MPG No. 32.2.119 $m\bar{3}m1'$ [Type II, cubic]

Table 1: Wyckoff site: `1o`, site symmetry: `m-3m1'`

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,`
		`49,50,51,52,53,54,55,56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,`
		`73,74,75,76,77,78,79,80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96]`

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

No.	position	mapping
1	[x, 0, 0]	`[1,2,19,20,27,28,41,42,49,50,67,68,75,76,89,90]`
2	[$-x$, 0, 0]	`[3,4,17,18,25,26,43,44,51,52,65,66,73,74,91,92]`
3	[0, x, 0]	`[9,11,14,16,34,36,37,39,57,59,62,64,82,84,85,87]`
4	[0, $-x$, 0]	`[10,12,13,15,33,35,38,40,58,60,61,63,81,83,86,88]`
5	[0, 0, x]	`[5,8,22,23,30,31,45,48,53,56,70,71,78,79,93,96]`
6	[0, 0, $-x$]	`[6,7,21,24,29,32,46,47,54,55,69,72,77,80,94,95]`

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

No.	position	mapping
1	[x, x, x]	`[1,5,9,37,41,45,49,53,57,85,89,93]`
2	[$-x$, $-x$, x]	`[4,8,12,40,44,48,52,56,60,88,92,96]`
3	[$-x$, x, $-x$]	`[3,7,11,39,43,47,51,55,59,87,91,95]`
4	[x, $-x$, $-x$]	`[2,6,10,38,42,46,50,54,58,86,90,94]`
5	[x, x, $-x$]	`[16,20,24,28,32,36,64,68,72,76,80,84]`
6	[$-x$, $-x$, $-x$]	`[13,17,21,25,29,33,61,65,69,73,77,81]`
7	[x, $-x$, x]	`[15,19,23,27,31,35,63,67,71,75,79,83]`
8	[$-x$, x, x]	`[14,18,22,26,30,34,62,66,70,74,78,82]`

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

No.	position	mapping
1	[0, y, y]	`[1,18,26,41,49,66,74,89]`
2	[0, $-y$, y]	`[4,19,27,44,52,67,75,92]`
3	[0, y, $-y$]	`[3,20,28,43,51,68,76,91]`
4	[0, $-y$, $-y$]	`[2,17,25,42,50,65,73,90]`
5	[y, 0, y]	`[9,15,35,37,57,63,83,85]`
6	[y, 0, $-y$]	`[10,16,36,38,58,64,84,86]`
7	[$-y$, 0, y]	`[12,14,34,40,60,62,82,88]`

continued ...

Table 4

No.	position	mapping
8	$[-y, 0, -y]$	`[11,13,33,39,59,61,81,87]`
9	$[y, y, 0]$	`[5,24,32,45,53,72,80,93]`
10	$[-y, y, 0]$	`[7,22,30,47,55,70,78,95]`
11	$[y, -y, 0]$	`[6,23,31,46,54,71,79,94]`
12	$[-y, -y, 0]$	`[8,21,29,48,56,69,77,96]`

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

No.	position	mapping
1	$[0, y, z]$	`[1,26,49,74]`
2	$[0, -y, z]$	`[4,27,52,75]`
3	$[0, y, -z]$	`[3,28,51,76]`
4	$[0, -y, -z]$	`[2,25,50,73]`
5	$[z, 0, y]$	`[9,35,57,83]`
6	$[z, 0, -y]$	`[10,36,58,84]`
7	$[-z, 0, y]$	`[12,34,60,82]`
8	$[-z, 0, -y]$	`[11,33,59,81]`
9	$[y, z, 0]$	`[5,32,53,80]`
10	$[-y, z, 0]$	`[7,30,55,78]`
11	$[y, -z, 0]$	`[6,31,54,79]`
12	$[-y, -z, 0]$	`[8,29,56,77]`
13	$[y, 0, -z]$	`[16,38,64,86]`
14	$[-y, 0, -z]$	`[13,39,61,87]`
15	$[y, 0, z]$	`[15,37,63,85]`
16	$[-y, 0, z]$	`[14,40,62,88]`
17	$[0, z, -y]$	`[20,43,68,91]`
18	$[0, z, y]$	`[18,41,66,89]`
19	$[0, -z, -y]$	`[17,42,65,90]`
20	$[0, -z, y]$	`[19,44,67,92]`
21	$[z, y, 0]$	`[24,45,72,93]`
22	$[z, -y, 0]$	`[23,46,71,94]`
23	$[-z, y, 0]$	`[22,47,70,95]`
24	$[-z, -y, 0]$	`[21,48,69,96]`

