MPG No. 32.4.121 $m\bar{3}m'$ [Type III, cubic]

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

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	$[x, 0, 0]$	`[1,2,15,16,31,32,41,42]`
2	$[-x, 0, 0]$	`[3,4,13,14,29,30,43,44]`
3	$[0, x, 0]$	`[9,11,22,24,26,28,37,39]`
4	$[0, -x, 0]$	`[10,12,21,23,25,27,38,40]`
5	$[0, 0, x]$	`[5,8,18,19,34,35,45,48]`
6	$[0, 0, -x]$	`[6,7,17,20,33,36,46,47]`

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

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

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

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

continued ...

Table 4

No.	position	mapping
10	$[-y, y, 0]$	`[7,18,34,47]`
11	$[y, -y, 0]$	`[6,19,35,46]`
12	$[-y, -y, 0]$	`[8,17,33,48]`

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

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

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

No.	position	mapping
1	$[x, x, z]$	`[1,37]`
2	$[-x, -x, z]$	`[4,40]`
3	$[-x, x, -z]$	`[3,39]`
4	$[x, -x, -z]$	`[2,38]`
5	$[z, x, x]$	`[9,45]`
6	$[z, -x, -x]$	`[10,46]`
7	$[-z, -x, x]$	`[12,48]`

continued ...

Table 6

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

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	$[-x, -y, -z]$	[13]
26	$[x, y, -z]$	[16]
27	$[x, -y, z]$	[15]
28	$[-x, y, z]$	[14]
29	$[-z, -x, -y]$	[21]
30	$[-z, x, y]$	[22]
31	$[z, x, -y]$	[24]
32	$[z, -x, y]$	[23]
33	$[-y, -z, -x]$	[17]
34	$[y, -z, x]$	[19]
35	$[-y, z, x]$	[18]
36	$[y, z, -x]$	[20]
37	$[-y, -x, z]$	[40]
38	$[y, x, z]$	[37]
39	$[-y, x, -z]$	[39]
40	$[y, -x, -z]$	[38]
41	$[-x, -z, y]$	[44]
42	$[x, -z, -y]$	[42]
43	$[x, z, y]$	[41]
44	$[-x, z, -y]$	[43]
45	$[-z, -y, x]$	[48]
46	$[-z, y, -x]$	[47]
47	$[z, -y, -x]$	[46]
48	$[z, y, x]$	[45]