MSG No. 109.244 I_c4_1md [Type IV, tetragonal]

Table 1: Wyckoff site: `8a`, site symmetry: `2mm.`

No.	position	mapping
1	$[0,\ 0,\ z]$	`[1,4,5,6]`
2	$\left[0,\ \frac{1}{2},\ z+\frac{1}{4}\right]$	`[2,3,7,8]`
3	$\left[\frac{1}{2},\ \frac{1}{2},\ z+\frac{1}{2}\right]$	`[9,12,13,14]`
4	$\left[\frac{1}{2},\ 0,\ z+\frac{3}{4}\right]$	`[10,11,15,16]`
5	$\left[0,\ 0,\ z+\frac{1}{2}\right]$	`[17,20,21,22]`
6	$\left[0,\ \frac{1}{2},\ z+\frac{3}{4}\right]$	`[18,19,23,24]`
7	$\left[\frac{1}{2},\ \frac{1}{2},\ z\right]$	`[25,28,29,30]`
8	$\left[\frac{1}{2},\ 0,\ z+\frac{1}{4}\right]$	`[26,27,31,32]`

Table 2: Wyckoff site: `16b`, site symmetry: `2'..`

No.	position	mapping
1	$\left[\frac{3}{4},\ \frac{1}{4},\ z\right]$	`[1,28]`
2	$\left[\frac{3}{4},\ \frac{1}{4},\ z+\frac{1}{4}\right]$	`[2,27]`
3	$\left[\frac{1}{4},\ \frac{3}{4},\ z+\frac{1}{4}\right]$	`[3,26]`
4	$\left[\frac{1}{4},\ \frac{3}{4},\ z\right]$	`[4,25]`
5	$\left[\frac{1}{4},\ \frac{1}{4},\ z\right]$	`[5,30]`
6	$\left[\frac{3}{4},\ \frac{3}{4},\ z\right]$	`[6,29]`
7	$\left[\frac{3}{4},\ \frac{3}{4},\ z+\frac{1}{4}\right]$	`[7,32]`
8	$\left[\frac{1}{4},\ \frac{1}{4},\ z+\frac{1}{4}\right]$	`[8,31]`
9	$\left[\frac{1}{4},\ \frac{3}{4},\ z+\frac{1}{2}\right]$	`[9,20]`
10	$\left[\frac{1}{4},\ \frac{3}{4},\ z+\frac{3}{4}\right]$	`[10,19]`
11	$\left[\frac{3}{4},\ \frac{1}{4},\ z+\frac{3}{4}\right]$	`[11,18]`
12	$\left[\frac{3}{4},\ \frac{1}{4},\ z+\frac{1}{2}\right]$	`[12,17]`
13	$\left[\frac{3}{4},\ \frac{3}{4},\ z+\frac{1}{2}\right]$	`[13,22]`
14	$\left[\frac{1}{4},\ \frac{1}{4},\ z+\frac{1}{2}\right]$	`[14,21]`
15	$\left[\frac{1}{4},\ \frac{1}{4},\ z+\frac{3}{4}\right]$	`[15,24]`
16	$\left[\frac{3}{4},\ \frac{3}{4},\ z+\frac{3}{4}\right]$	`[16,23]`

Table 3: Wyckoff site: `16c`, site symmetry: `.m.`

No.	position	mapping
1	$[0,\ y,\ z]$	`[1,5]`
2	$\left[-y,\ \frac{1}{2},\ z+\frac{1}{4}\right]$	`[2,7]`
3	$\left[y,\ \frac{1}{2},\ z+\frac{1}{4}\right]$	`[3,8]`
4	$[0,\ -y,\ z]$	`[4,6]`
5	$\left[\frac{1}{2},\ y+\frac{1}{2},\ z+\frac{1}{2}\right]$	`[9,13]`
6	$\left[\frac{1}{2}-y,\ 0,\ z+\frac{3}{4}\right]$	`[10,15]`
7	$\left[y+\frac{1}{2},\ 0,\ z+\frac{3}{4}\right]$	`[11,16]`

continued ...

