MSG No. 212.60 $P4_3 321'$ [Type II, cubic]

Table 1: Wyckoff site: 4a, site symmetry: .321'

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

Table 2: Wyckoff site: 4b, site symmetry: .321'

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

Table 3: Wyckoff site: 8c, site symmetry: .3.1'

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

Table 4: Wyckoff site: 12d, site symmetry: ..21'

No.	position	mapping
1	$\left[\frac{1}{8},\, y,\, \frac{1}{4}-y\right]$	[1,14,25,38]
2	$\left[\frac{7}{8},\, y+\frac{1}{2},\, y+\frac{1}{4}\right]$	[2,9,26,33]
3	$\left[\frac{3}{8},\, -y,\, \frac{3}{4}-y\right]$	[3,10,27,34]
4	$\left[\frac{1}{2}-y,\, y+\frac{3}{4},\, \frac{5}{8}\right]$	[4,21,28,45]
5	$\left[y+\frac{1}{2},\, y+\frac{1}{4},\, \frac{7}{8}\right]$	[5,23,29,47]
6	$\left[\frac{3}{4}-y,\, \frac{3}{8},\, -y\right]$	[6,22,30,46]
7	$\left[y+\frac{3}{4},\, \frac{5}{8},\, \frac{1}{2}-y\right]$	[7,24,31,48]
8	$\left[\frac{5}{8},\, \frac{1}{2}-y,\, y+\frac{3}{4}\right]$	[8,13,32,37]
9	$\left[y+\frac{1}{4},\, \frac{7}{8},\, y+\frac{1}{2}\right]$	[11,20,35,44]

continued ...

Table 4

No.	position	mapping
10	$\left[\frac{1}{4} - y, \frac{1}{8}, y\right]$	[12,17,36,41]
11	$\left[-y, \frac{3}{4} - y, \frac{3}{8}\right]$	[15,19,39,43]
12	$\left[y, \frac{1}{4} - y, \frac{1}{8}\right]$	[16,18,40,42]

Table 5: Wyckoff site: 24e, site symmetry: 11'

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