

MSG No. 183.190 P_c6mm [Type IV, hexagonal]

Table 1: Wyckoff site: 2a, site symmetry: 6mm

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

Table 2: Wyckoff site: 4b, site symmetry: 3m.

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

Table 3: Wyckoff site: 6c, site symmetry: 2mm

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

Table 4: Wyckoff site: 12d, site symmetry: ...m

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

Table 5: Wyckoff site: 12e, site symmetry: .m.

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

Table 6: Wyckoff site: 24f, site symmetry: 1

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