Table 3

No.	position	mapping
8	$\left[\frac{1}{2},\ \frac{1}{2}-y,\ z+\frac{1}{2}\right]$	[12,14]
9	$\left[0,\ y,\ z+\frac{1}{2}\right]$	[17,21]
10	$\left[-y,\ \frac{1}{2},\ z+\frac{3}{4}\right]$	[18,23]
11	$\left[y,\ \frac{1}{2},\ z+\frac{3}{4}\right]$	[19,24]
12	$\left[0,\ -y,\ z+\frac{1}{2}\right]$	[20,22]
13	$\left[\frac{1}{2},\ y+\frac{1}{2},\ z\right]$	[25,29]
14	$\left[\frac{1}{2}-y,\ 0,\ z+\frac{1}{4}\right]$	[26,31]
15	$\left[y+\frac{1}{2},\ 0,\ z+\frac{1}{4}\right]$	[27,32]
16	$\left[\frac{1}{2},\ \frac{1}{2}-y,\ z\right]$	[28,30]

Table 4: Wyckoff site: 32d, site symmetry: 1

No.	position	mapping
1	$[x,\ y,\ z]$	[1]
2	$\left[-y,\ x+\frac{1}{2},\ z+\frac{1}{4}\right]$	[2]
3	$\left[y,\ \frac{1}{2}-x,\ z+\frac{1}{4}\right]$	[3]
4	$[-x,\ -y,\ z]$	[4]
5	$[-x,\ y,\ z]$	[5]
6	$[x,\ -y,\ z]$	[6]
7	$\left[-y,\ \frac{1}{2}-x,\ z+\frac{1}{4}\right]$	[7]
8	$\left[y,\ x+\frac{1}{2},\ z+\frac{1}{4}\right]$	[8]
9	$\left[x+\frac{1}{2},\ y+\frac{1}{2},\ z+\frac{1}{2}\right]$	[9]
10	$\left[\frac{1}{2}-y,\ x,\ z+\frac{3}{4}\right]$	[10]
11	$\left[y+\frac{1}{2},\ -x,\ z+\frac{3}{4}\right]$	[11]
12	$\left[\frac{1}{2}-x,\ \frac{1}{2}-y,\ z+\frac{1}{2}\right]$	[12]
13	$\left[\frac{1}{2}-x,\ y+\frac{1}{2},\ z+\frac{1}{2}\right]$	[13]
14	$\left[x+\frac{1}{2},\ \frac{1}{2}-y,\ z+\frac{1}{2}\right]$	[14]
15	$\left[\frac{1}{2}-y,\ -x,\ z+\frac{3}{4}\right]$	[15]
16	$\left[y+\frac{1}{2},\ x,\ z+\frac{3}{4}\right]$	[16]
17	$\left[x,\ y,\ z+\frac{1}{2}\right]$	[17]
18	$\left[-y,\ x+\frac{1}{2},\ z+\frac{3}{4}\right]$	[18]
19	$\left[y,\ \frac{1}{2}-x,\ z+\frac{3}{4}\right]$	[19]
20	$\left[-x,\ -y,\ z+\frac{1}{2}\right]$	[20]
21	$\left[-x,\ y,\ z+\frac{1}{2}\right]$	[21]
22	$\left[x,\ -y,\ z+\frac{1}{2}\right]$	[22]
23	$\left[-y,\ \frac{1}{2}-x,\ z+\frac{3}{4}\right]$	[23]
24	$\left[y,\ x+\frac{1}{2},\ z+\frac{3}{4}\right]$	[24]
25	$\left[x+\frac{1}{2},\ y+\frac{1}{2},\ z\right]$	[25]
26	$\left[\frac{1}{2}-y,\ x,\ z+\frac{1}{4}\right]$	[26]
27	$\left[y+\frac{1}{2},\ -x,\ z+\frac{1}{4}\right]$	[27]
28	$\left[\frac{1}{2}-x,\ \frac{1}{2}-y,\ z\right]$	[28]
29	$\left[\frac{1}{2}-x,\ y+\frac{1}{2},\ z\right]$	[29]
30	$\left[x+\frac{1}{2},\ \frac{1}{2}-y,\ z\right]$	[30]
31	$\left[\frac{1}{2}-y,\ -x,\ z+\frac{1}{4}\right]$	[31]

continued ...

Table 4

No.	position	mapping
32	$\left[y+\frac{1}{2}, x, z+\frac{1}{4}\right]$	[32]