MSG No. 210.52 $F4_132$ [Type I, cubic]

Table 1: Wyckoff site: 8a, site symmetry: 23.

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

Table 2: Wyckoff site: 8b, site symmetry: 23.

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

Table 3: Wyckoff site: 16c, site symmetry: .32

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

continued ...

Table 3

No.	position	mapping
16	$\left[\frac{5}{8}, \frac{5}{8}, \frac{1}{8}\right]$	[73,84,86,88,89,90]

Table 4: Wyckoff site: 16d, site symmetry: .32

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

Table 5: Wyckoff site: 32e, site symmetry: .3.

No.	position	mapping
1	$[x, x, x]$	[1,17,18]
2	$\left[x+\frac{1}{4}, \frac{1}{4}-x, x+\frac{1}{4}\right]$	[2,7,15]
3	$\left[x+\frac{1}{4}, x+\frac{1}{4}, \frac{1}{4}-x\right]$	[3,4,11]
4	$\left[\frac{1}{4}-x, x+\frac{1}{4}, x+\frac{1}{4}\right]$	[5,6,13]
5	$[x, -x, -x]$	[8,22,23]
6	$[-x, x, -x]$	[9,19,24]
7	$[-x, -x, x]$	[10,20,21]
8	$\left[\frac{1}{4}-x, \frac{1}{4}-x, \frac{1}{4}-x\right]$	[12,14,16]
9	$\left[x, x+\frac{1}{2}, x+\frac{1}{2}\right]$	[25,41,42]
10	$\left[x+\frac{1}{4}, \frac{3}{4}-x, x+\frac{3}{4}\right]$	[26,31,39]
11	$\left[x+\frac{1}{4}, x+\frac{3}{4}, \frac{3}{4}-x\right]$	[27,28,35]
12	$\left[\frac{1}{4}-x, x+\frac{3}{4}, x+\frac{3}{4}\right]$	[29,30,37]
13	$\left[x, \frac{1}{2}-x, \frac{1}{2}-x\right]$	[32,46,47]
14	$\left[-x, x+\frac{1}{2}, \frac{1}{2}-x\right]$	[33,43,48]
15	$\left[-x, \frac{1}{2}-x, x+\frac{1}{2}\right]$	[34,44,45]
16	$\left[\frac{1}{4}-x, \frac{3}{4}-x, \frac{3}{4}-x\right]$	[36,38,40]
17	$\left[x+\frac{1}{2}, x, x+\frac{1}{2}\right]$	[49,65,66]

continued ...

Table 5

No.	position	mapping
18	$\left[x+\frac{3}{4},\ \frac{1}{4}-x,\ x+\frac{3}{4}\right]$	[50,55,63]
19	$\left[x+\frac{3}{4},\ x+\frac{1}{4},\ \frac{3}{4}-x\right]$	[51,52,59]
20	$\left[\frac{3}{4}-x,\ x+\frac{1}{4},\ x+\frac{3}{4}\right]$	[53,54,61]
21	$\left[x+\frac{1}{2},\ -x,\ \frac{1}{2}-x\right]$	[56,70,71]
22	$\left[\frac{1}{2}-x,\ x,\ \frac{1}{2}-x\right]$	[57,67,72]
23	$\left[\frac{1}{2}-x,\ -x,\ x+\frac{1}{2}\right]$	[58,68,69]
24	$\left[\frac{3}{4}-x,\ \frac{1}{4}-x,\ \frac{3}{4}-x\right]$	[60,62,64]
25	$\left[x+\frac{1}{2},\ x+\frac{1}{2},\ x\right]$	[73,89,90]
26	$\left[x+\frac{3}{4},\ \frac{3}{4}-x,\ x+\frac{1}{4}\right]$	[74,79,87]
27	$\left[x+\frac{3}{4},\ x+\frac{3}{4},\ \frac{1}{4}-x\right]$	[75,76,83]
28	$\left[\frac{3}{4}-x,\ x+\frac{3}{4},\ x+\frac{1}{4}\right]$	[77,78,85]
29	$\left[x+\frac{1}{2},\ \frac{1}{2}-x,\ -x\right]$	[80,94,95]
30	$\left[\frac{1}{2}-x,\ x+\frac{1}{2},\ -x\right]$	[81,91,96]
31	$\left[\frac{1}{2}-x,\ \frac{1}{2}-x,\ x\right]$	[82,92,93]
32	$\left[\frac{3}{4}-x,\ \frac{3}{4}-x,\ \frac{1}{4}-x\right]$	[84,86,88]

Table 6: Wyckoff site: 48f, site symmetry: 2..

