

MSG No. 230.145  $Ia\bar{3}d$  [ Type I, cubic ]

Table 1: Wyckoff site: 16a, site symmetry:  $\bar{6}$ .

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

Table 2: Wyckoff site: 16b, site symmetry:  $\bar{3}2$ .

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

Table 3: Wyckoff site: 24c, site symmetry: 2.22

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

Table 4: Wyckoff site: 24d, site symmetry:  $-4..$ 

No.	position	mapping
1	$[\frac{3}{8}, 0, \frac{1}{4}]$	[1,8,27,74]
2	$[\frac{5}{8}, 0, \frac{3}{4}]$	[2,25,32,51]
3	$[\frac{1}{8}, \frac{1}{2}, \frac{1}{4}]$	[3,50,73,80]
4	$[0, \frac{1}{4}, \frac{7}{8}]$	[4,16,47,91]
5	$[0, \frac{3}{4}, \frac{5}{8}]$	[5,42,45,63]
6	$[\frac{1}{4}, \frac{1}{8}, \frac{1}{2}]$	[6,59,89,96]
7	$[\frac{1}{4}, \frac{7}{8}, 0]$	[7,12,44,94]
8	$[\frac{1}{8}, 0, \frac{3}{4}]$	[9,58,85,86]
9	$[\frac{5}{8}, \frac{1}{2}, \frac{1}{4}]$	[10,37,38,57]
10	$[\frac{3}{4}, \frac{5}{8}, 0]$	[11,41,48,54]
11	$[\frac{7}{8}, 0, \frac{1}{4}]$	[13,14,33,82]
12	$[\frac{1}{2}, \frac{1}{4}, \frac{1}{8}]$	[15,53,90,93]
13	$[\frac{1}{4}, \frac{3}{8}, 0]$	[17,24,30,83]
14	$[0, \frac{1}{4}, \frac{3}{8}]$	[18,21,39,77]
15	$[\frac{1}{2}, \frac{1}{4}, \frac{5}{8}]$	[19,28,40,71]

*continued ...*

Table 4

No.	position	mapping
16	$[\frac{3}{4}, \frac{1}{8}, 0]$	[20,70,79,84]
17	$[\frac{1}{4}, \frac{5}{8}, \frac{1}{2}]$	[22,31,36,68]
18	$[0, \frac{3}{4}, \frac{1}{8}]$	[23,67,76,88]
19	$[\frac{7}{8}, \frac{1}{2}, \frac{3}{4}]$	[26,49,56,75]
20	$[\frac{1}{2}, \frac{3}{4}, \frac{7}{8}]$	[29,66,69,87]
21	$[\frac{3}{8}, \frac{1}{2}, \frac{3}{4}]$	[34,61,62,81]
22	$[\frac{3}{4}, \frac{7}{8}, \frac{1}{2}]$	[35,65,72,78]
23	$[\frac{1}{2}, \frac{3}{4}, \frac{3}{8}]$	[43,52,64,95]
24	$[\frac{3}{4}, \frac{3}{8}, \frac{1}{2}]$	[46,55,60,92]

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

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

continued ...

Table 5

No.	position	mapping
32	$[x + \frac{3}{4}, x + \frac{3}{4}, x + \frac{3}{4}]$	[84,86,88]

