MSG No. 82.42 $I_c\bar{4}$ [Type IV, tetragonal]

Table 1: Wyckoff site: 4a, site symmetry: -4..

No.	position	mapping
1	$[0, 0, 0]$	[1,2,3,4]
2	$\left[\frac{1}{2}, \frac{1}{2}, \frac{1}{2}\right]$	[5,6,7,8]
3	$\left[0, 0, \frac{1}{2}\right]$	[9,10,11,12]
4	$\left[\frac{1}{2}, \frac{1}{2}, 0\right]$	[13,14,15,16]

Table 2: Wyckoff site: 4b, site symmetry: -4'..

No.	position	mapping
1	$\left[0, 0, \frac{1}{4}\right]$	[1,2,11,12]
2	$\left[0, 0, \frac{3}{4}\right]$	[3,4,9,10]
3	$\left[\frac{1}{2}, \frac{1}{2}, \frac{3}{4}\right]$	[5,6,15,16]
4	$\left[\frac{1}{2}, \frac{1}{2}, \frac{1}{4}\right]$	[7,8,13,14]

Table 3: Wyckoff site: 4c, site symmetry: -4'..

No.	position	mapping
1	$\left[0, \frac{1}{2}, 0\right]$	[1,2,15,16]
2	$\left[\frac{1}{2}, 0, 0\right]$	[3,4,13,14]
3	$\left[\frac{1}{2}, 0, \frac{1}{2}\right]$	[5,6,11,12]
4	$\left[0, \frac{1}{2}, \frac{1}{2}\right]$	[7,8,9,10]

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

No.	position	mapping
1	$\left[0, \frac{1}{2}, \frac{1}{4}\right]$	[1,2,7,8]
2	$\left[\frac{1}{2}, 0, \frac{3}{4}\right]$	[3,4,5,6]
3	$\left[0, \frac{1}{2}, \frac{3}{4}\right]$	[9,10,15,16]
4	$\left[\frac{1}{2}, 0, \frac{1}{4}\right]$	[11,12,13,14]

Table 5: Wyckoff site: 8e, site symmetry: 2..

No.	position	mapping
1	$[0, 0, z]$	[1,2]
2	$[0, 0, -z]$	[3,4]

continued ...

Table 5

No.	position	mapping
3	$\left[\frac{1}{2}, \frac{1}{2}, z+\frac{1}{2}\right]$	[5,6]
4	$\left[\frac{1}{2}, \frac{1}{2}, \frac{1}{2}-z\right]$	[7,8]
5	$\left[0, 0, z+\frac{1}{2}\right]$	[9,10]
6	$\left[0, 0, \frac{1}{2}-z\right]$	[11,12]
7	$\left[\frac{1}{2}, \frac{1}{2}, z\right]$	[13,14]
8	$\left[\frac{1}{2}, \frac{1}{2}, -z\right]$	[15,16]

Table 6: Wyckoff site: 8f, site symmetry: 2..

No.	position	mapping
1	$\left[0, \frac{1}{2}, z\right]$	[1,2]
2	$\left[\frac{1}{2}, 0, -z\right]$	[3,4]
3	$\left[\frac{1}{2}, 0, z+\frac{1}{2}\right]$	[5,6]
4	$\left[0, \frac{1}{2}, \frac{1}{2}-z\right]$	[7,8]
5	$\left[0, \frac{1}{2}, z+\frac{1}{2}\right]$	[9,10]
6	$\left[\frac{1}{2}, 0, \frac{1}{2}-z\right]$	[11,12]
7	$\left[\frac{1}{2}, 0, z\right]$	[13,14]
8	$\left[0, \frac{1}{2}, -z\right]$	[15,16]

Table 7: Wyckoff site: 8g, site symmetry: 2'..

No.	position	mapping
1	$\left[\frac{3}{4}, \frac{1}{4}, z\right]$	[1,14]
2	$\left[\frac{1}{4}, \frac{3}{4}, z\right]$	[2,13]
3	$\left[\frac{1}{4}, \frac{1}{4}, -z\right]$	[3,16]
4	$\left[\frac{3}{4}, \frac{3}{4}, -z\right]$	[4,15]
5	$\left[\frac{1}{4}, \frac{3}{4}, z+\frac{1}{2}\right]$	[5,10]
6	$\left[\frac{3}{4}, \frac{1}{4}, z+\frac{1}{2}\right]$	[6,9]
7	$\left[\frac{3}{4}, \frac{3}{4}, \frac{1}{2}-z\right]$	[7,12]
8	$\left[\frac{1}{4}, \frac{1}{4}, \frac{1}{2}-z\right]$	[8,11]

Table 8: Wyckoff site: 16h, site symmetry: 1

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

continued ...

Table 8

No.	position	mapping
6	$\left[\frac{1}{2} - x,\ \frac{1}{2} - y,\ z + \frac{1}{2}\right]$	[6]
7	$\left[y + \frac{1}{2},\ \frac{1}{2} - x,\ \frac{1}{2} - z\right]$	[7]
8	$\left[\frac{1}{2} - y,\ x + \frac{1}{2},\ \frac{1}{2} - z\right]$	[8]
9	$\left[x,\ y,\ z + \frac{1}{2}\right]$	[9]
10	$\left[-x,\ -y,\ z + \frac{1}{2}\right]$	[10]
11	$\left[y,\ -x,\ \frac{1}{2} - z\right]$	[11]
12	$\left[-y,\ x,\ \frac{1}{2} - z\right]$	[12]
13	$\left[x + \frac{1}{2},\ y + \frac{1}{2},\ z\right]$	[13]
14	$\left[\frac{1}{2} - x,\ \frac{1}{2} - y,\ z\right]$	[14]
15	$\left[y + \frac{1}{2},\ \frac{1}{2} - x,\ -z\right]$	[15]
16	$\left[\frac{1}{2} - y,\ x + \frac{1}{2},\ -z\right]$	[16]