No.	position	mapping
1	$[x,\ 0,\ 0]$	[1,8]
2	$\left[x+\frac{1}{4},\ \frac{1}{4},\ \frac{1}{4}\right]$	[2,3]
3	$\left[\frac{1}{4},\ \frac{1}{4},\ \frac{1}{4}-x\right]$	[4,16]
4	$\left[\frac{1}{4},\ \frac{1}{4},\ x+\frac{1}{4}\right]$	[5,15]
5	$\left[\frac{1}{4},\ x+\frac{1}{4},\ \frac{1}{4}\right]$	[6,11]
6	$\left[\frac{1}{4},\ \frac{1}{4}-x,\ \frac{1}{4}\right]$	[7,12]
7	$[-x,\ 0,\ 0]$	[9,10]
8	$\left[\frac{1}{4}-x,\ \frac{1}{4},\ \frac{1}{4}\right]$	[13,14]
9	$[0,\ x,\ 0]$	[17,24]
10	$[0,\ 0,\ x]$	[18,21]
11	$[0,\ 0,\ -x]$	[19,23]
12	$[0,\ -x,\ 0]$	[20,22]
13	$\left[x,\ \frac{1}{2},\ \frac{1}{2}\right]$	[25,32]
14	$\left[x+\frac{1}{4},\ \frac{3}{4},\ \frac{3}{4}\right]$	[26,27]
15	$\left[\frac{1}{4},\ \frac{3}{4},\ \frac{3}{4}-x\right]$	[28,40]
16	$\left[\frac{1}{4},\ \frac{3}{4},\ x+\frac{3}{4}\right]$	[29,39]
17	$\left[\frac{1}{4},\ x+\frac{3}{4},\ \frac{3}{4}\right]$	[30,35]
18	$\left[\frac{1}{4},\ \frac{3}{4}-x,\ \frac{3}{4}\right]$	[31,36]
19	$\left[-x,\ \frac{1}{2},\ \frac{1}{2}\right]$	[33,34]
20	$\left[\frac{1}{4}-x,\ \frac{3}{4},\ \frac{3}{4}\right]$	[37,38]
21	$\left[0,\ x+\frac{1}{2},\ \frac{1}{2}\right]$	[41,48]
22	$\left[0,\ \frac{1}{2},\ x+\frac{1}{2}\right]$	[42,45]
23	$\left[0,\ \frac{1}{2},\ \frac{1}{2}-x\right]$	[43,47]
24	$\left[0,\ \frac{1}{2}-x,\ \frac{1}{2}\right]$	[44,46]
25	$\left[x+\frac{1}{2},\ 0,\ \frac{1}{2}\right]$	[49,56]

continued ...

Table 6

No.	position	mapping
26	$\left[x+\frac{3}{4},\ \frac{1}{4},\ \frac{3}{4}\right]$	[50,51]
27	$\left[\frac{3}{4},\ \frac{1}{4},\ \frac{3}{4}-x\right]$	[52,64]
28	$\left[\frac{3}{4},\ \frac{1}{4},\ x+\frac{3}{4}\right]$	[53,63]
29	$\left[\frac{3}{4},\ x+\frac{1}{4},\ \frac{3}{4}\right]$	[54,59]
30	$\left[\frac{3}{4},\ \frac{1}{4}-x,\ \frac{3}{4}\right]$	[55,60]
31	$\left[\frac{1}{2}-x,\ 0,\ \frac{1}{2}\right]$	[57,58]
32	$\left[\frac{3}{4}-x,\ \frac{1}{4},\ \frac{3}{4}\right]$	[61,62]
33	$\left[\frac{1}{2},\ x,\ \frac{1}{2}\right]$	[65,72]
34	$\left[\frac{1}{2},\ 0,\ x+\frac{1}{2}\right]$	[66,69]
35	$\left[\frac{1}{2},\ 0,\ \frac{1}{2}-x\right]$	[67,71]
36	$\left[\frac{1}{2},\ -x,\ \frac{1}{2}\right]$	[68,70]
37	$\left[x+\frac{1}{2},\ \frac{1}{2},\ 0\right]$	[73,80]
38	$\left[x+\frac{3}{4},\ \frac{3}{4},\ \frac{1}{4}\right]$	[74,75]
39	$\left[\frac{3}{4},\ \frac{3}{4},\ \frac{1}{4}-x\right]$	[76,88]
40	$\left[\frac{3}{4},\ \frac{3}{4},\ x+\frac{1}{4}\right]$	[77,87]
41	$\left[\frac{3}{4},\ x+\frac{3}{4},\ \frac{1}{4}\right]$	[78,83]
42	$\left[\frac{3}{4},\ \frac{3}{4}-x,\ \frac{1}{4}\right]$	[79,84]
43	$\left[\frac{1}{2}-x,\ \frac{1}{2},\ 0\right]$	[81,82]
44	$\left[\frac{3}{4}-x,\ \frac{3}{4},\ \frac{1}{4}\right]$	[85,86]
45	$\left[\frac{1}{2},\ x+\frac{1}{2},\ 0\right]$	[89,96]
46	$\left[\frac{1}{2},\ \frac{1}{2},\ x\right]$	[90,93]
47	$\left[\frac{1}{2},\ \frac{1}{2},\ -x\right]$	[91,95]
48	$\left[\frac{1}{2},\ \frac{1}{2}-x,\ 0\right]$	[92,94]

