

MPG No. 31.3.117 $\bar{4}'3m'$ [Type III, cubic]

Table 1: Wyckoff site: $1o$, site symmetry: $-4'3m'$

No.	position	mapping
1	$[0, 0, 0]$	$[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24]$

Table 2: Wyckoff site: $4a$, site symmetry: $.3m$

No.	position	mapping
1	$[x, x, x]$	$[1, 5, 9, 13, 17, 21]$
2	$[-x, -x, x]$	$[4, 8, 12, 16, 20, 24]$
3	$[-x, x, -x]$	$[3, 7, 11, 15, 19, 23]$
4	$[x, -x, -x]$	$[2, 6, 10, 14, 18, 22]$

Table 3: Wyckoff site: $6b$, site symmetry: $2.mm'$

No.	position	mapping
1	$[x, 0, 0]$	$[1, 2, 17, 18]$
2	$[-x, 0, 0]$	$[3, 4, 19, 20]$
3	$[0, x, 0]$	$[9, 11, 13, 15]$
4	$[0, -x, 0]$	$[10, 12, 14, 16]$
5	$[0, 0, x]$	$[5, 8, 21, 24]$
6	$[0, 0, -x]$	$[6, 7, 22, 23]$

Table 4: Wyckoff site: $12c$, site symmetry: $.m$

No.	position	mapping
1	$[x, x, z]$	$[1, 13]$
2	$[-x, -x, z]$	$[4, 16]$
3	$[-x, x, -z]$	$[3, 15]$
4	$[x, -x, -z]$	$[2, 14]$
5	$[z, x, x]$	$[9, 21]$
6	$[z, -x, -x]$	$[10, 22]$
7	$[-z, -x, x]$	$[12, 24]$
8	$[-z, x, -x]$	$[11, 23]$
9	$[x, z, x]$	$[5, 17]$
10	$[-x, z, -x]$	$[7, 19]$
11	$[x, -z, -x]$	$[6, 18]$
12	$[-x, -z, x]$	$[8, 20]$

Table 5: Wyckoff site: 24d, site symmetry: 1

No.	position	mapping
1	$[x, y, z]$	[1]
2	$[-x, -y, z]$	[4]
3	$[-x, y, -z]$	[3]
4	$[x, -y, -z]$	[2]
5	$[z, x, y]$	[9]
6	$[z, -x, -y]$	[10]
7	$[-z, -x, y]$	[12]
8	$[-z, x, -y]$	[11]
9	$[y, z, x]$	[5]
10	$[-y, z, -x]$	[7]
11	$[y, -z, -x]$	[6]
12	$[-y, -z, x]$	[8]
13	$[y, x, z]$	[13]
14	$[-y, -x, z]$	[16]
15	$[y, -x, -z]$	[14]
16	$[-y, x, -z]$	[15]
17	$[x, z, y]$	[17]
18	$[-x, z, -y]$	[19]
19	$[-x, -z, y]$	[20]
20	$[x, -z, -y]$	[18]
21	$[z, y, x]$	[21]
22	$[z, -y, -x]$	[22]
23	$[-z, y, -x]$	[23]
24	$[-z, -y, x]$	[24]