

MSG No. 62.455  $P_{Cnma}$  [ Type IV, orthorhombic ]

Table 1: Wyckoff site: 4a, site symmetry:  $.2'/m$ .

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

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

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

Table 3: Wyckoff site: 8c, site symmetry:  $-1$

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

Table 4: Wyckoff site: 8d, site symmetry:  $.2'$ .

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

Table 5: Wyckoff site: **8e**, site symmetry:  $2'..$ 

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

Table 6: Wyckoff site: **8f**, site symmetry:  $..m$ .

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

Table 7: Wyckoff site: **16g**, site symmetry:  $1$ 

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