Table 7: Wyckoff site: 48g, site symmetry: ..2

No.	position	mapping
1	$\left[\frac{1}{8},\ y,\ \frac{1}{4}-y\right]$	[1,14]
2	$\left[\frac{3}{8},\ y,\ y+\frac{1}{4}\right]$	[2,57]
3	$\left[\frac{3}{8},\ \frac{1}{2}-y,\ \frac{1}{4}-y\right]$	[3,82]
4	$\left[\frac{1}{2}-y,\ y+\frac{1}{4},\ \frac{1}{8}\right]$	[4,93]
5	$\left[y,\ y+\frac{1}{4},\ \frac{3}{8}\right]$	[5,47]
6	$\left[\frac{1}{4}-y,\ \frac{3}{8},\ \frac{1}{2}-y\right]$	[6,46]
7	$\left[y+\frac{1}{4},\ \frac{1}{8},\ \frac{1}{2}-y\right]$	[7,72]
8	$\left[\frac{1}{8},\ -y,\ y+\frac{3}{4}\right]$	[8,37]
9	$\left[\frac{7}{8},\ y,\ y+\frac{3}{4}\right]$	[9,50]
10	$\left[\frac{7}{8},\ -y,\ \frac{1}{4}-y\right]$	[10,75]
11	$\left[y+\frac{1}{4},\ \frac{3}{8},\ y\right]$	[11,92]
12	$\left[\frac{1}{4}-y,\ \frac{1}{8},\ y\right]$	[12,17]
13	$\left[\frac{1}{8},\ \frac{1}{2}-y,\ y+\frac{1}{4}\right]$	[13,32]
14	$\left[\frac{1}{2}-y,\ \frac{1}{4}-y,\ \frac{3}{8}\right]$	[15,67]
15	$\left[y,\ \frac{1}{4}-y,\ \frac{1}{8}\right]$	[16,18]
16	$\left[-y,\ \frac{1}{4}-y,\ \frac{7}{8}\right]$	[19,63]
17	$\left[y+\frac{3}{4},\ \frac{7}{8},\ y\right]$	[20,83]

continued ...