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

No.	position	mapping
1	$[x, x, z]$	`[1,37,49,85]`
2	$[-x, -x, z]$	`[4,40,52,88]`
3	$[-x, x, -z]$	`[3,39,51,87]`
4	$[x, -x, -z]$	`[2,38,50,86]`
5	$[z, x, x]$	`[9,45,57,93]`

continued ...

Table 6

No.	position	mapping
6	$[z, -x, -x]$	[10,46,58,94]
7	$[-z, -x, x]$	[12,48,60,96]
8	$[-z, x, -x]$	[11,47,59,95]
9	$[x, z, x]$	[5,41,53,89]
10	$[-x, z, -x]$	[7,43,55,91]
11	$[x, -z, -x]$	[6,42,54,90]
12	$[-x, -z, x]$	[8,44,56,92]
13	$[x, x, -z]$	[16,28,64,76]
14	$[-x, -x, -z]$	[13,25,61,73]
15	$[x, -x, z]$	[15,27,63,75]
16	$[-x, x, z]$	[14,26,62,74]
17	$[x, z, -x]$	[20,32,68,80]
18	$[-x, z, x]$	[18,30,66,78]
19	$[-x, -z, -x]$	[17,29,65,77]
20	$[x, -z, x]$	[19,31,67,79]
21	$[z, x, -x]$	[24,36,72,84]
22	$[z, -x, x]$	[23,35,71,83]
23	$[-z, x, x]$	[22,34,70,82]
24	$[-z, -x, -x]$	[21,33,69,81]

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

No.	position	mapping
1	$[x, y, z]$	[1,49]
2	$[-x, -y, z]$	[4,52]
3	$[-x, y, -z]$	[3,51]
4	$[x, -y, -z]$	[2,50]
5	$[z, x, y]$	[9,57]
6	$[z, -x, -y]$	[10,58]
7	$[-z, -x, y]$	[12,60]
8	$[-z, x, -y]$	[11,59]
9	$[y, z, x]$	[5,53]
10	$[-y, z, -x]$	[7,55]
11	$[y, -z, -x]$	[6,54]
12	$[-y, -z, x]$	[8,56]
13	$[y, x, -z]$	[16,64]
14	$[-y, -x, -z]$	[13,61]
15	$[y, -x, z]$	[15,63]
16	$[-y, x, z]$	[14,62]
17	$[x, z, -y]$	[20,68]
18	$[-x, z, y]$	[18,66]
19	$[-x, -z, -y]$	[17,65]
20	$[x, -z, y]$	[19,67]
21	$[z, y, -x]$	[24,72]

continued ...

Table 7

No.	position	mapping
22	$[z, -y, x]$	[23,71]
23	$[-z, y, x]$	[22,70]
24	$[-z, -y, -x]$	[21,69]
25	$[-x, -y, -z]$	[25,73]
26	$[x, y, -z]$	[28,76]
27	$[x, -y, z]$	[27,75]
28	$[-x, y, z]$	[26,74]
29	$[-z, -x, -y]$	[33,81]
30	$[-z, x, y]$	[34,82]
31	$[z, x, -y]$	[36,84]
32	$[z, -x, y]$	[35,83]
33	$[-y, -z, -x]$	[29,77]
34	$[y, -z, x]$	[31,79]
35	$[-y, z, x]$	[30,78]
36	$[y, z, -x]$	[32,80]
37	$[-y, -x, z]$	[40,88]
38	$[y, x, z]$	[37,85]
39	$[-y, x, -z]$	[39,87]
40	$[y, -x, -z]$	[38,86]
41	$[-x, -z, y]$	[44,92]
42	$[x, -z, -y]$	[42,90]
43	$[x, z, y]$	[41,89]
44	$[-x, z, -y]$	[43,91]
45	$[-z, -y, x]$	[48,96]
46	$[-z, y, -x]$	[47,95]
47	$[z, -y, -x]$	[46,94]
48	$[z, y, x]$	[45,93]