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

No.	position	mapping
1	$[x, 0, \frac{1}{4}]$	[1,8]
2	$[x + \frac{1}{4}, 0, \frac{3}{4}]$	[2,51]
3	$[x + \frac{3}{4}, \frac{1}{2}, \frac{1}{4}]$	[3,50]
4	$[0, \frac{1}{4}, \frac{1}{4} - x]$	[4,16]
5	$[0, \frac{3}{4}, x + \frac{1}{4}]$	[5,63]
6	$[\frac{1}{4}, x + \frac{3}{4}, \frac{1}{2}]$	[6,59]
7	$[\frac{1}{4}, \frac{1}{4} - x, 0]$	[7,12]
8	$[\frac{1}{2} - x, 0, \frac{3}{4}]$	[9,58]
9	$[-x, \frac{1}{2}, \frac{1}{4}]$	[10,57]
10	$[\frac{3}{4}, x + \frac{1}{4}, 0]$	[11,54]
11	$[\frac{1}{4} - x, 0, \frac{1}{4}]$	[13,14]
12	$[\frac{1}{2}, \frac{1}{4}, x + \frac{3}{4}]$	[15,53]
13	$[\frac{1}{4}, x, 0]$	[17,24]
14	$[0, \frac{1}{4}, x]$	[18,21]
15	$[\frac{1}{2}, \frac{1}{4}, -x]$	[19,71]
16	$[\frac{3}{4}, \frac{1}{2} - x, 0]$	[20,70]
17	$[\frac{1}{4}, -x, \frac{1}{2}]$	[22,68]
18	$[0, \frac{3}{4}, \frac{1}{2} - x]$	[23,67]
19	$[-x, 0, \frac{3}{4}]$	[25,32]
20	$[\frac{1}{4} - x, \frac{1}{2}, \frac{3}{4}]$	[26,75]
21	$[\frac{3}{4} - x, 0, \frac{1}{4}]$	[27,74]
22	$[\frac{1}{2}, \frac{1}{4}, x + \frac{1}{4}]$	[28,40]
23	$[\frac{1}{2}, \frac{3}{4}, \frac{1}{4} - x]$	[29,87]
24	$[\frac{1}{4}, \frac{3}{4} - x, 0]$	[30,83]
25	$[\frac{1}{4}, x + \frac{1}{4}, \frac{1}{2}]$	[31,36]
26	$[x + \frac{1}{2}, 0, \frac{1}{4}]$	[33,82]
27	$[x, \frac{1}{2}, \frac{3}{4}]$	[34,81]
28	$[\frac{3}{4}, \frac{1}{4} - x, \frac{1}{2}]$	[35,78]
29	$[x + \frac{1}{4}, \frac{1}{2}, \frac{1}{4}]$	[37,38]
30	$[0, \frac{1}{4}, \frac{3}{4} - x]$	[39,77]
31	$[\frac{3}{4}, -x, 0]$	[41,48]
32	$[0, \frac{3}{4}, -x]$	[42,45]
33	$[\frac{1}{2}, \frac{3}{4}, x]$	[43,95]
34	$[\frac{1}{4}, x + \frac{1}{2}, 0]$	[44,94]
35	$[\frac{3}{4}, x, \frac{1}{2}]$	[46,92]
36	$[0, \frac{1}{4}, x + \frac{1}{2}]$	[47,91]
37	$[x + \frac{1}{2}, \frac{1}{2}, \frac{3}{4}]$	[49,56]
38	$[\frac{1}{2}, \frac{3}{4}, \frac{3}{4} - x]$	[52,64]
39	$[\frac{3}{4}, \frac{3}{4} - x, \frac{1}{2}]$	[55,60]

continued ...

Table 6

No.	position	mapping
40	$[\frac{3}{4} - x, \frac{1}{2}, \frac{3}{4}]$	[61, 62]
41	$[\frac{3}{4}, x + \frac{1}{2}, \frac{1}{2}]$	[65, 72]
42	$[\frac{1}{2}, \frac{3}{4}, x + \frac{1}{2}]$	[66, 69]
43	$[\frac{1}{2} - x, \frac{1}{2}, \frac{1}{4}]$	[73, 80]
44	$[0, \frac{3}{4}, x + \frac{3}{4}]$	[76, 88]
45	$[\frac{3}{4}, x + \frac{3}{4}, 0]$	[79, 84]
46	$[x + \frac{3}{4}, 0, \frac{3}{4}]$	[85, 86]
47	$[\frac{1}{4}, \frac{1}{2} - x, \frac{1}{2}]$	[89, 96]
48	$[\frac{1}{2}, \frac{1}{4}, \frac{1}{2} - x]$	[90, 93]