Table 7

No.	position	mapping
18	$\left[-y,\, y+\frac{3}{4},\, \frac{1}{8}\right]$	[21,76]
19	$\left[\frac{1}{4}-y,\, \frac{7}{8},\, -y\right]$	[22,30]
20	$\left[y,\, y+\frac{3}{4},\, \frac{7}{8}\right]$	[23,29]
21	$\left[y+\frac{3}{4},\, \frac{1}{8},\, -y\right]$	[24,55]
22	$\left[\frac{1}{8},\, y+\frac{1}{2},\, \frac{3}{4}-y\right]$	[25,38]
23	$\left[\frac{3}{8},\, y+\frac{1}{2},\, y+\frac{3}{4}\right]$	[26,81]
24	$\left[\frac{3}{8},\, -y,\, \frac{3}{4}-y\right]$	[27,58]
25	$\left[\frac{1}{2}-y,\, y+\frac{3}{4},\, \frac{5}{8}\right]$	[28,69]
26	$\left[y+\frac{1}{4},\, \frac{5}{8},\, -y\right]$	[31,96]
27	$\left[\frac{7}{8},\, y+\frac{1}{2},\, y+\frac{1}{4}\right]$	[33,74]
28	$\left[\frac{7}{8},\, \frac{1}{2}-y,\, \frac{3}{4}-y\right]$	[34,51]
29	$\left[y+\frac{1}{4},\, \frac{7}{8},\, y+\frac{1}{2}\right]$	[35,68]
30	$\left[\frac{1}{4}-y,\, \frac{5}{8},\, y+\frac{1}{2}\right]$	[36,41]
31	$\left[\frac{1}{2}-y,\, \frac{3}{4}-y,\, \frac{7}{8}\right]$	[39,91]
32	$\left[y,\, \frac{3}{4}-y,\, \frac{5}{8}\right]$	[40,42]
33	$\left[-y,\, \frac{3}{4}-y,\, \frac{3}{8}\right]$	[43,87]
34	$\left[y+\frac{3}{4},\, \frac{3}{8},\, y+\frac{1}{2}\right]$	[44,59]
35	$\left[-y,\, y+\frac{1}{4},\, \frac{5}{8}\right]$	[45,52]
36	$\left[y+\frac{3}{4},\, \frac{5}{8},\, \frac{1}{2}-y\right]$	[48,79]
37	$\left[\frac{5}{8},\, y,\, \frac{3}{4}-y\right]$	[49,62]
38	$\left[y+\frac{1}{2},\, y+\frac{1}{4},\, \frac{7}{8}\right]$	[53,95]
39	$\left[\frac{3}{4}-y,\, \frac{3}{8},\, -y\right]$	[54,94]
40	$\left[\frac{5}{8},\, -y,\, y+\frac{1}{4}\right]$	[56,85]
41	$\left[\frac{3}{4}-y,\, \frac{1}{8},\, y+\frac{1}{2}\right]$	[60,65]
42	$\left[\frac{5}{8},\, \frac{1}{2}-y,\, y+\frac{3}{4}\right]$	[61,80]
43	$\left[y+\frac{1}{2},\, \frac{1}{4}-y,\, \frac{5}{8}\right]$	[64,66]
44	$\left[\frac{3}{4}-y,\, \frac{7}{8},\, \frac{1}{2}-y\right]$	[70,78]
45	$\left[y+\frac{1}{2},\, y+\frac{3}{4},\, \frac{3}{8}\right]$	[71,77]
46	$\left[\frac{5}{8},\, y+\frac{1}{2},\, \frac{1}{4}-y\right]$	[73,86]
47	$\left[\frac{3}{4}-y,\, \frac{5}{8},\, y\right]$	[84,89]
48	$\left[y+\frac{1}{2},\, \frac{3}{4}-y,\, \frac{1}{8}\right]$	[88,90]

Table 8: Wyckoff site: 96h, site symmetry: 1

No.	position	mapping
1	$[x,\, y,\, z]$	[1]
2	$\left[x+\frac{1}{4},\, \frac{1}{4}-z,\, y+\frac{1}{4}\right]$	[2]
3	$\left[x+\frac{1}{4},\, z+\frac{1}{4},\, \frac{1}{4}-y\right]$	[3]
4	$\left[z+\frac{1}{4},\, y+\frac{1}{4},\, \frac{1}{4}-x\right]$	[4]
5	$\left[\frac{1}{4}-z,\, y+\frac{1}{4},\, x+\frac{1}{4}\right]$	[5]
6	$\left[\frac{1}{4}-y,\, x+\frac{1}{4},\, z+\frac{1}{4}\right]$	[6]
7	$\left[y+\frac{1}{4},\, \frac{1}{4}-x,\, z+\frac{1}{4}\right]$	[7]
8	$[x,\, -y,\, -z]$	[8]
9	$[-x,\, y,\, -z]$	[9]

continued ...

