

MSG No. 10.47 P_a2/m [Type IV, monoclinic]

Table 1: Wyckoff site: 2a, site symmetry: $2/m$

No.	position	mapping
1	$[0, 0, 0]$	$[1, 2, 3, 4]$
2	$[\frac{1}{2}, 0, 0]$	$[5, 6, 7, 8]$

Table 2: Wyckoff site: 2b, site symmetry: $2/m$

No.	position	mapping
1	$[0, \frac{1}{2}, 0]$	$[1, 2, 3, 4]$
2	$[\frac{1}{2}, \frac{1}{2}, 0]$	$[5, 6, 7, 8]$

Table 3: Wyckoff site: 2c, site symmetry: $2/m$

No.	position	mapping
1	$[0, 0, \frac{1}{2}]$	$[1, 2, 3, 4]$
2	$[\frac{1}{2}, 0, \frac{1}{2}]$	$[5, 6, 7, 8]$

Table 4: Wyckoff site: 2d, site symmetry: $2'/m$

No.	position	mapping
1	$[\frac{1}{4}, 0, 0]$	$[1, 4, 6, 7]$
2	$[\frac{3}{4}, 0, 0]$	$[2, 3, 5, 8]$

Table 5: Wyckoff site: 2e, site symmetry: $2'/m$

No.	position	mapping
1	$[\frac{1}{4}, \frac{1}{2}, 0]$	$[1, 4, 6, 7]$
2	$[\frac{3}{4}, \frac{1}{2}, 0]$	$[2, 3, 5, 8]$

Table 6: Wyckoff site: 2f, site symmetry: $2/m$

No.	position	mapping
1	$[0, \frac{1}{2}, \frac{1}{2}]$	$[1, 2, 3, 4]$
2	$[\frac{1}{2}, \frac{1}{2}, \frac{1}{2}]$	$[5, 6, 7, 8]$

Table 7: Wyckoff site: 2g, site symmetry: $2'/m$

No.	position	mapping
1	$[\frac{1}{4}, 0, \frac{1}{2}]$	[1,4,6,7]
2	$[\frac{3}{4}, 0, \frac{1}{2}]$	[2,3,5,8]

Table 8: Wyckoff site: 2h, site symmetry: $2'/m$

No.	position	mapping
1	$[\frac{1}{4}, \frac{1}{2}, \frac{1}{2}]$	[1,4,6,7]
2	$[\frac{3}{4}, \frac{1}{2}, \frac{1}{2}]$	[2,3,5,8]

Table 9: Wyckoff site: 4i, site symmetry: 2

No.	position	mapping
1	$[0, y, 0]$	[1,2]
2	$[0, -y, 0]$	[3,4]
3	$[\frac{1}{2}, y, 0]$	[5,6]
4	$[\frac{1}{2}, -y, 0]$	[7,8]

Table 10: Wyckoff site: 4j, site symmetry: $2'$

No.	position	mapping
1	$[\frac{1}{4}, y, 0]$	[1,6]
2	$[\frac{3}{4}, y, 0]$	[2,5]
3	$[\frac{3}{4}, -y, 0]$	[3,8]
4	$[\frac{1}{4}, -y, 0]$	[4,7]

Table 11: Wyckoff site: 4k, site symmetry: 2

No.	position	mapping
1	$[0, y, \frac{1}{2}]$	[1,2]
2	$[0, -y, \frac{1}{2}]$	[3,4]
3	$[\frac{1}{2}, y, \frac{1}{2}]$	[5,6]
4	$[\frac{1}{2}, -y, \frac{1}{2}]$	[7,8]

Table 12: Wyckoff site: $4l$, site symmetry: $2'$

No.	position	mapping
1	$[\frac{1}{4}, y, \frac{1}{2}]$	$[1, 6]$
2	$[\frac{3}{4}, y, \frac{1}{2}]$	$[2, 5]$
3	$[\frac{3}{4}, -y, \frac{1}{2}]$	$[3, 8]$
4	$[\frac{1}{4}, -y, \frac{1}{2}]$	$[4, 7]$

Table 13: Wyckoff site: $4m$, site symmetry: m

No.	position	mapping
1	$[x, 0, z]$	$[1, 4]$
2	$[-x, 0, -z]$	$[2, 3]$
3	$[x + \frac{1}{2}, 0, z]$	$[5, 8]$
4	$[\frac{1}{2} - x, 0, -z]$	$[6, 7]$

Table 14: Wyckoff site: $4n$, site symmetry: m

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

Table 15: Wyckoff site: $8o$, site symmetry: 1

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