

MSG No. 53.323 $Pm'na$ [Type III, orthorhombic]

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

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

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

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

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

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

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

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

Table 5: Wyckoff site: 4e, site symmetry: $2..$

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

Table 6: Wyckoff site: $4f$, site symmetry: $2..$

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

Table 7: Wyckoff site: $4g$, site symmetry: $.2'$

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

Table 8: Wyckoff site: $4h$, site symmetry: m'

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

Table 9: Wyckoff site: $8i$, site symmetry: 1

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