Table 8

No.	position	mapping
10	$[-x, -y, z]$	[10]
11	$\left[y+\frac{1}{4}, x+\frac{1}{4}, \frac{1}{4}-z\right]$	[11]
12	$\left[\frac{1}{4}-y, \frac{1}{4}-x, \frac{1}{4}-z\right]$	[12]
13	$\left[\frac{1}{4}-x, z+\frac{1}{4}, y+\frac{1}{4}\right]$	[13]
14	$\left[\frac{1}{4}-x, \frac{1}{4}-z, \frac{1}{4}-y\right]$	[14]
15	$\left[z+\frac{1}{4}, \frac{1}{4}-y, x+\frac{1}{4}\right]$	[15]
16	$\left[\frac{1}{4}-z, \frac{1}{4}-y, \frac{1}{4}-x\right]$	[16]
17	$[z, x, y]$	[17]
18	$[y, z, x]$	[18]
19	$[-y, z, -x]$	[19]
20	$[-z, -x, y]$	[20]
21	$[-y, -z, x]$	[21]
22	$[z, -x, -y]$	[22]
23	$[y, -z, -x]$	[23]
24	$[-z, x, -y]$	[24]
25	$\left[x, y+\frac{1}{2}, z+\frac{1}{2}\right]$	[25]
26	$\left[x+\frac{1}{4}, \frac{3}{4}-z, y+\frac{3}{4}\right]$	[26]
27	$\left[x+\frac{1}{4}, z+\frac{3}{4}, \frac{3}{4}-y\right]$	[27]
28	$\left[z+\frac{1}{4}, y+\frac{3}{4}, \frac{3}{4}-x\right]$	[28]
29	$\left[\frac{1}{4}-z, y+\frac{3}{4}, x+\frac{3}{4}\right]$	[29]
30	$\left[\frac{1}{4}-y, x+\frac{3}{4}, z+\frac{3}{4}\right]$	[30]
31	$\left[y+\frac{1}{4}, \frac{3}{4}-x, z+\frac{3}{4}\right]$	[31]
32	$\left[x, \frac{1}{2}-y, \frac{1}{2}-z\right]$	[32]
33	$\left[-x, y+\frac{1}{2}, \frac{1}{2}-z\right]$	[33]
34	$\left[-x, \frac{1}{2}-y, z+\frac{1}{2}\right]$	[34]
35	$\left[y+\frac{1}{4}, x+\frac{3}{4}, \frac{3}{4}-z\right]$	[35]
36	$\left[\frac{1}{4}-y, \frac{3}{4}-x, \frac{3}{4}-z\right]$	[36]
37	$\left[\frac{1}{4}-x, z+\frac{3}{4}, y+\frac{3}{4}\right]$	[37]
38	$\left[\frac{1}{4}-x, \frac{3}{4}-z, \frac{3}{4}-y\right]$	[38]
39	$\left[z+\frac{1}{4}, \frac{3}{4}-y, x+\frac{3}{4}\right]$	[39]
40	$\left[\frac{1}{4}-z, \frac{3}{4}-y, \frac{3}{4}-x\right]$	[40]
41	$\left[z, x+\frac{1}{2}, y+\frac{1}{2}\right]$	[41]
42	$\left[y, z+\frac{1}{2}, x+\frac{1}{2}\right]$	[42]
43	$\left[-y, z+\frac{1}{2}, \frac{1}{2}-x\right]$	[43]
44	$\left[-z, \frac{1}{2}-x, y+\frac{1}{2}\right]$	[44]
45	$\left[-y, \frac{1}{2}-z, x+\frac{1}{2}\right]$	[45]
46	$\left[z, \frac{1}{2}-x, \frac{1}{2}-y\right]$	[46]
47	$\left[y, \frac{1}{2}-z, \frac{1}{2}-x\right]$	[47]
48	$\left[-z, x+\frac{1}{2}, \frac{1}{2}-y\right]$	[48]
49	$\left[x+\frac{1}{2}, y, z+\frac{1}{2}\right]$	[49]
50	$\left[x+\frac{3}{4}, \frac{1}{4}-z, y+\frac{3}{4}\right]$	[50]
51	$\left[x+\frac{3}{4}, z+\frac{1}{4}, \frac{3}{4}-y\right]$	[51]
52	$\left[z+\frac{3}{4}, y+\frac{1}{4}, \frac{3}{4}-x\right]$	[52]
53	$\left[\frac{3}{4}-z, y+\frac{1}{4}, x+\frac{3}{4}\right]$	[53]
54	$\left[\frac{3}{4}-y, x+\frac{1}{4}, z+\frac{3}{4}\right]$	[54]
55	$\left[y+\frac{3}{4}, \frac{1}{4}-x, z+\frac{3}{4}\right]$	[55]
56	$\left[x+\frac{1}{2}, -y, \frac{1}{2}-z\right]$	[56]

continued ...