Table 7: Wyckoff site: **48g**, site symmetry:  $\dots 2$ 

No.	position	mapping
1	$[\frac{1}{8}, y, \frac{1}{4} - y]$	[1, 14]
2	$[\frac{3}{8}, y, y + \frac{3}{4}]$	[2, 9]
3	$[\frac{7}{8}, \frac{1}{2} - y, \frac{1}{4} - y]$	[3, 10]
4	$[-y, y + \frac{1}{4}, \frac{1}{8}]$	[4, 21]
5	$[y, y + \frac{3}{4}, \frac{3}{8}]$	[5, 23]
6	$[\frac{1}{4} - y, \frac{7}{8}, \frac{1}{2} - y]$	[6, 22]
7	$[y + \frac{1}{4}, \frac{1}{8}, -y]$	[7, 24]
8	$[\frac{1}{8}, -y, y + \frac{1}{4}]$	[8, 13]
9	$[y + \frac{3}{4}, \frac{3}{8}, y]$	[11, 20]
10	$[\frac{1}{4} - y, \frac{1}{8}, y]$	[12, 17]
11	$[\frac{1}{2} - y, \frac{1}{4} - y, \frac{7}{8}]$	[15, 19]
12	$[y, \frac{1}{4} - y, \frac{1}{8}]$	[16, 18]
13	$[\frac{7}{8}, -y, y + \frac{3}{4}]$	[25, 86]
14	$[\frac{1}{8}, \frac{1}{2} - y, \frac{3}{4} - y]$	[26, 81]
15	$[\frac{5}{8}, y, y + \frac{1}{4}]$	[27, 82]
16	$[y + \frac{1}{2}, \frac{1}{4} - y, \frac{3}{8}]$	[28, 93]
17	$[\frac{1}{2} - y, \frac{3}{4} - y, \frac{1}{8}]$	[29, 95]
18	$[y + \frac{1}{4}, \frac{5}{8}, y]$	[30, 94]
19	$[\frac{1}{4} - y, \frac{3}{8}, y + \frac{1}{2}]$	[31, 96]
20	$[\frac{7}{8}, y, \frac{3}{4} - y]$	[32, 85]
21	$[\frac{5}{8}, -y, \frac{1}{4} - y]$	[33, 74]
22	$[\frac{1}{8}, y + \frac{1}{2}, y + \frac{3}{4}]$	[34, 75]
23	$[\frac{3}{4} - y, \frac{1}{8}, \frac{1}{2} - y]$	[35, 92]
24	$[y + \frac{1}{4}, \frac{3}{8}, \frac{1}{2} - y]$	[36, 89]
25	$[\frac{3}{8}, y + \frac{1}{2}, \frac{1}{4} - y]$	[37, 80]
26	$[\frac{3}{8}, \frac{1}{2} - y, y + \frac{1}{4}]$	[38, 73]
27	$[y, y + \frac{1}{4}, \frac{5}{8}]$	[39, 91]
28	$[\frac{1}{2} - y, y + \frac{1}{4}, \frac{3}{8}]$	[40, 90]
29	$[y + \frac{3}{4}, \frac{7}{8}, -y]$	[41, 84]
30	$[-y, y + \frac{3}{4}, \frac{7}{8}]$	[42, 88]
31	$[y + \frac{1}{2}, y + \frac{3}{4}, \frac{1}{8}]$	[43, 87]

*continued ...*

Table 7

No.	position	mapping
32	$[\frac{1}{4} - y, \frac{5}{8}, -y]$	[44, 83]
33	$[y, \frac{3}{4} - y, \frac{7}{8}]$	[45, 76]
34	$[y + \frac{3}{4}, \frac{1}{8}, y + \frac{1}{2}]$	[46, 78]
35	$[-y, \frac{1}{4} - y, \frac{5}{8}]$	[47, 77]
36	$[\frac{3}{4} - y, \frac{7}{8}, y]$	[48, 79]
37	$[\frac{5}{8}, y + \frac{1}{2}, \frac{3}{4} - y]$	[49, 62]
38	$[\frac{7}{8}, y + \frac{1}{2}, y + \frac{1}{4}]$	[50, 57]
39	$[\frac{3}{8}, -y, \frac{3}{4} - y]$	[51, 58]
40	$[\frac{1}{2} - y, y + \frac{3}{4}, \frac{5}{8}]$	[52, 69]
41	$[y + \frac{1}{2}, y + \frac{1}{4}, \frac{7}{8}]$	[53, 71]
42	$[\frac{3}{4} - y, \frac{3}{8}, -y]$	[54, 70]
43	$[y + \frac{3}{4}, \frac{5}{8}, \frac{1}{2} - y]$	[55, 72]
44	$[\frac{5}{8}, \frac{1}{2} - y, y + \frac{3}{4}]$	[56, 61]
45	$[y + \frac{1}{4}, \frac{7}{8}, y + \frac{1}{2}]$	[59, 68]
46	$[\frac{3}{4} - y, \frac{5}{8}, y + \frac{1}{2}]$	[60, 65]
47	$[-y, \frac{3}{4} - y, \frac{3}{8}]$	[63, 67]
48	$[y + \frac{1}{2}, \frac{3}{4} - y, \frac{5}{8}]$	[64, 66]

