
3	$[-x, x, -z]$	`[3,15]`
4	$[x, -x, -z]$	`[2,14]`
5	$[z, x, x]$	`[9,21]`
6	$[z, -x, -x]$	`[10,22]`
7	$[-z, -x, x]$	`[12,24]`

continued ...

Table 6

No.	position	mapping
8	$[-z, x, -x]$	[11,23]
9	$[x, z, x]$	[5,17]
10	$[-x, z, -x]$	[7,19]
11	$[x, -z, -x]$	[6,18]
12	$[-x, -z, x]$	[8,20]
13	$[x, x, -z]$	[28,40]
14	$[-x, -x, -z]$	[25,37]
15	$[x, -x, z]$	[27,39]
16	$[-x, x, z]$	[26,38]
17	$[x, z, -x]$	[32,44]
18	$[-x, z, x]$	[30,42]
19	$[-x, -z, -x]$	[29,41]
20	$[x, -z, x]$	[31,43]
21	$[z, x, -x]$	[36,48]
22	$[z, -x, x]$	[35,47]
23	$[-z, x, x]$	[34,46]
24	$[-z, -x, -x]$	[33,45]

Table 7: Wyckoff site: 48f, site symmetry: 1

No.	position	mapping
1	$[x, y, z]$	[1]
2	$[-x, -y, z]$	[4]
3	$[-x, y, -z]$	[3]
4	$[x, -y, -z]$	[2]
5	$[z, x, y]$	[9]
6	$[z, -x, -y]$	[10]
7	$[-z, -x, y]$	[12]
8	$[-z, x, -y]$	[11]
9	$[y, z, x]$	[5]
10	$[-y, z, -x]$	[7]
11	$[y, -z, -x]$	[6]
12	$[-y, -z, x]$	[8]
13	$[y, x, -z]$	[28]
14	$[-y, -x, -z]$	[25]
15	$[y, -x, z]$	[27]
16	$[-y, x, z]$	[26]
17	$[x, z, -y]$	[32]
18	$[-x, z, y]$	[30]
19	$[-x, -z, -y]$	[29]
20	$[x, -z, y]$	[31]
21	$[z, y, -x]$	[36]
22	$[z, -y, x]$	[35]
23	$[-z, y, x]$	[34]

continued ...

Table 7

No.	position	mapping
24	$[-z, -y, -x]$	[33]
25	$[-x, -y, -z]$	[37]
26	$[x, y, -z]$	[40]
27	$[x, -y, z]$	[39]
28	$[-x, y, z]$	[38]
29	$[-z, -x, -y]$	[45]
30	$[-z, x, y]$	[46]
31	$[z, x, -y]$	[48]
32	$[z, -x, y]$	[47]
33	$[-y, -z, -x]$	[41]
34	$[y, -z, x]$	[43]
35	$[-y, z, x]$	[42]
36	$[y, z, -x]$	[44]
37	$[-y, -x, z]$	[16]
38	$[y, x, z]$	[13]
39	$[-y, x, -z]$	[15]
40	$[y, -x, -z]$	[14]
41	$[-x, -z, y]$	[20]
42	$[x, -z, -y]$	[18]
43	$[x, z, y]$	[17]
44	$[-x, z, -y]$	[19]
45	$[-z, -y, x]$	[24]
46	$[-z, y, -x]$	[23]
47	$[z, -y, -x]$	[22]
48	$[z, y, x]$	[21]