Table 8

No.	position	mapping
57	$\left[\frac{1}{2}-x,\ y,\ \frac{1}{2}-z\right]$	[57]
58	$\left[\frac{1}{2}-x,\ -y,\ z+\frac{1}{2}\right]$	[58]
59	$\left[y+\frac{3}{4},\ x+\frac{1}{4},\ \frac{3}{4}-z\right]$	[59]
60	$\left[\frac{3}{4}-y,\ \frac{1}{4}-x,\ \frac{3}{4}-z\right]$	[60]
61	$\left[\frac{3}{4}-x,\ z+\frac{1}{4},\ y+\frac{3}{4}\right]$	[61]
62	$\left[\frac{3}{4}-x,\ \frac{1}{4}-z,\ \frac{3}{4}-y\right]$	[62]
63	$\left[z+\frac{3}{4},\ \frac{1}{4}-y,\ x+\frac{3}{4}\right]$	[63]
64	$\left[\frac{3}{4}-z,\ \frac{1}{4}-y,\ \frac{3}{4}-x\right]$	[64]
65	$\left[z+\frac{1}{2},\ x,\ y+\frac{1}{2}\right]$	[65]
66	$\left[y+\frac{1}{2},\ z,\ x+\frac{1}{2}\right]$	[66]
67	$\left[\frac{1}{2}-y,\ z,\ \frac{1}{2}-x\right]$	[67]
68	$\left[\frac{1}{2}-z,\ -x,\ y+\frac{1}{2}\right]$	[68]
69	$\left[\frac{1}{2}-y,\ -z,\ x+\frac{1}{2}\right]$	[69]
70	$\left[z+\frac{1}{2},\ -x,\ \frac{1}{2}-y\right]$	[70]
71	$\left[y+\frac{1}{2},\ -z,\ \frac{1}{2}-x\right]$	[71]
72	$\left[\frac{1}{2}-z,\ x,\ \frac{1}{2}-y\right]$	[72]
73	$\left[x+\frac{1}{2},\ y+\frac{1}{2},\ z\right]$	[73]
74	$\left[x+\frac{3}{4},\ \frac{3}{4}-z,\ y+\frac{1}{4}\right]$	[74]
75	$\left[x+\frac{3}{4},\ z+\frac{3}{4},\ \frac{1}{4}-y\right]$	[75]
76	$\left[z+\frac{3}{4},\ y+\frac{3}{4},\ \frac{1}{4}-x\right]$	[76]
77	$\left[\frac{3}{4}-z,\ y+\frac{3}{4},\ x+\frac{1}{4}\right]$	[77]
78	$\left[\frac{3}{4}-y,\ x+\frac{3}{4},\ z+\frac{1}{4}\right]$	[78]
79	$\left[y+\frac{3}{4},\ \frac{3}{4}-x,\ z+\frac{1}{4}\right]$	[79]
80	$\left[x+\frac{1}{2},\ \frac{1}{2}-y,\ -z\right]$	[80]
81	$\left[\frac{1}{2}-x,\ y+\frac{1}{2},\ -z\right]$	[81]
82	$\left[\frac{1}{2}-x,\ \frac{1}{2}-y,\ z\right]$	[82]
83	$\left[y+\frac{3}{4},\ x+\frac{3}{4},\ \frac{1}{4}-z\right]$	[83]
84	$\left[\frac{3}{4}-y,\ \frac{3}{4}-x,\ \frac{1}{4}-z\right]$	[84]
85	$\left[\frac{3}{4}-x,\ z+\frac{3}{4},\ y+\frac{1}{4}\right]$	[85]
86	$\left[\frac{3}{4}-x,\ \frac{3}{4}-z,\ \frac{1}{4}-y\right]$	[86]
87	$\left[z+\frac{3}{4},\ \frac{3}{4}-y,\ x+\frac{1}{4}\right]$	[87]
88	$\left[\frac{3}{4}-z,\ \frac{3}{4}-y,\ \frac{1}{4}-x\right]$	[88]
89	$\left[z+\frac{1}{2},\ x+\frac{1}{2},\ y\right]$	[89]
90	$\left[y+\frac{1}{2},\ z+\frac{1}{2},\ x\right]$	[90]
91	$\left[\frac{1}{2}-y,\ z+\frac{1}{2},\ -x\right]$	[91]
92	$\left[\frac{1}{2}-z,\ \frac{1}{2}-x,\ y\right]$	[92]
93	$\left[\frac{1}{2}-y,\ \frac{1}{2}-z,\ x\right]$	[93]
94	$\left[z+\frac{1}{2},\ \frac{1}{2}-x,\ -y\right]$	[94]
95	$\left[y+\frac{1}{2},\ \frac{1}{2}-z,\ -x\right]$	[95]
96	$\left[\frac{1}{2}-z,\ x+\frac{1}{2},\ -y\right]$	[96]