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

No.	position	mapping
1	$[x, y, z]$	[1]
2	$[x + \frac{1}{4}, \frac{1}{4} - z, y + \frac{3}{4}]$	[2]
3	$[x + \frac{3}{4}, z + \frac{1}{4}, \frac{1}{4} - y]$	[3]
4	$[z + \frac{3}{4}, y + \frac{1}{4}, \frac{1}{4} - x]$	[4]
5	$[\frac{1}{4} - z, y + \frac{3}{4}, x + \frac{1}{4}]$	[5]
6	$[\frac{1}{4} - y, x + \frac{3}{4}, z + \frac{1}{4}]$	[6]
7	$[y + \frac{1}{4}, \frac{1}{4} - x, z + \frac{3}{4}]$	[7]
8	$[x, -y, \frac{1}{2} - z]$	[8]
9	$[\frac{1}{2} - x, y, -z]$	[9]
10	$[-x, \frac{1}{2} - y, z]$	[10]
11	$[y + \frac{3}{4}, x + \frac{1}{4}, \frac{1}{4} - z]$	[11]
12	$[\frac{1}{4} - y, \frac{1}{4} - x, \frac{1}{4} - z]$	[12]
13	$[\frac{1}{4} - x, z + \frac{3}{4}, y + \frac{1}{4}]$	[13]
14	$[\frac{1}{4} - x, \frac{1}{4} - z, \frac{1}{4} - y]$	[14]
15	$[z + \frac{1}{4}, \frac{1}{4} - y, x + \frac{3}{4}]$	[15]
16	$[\frac{1}{4} - z, \frac{1}{4} - y, \frac{1}{4} - x]$	[16]
17	$[z, x, y]$	[17]
18	$[y, z, x]$	[18]
19	$[\frac{1}{2} - y, z, -x]$	[19]
20	$[-z, \frac{1}{2} - x, y]$	[20]
21	$[-y, \frac{1}{2} - z, x]$	[21]
22	$[z, -x, \frac{1}{2} - y]$	[22]
23	$[y, -z, \frac{1}{2} - x]$	[23]

continued ...

Table 8

No.	position	mapping
24	$[\frac{1}{2} - z, x, -y]$	[24]
25	$[-x, -y, -z]$	[25]
26	$[\frac{1}{4} - x, z + \frac{1}{4}, \frac{3}{4} - y]$	[26]
27	$[\frac{3}{4} - x, \frac{1}{4} - z, y + \frac{1}{4}]$	[27]
28	$[\frac{3}{4} - z, \frac{1}{4} - y, x + \frac{1}{4}]$	[28]
29	$[z + \frac{1}{4}, \frac{3}{4} - y, \frac{1}{4} - x]$	[29]
30	$[y + \frac{1}{4}, \frac{3}{4} - x, \frac{1}{4} - z]$	[30]
31	$[\frac{1}{4} - y, x + \frac{1}{4}, \frac{3}{4} - z]$	[31]
32	$[-x, y, z + \frac{1}{2}]$	[32]
33	$[x + \frac{1}{2}, -y, z]$	[33]
34	$[x, y + \frac{1}{2}, -z]$	[34]
35	$[\frac{3}{4} - y, \frac{1}{4} - x, z + \frac{1}{4}]$	[35]
36	$[y + \frac{1}{4}, x + \frac{1}{4}, z + \frac{1}{4}]$	[36]
37	$[x + \frac{1}{4}, \frac{3}{4} - z, \frac{1}{4} - y]$	[37]
38	$[x + \frac{1}{4}, z + \frac{1}{4}, y + \frac{1}{4}]$	[38]
39	$[\frac{1}{4} - z, y + \frac{1}{4}, \frac{3}{4} - x]$	[39]
40	$[z + \frac{1}{4}, y + \frac{1}{4}, x + \frac{1}{4}]$	[40]
41	$[-z, -x, -y]$	[41]
42	$[-y, -z, -x]$	[42]
43	$[y + \frac{1}{2}, -z, x]$	[43]
44	$[z, x + \frac{1}{2}, -y]$	[44]
45	$[y, z + \frac{1}{2}, -x]$	[45]
46	$[-z, x, y + \frac{1}{2}]$	[46]
47	$[-y, z, x + \frac{1}{2}]$	[47]
48	$[z + \frac{1}{2}, -x, y]$	[48]
49	$[x + \frac{1}{2}, y + \frac{1}{2}, z + \frac{1}{2}]$	[49]
50	$[x + \frac{3}{4}, \frac{3}{4} - z, y + \frac{1}{4}]$	[50]
51	$[x + \frac{1}{4}, z + \frac{3}{4}, \frac{3}{4} - y]$	[51]
52	$[z + \frac{1}{4}, y + \frac{3}{4}, \frac{3}{4} - x]$	[52]
53	$[\frac{3}{4} - z, y + \frac{1}{4}, x + \frac{3}{4}]$	[53]
54	$[\frac{3}{4} - y, x + \frac{1}{4}, z + \frac{3}{4}]$	[54]
55	$[y + \frac{3}{4}, \frac{3}{4} - x, z + \frac{1}{4}]$	[55]
56	$[x + \frac{1}{2}, \frac{1}{2} - y, -z]$	[56]
57	$[-x, y + \frac{1}{2}, \frac{1}{2} - z]$	[57]
58	$[\frac{1}{2} - x, -y, z + \frac{1}{2}]$	[58]
59	$[y + \frac{1}{4}, x + \frac{3}{4}, \frac{3}{4} - z]$	[59]
60	$[\frac{3}{4} - y, \frac{3}{4} - x, \frac{3}{4} - z]$	[60]
61	$[\frac{3}{4} - x, z + \frac{1}{4}, y + \frac{3}{4}]$	[61]
62	$[\frac{3}{4} - x, \frac{3}{4} - z, \frac{3}{4} - y]$	[62]
63	$[z + \frac{3}{4}, \frac{3}{4} - y, x + \frac{1}{4}]$	[63]
64	$[\frac{3}{4} - z, \frac{3}{4} - y, \frac{3}{4} - x]$	[64]
65	$[z + \frac{1}{2}, x + \frac{1}{2}, y + \frac{1}{2}]$	[65]
66	$[y + \frac{1}{2}, z + \frac{1}{2}, x + \frac{1}{2}]$	[66]
67	$[-y, z + \frac{1}{2}, \frac{1}{2} - x]$	[67]
68	$[\frac{1}{2} - z, -x, y + \frac{1}{2}]$	[68]
69	$[\frac{1}{2} - y, -z, x + \frac{1}{2}]$	[69]
70	$[z + \frac{1}{2}, \frac{1}{2} - x, -y]$	[70]

continued ...

Table 8

No.	position	mapping
71	$[y + \frac{1}{2}, \frac{1}{2} - z, -x]$	[71]
72	$[-z, x + \frac{1}{2}, \frac{1}{2} - y]$	[72]
73	$[\frac{1}{2} - x, \frac{1}{2} - y, \frac{1}{2} - z]$	[73]
74	$[\frac{3}{4} - x, z + \frac{3}{4}, \frac{1}{4} - y]$	[74]
75	$[\frac{1}{4} - x, \frac{3}{4} - z, y + \frac{3}{4}]$	[75]
76	$[\frac{1}{4} - z, \frac{3}{4} - y, x + \frac{3}{4}]$	[76]
77	$[z + \frac{3}{4}, \frac{1}{4} - y, \frac{3}{4} - x]$	[77]
78	$[y + \frac{3}{4}, \frac{1}{4} - x, \frac{3}{4} - z]$	[78]
79	$[\frac{3}{4} - y, x + \frac{3}{4}, \frac{1}{4} - z]$	[79]
80	$[\frac{1}{2} - x, y + \frac{1}{2}, z]$	[80]
81	$[x, \frac{1}{2} - y, z + \frac{1}{2}]$	[81]
82	$[x + \frac{1}{2}, y, \frac{1}{2} - z]$	[82]
83	$[\frac{1}{4} - y, \frac{3}{4} - x, z + \frac{3}{4}]$	[83]
84	$[y + \frac{3}{4}, x + \frac{3}{4}, z + \frac{3}{4}]$	[84]
85	$[x + \frac{3}{4}, \frac{1}{4} - z, \frac{3}{4} - y]$	[85]
86	$[x + \frac{3}{4}, z + \frac{3}{4}, y + \frac{3}{4}]$	[86]
87	$[\frac{3}{4} - z, y + \frac{3}{4}, \frac{1}{4} - x]$	[87]
88	$[z + \frac{3}{4}, y + \frac{3}{4}, x + \frac{3}{4}]$	[88]
89	$[\frac{1}{2} - z, \frac{1}{2} - x, \frac{1}{2} - y]$	[89]
90	$[\frac{1}{2} - y, \frac{1}{2} - z, \frac{1}{2} - x]$	[90]
91	$[y, \frac{1}{2} - z, x + \frac{1}{2}]$	[91]
92	$[z + \frac{1}{2}, x, \frac{1}{2} - y]$	[92]
93	$[y + \frac{1}{2}, z, \frac{1}{2} - x]$	[93]
94	$[\frac{1}{2} - z, x + \frac{1}{2}, y]$	[94]
95	$[\frac{1}{2} - y, z + \frac{1}{2}, x]$	[95]
96	$[z, \frac{1}{2} - x, y + \frac{1}{2}]$	[96]