MSG No. 190.229 $P\bar{6}'2'c$ [Type III, hexagonal]

Table 1: Wyckoff site: `2a`, site symmetry: `32'`.

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

Table 2: Wyckoff site: `2b`, site symmetry: `-6'..`.

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

Table 3: Wyckoff site: `2c`, site symmetry: `-6'..`.

No.	position	mapping
1	$\left[\frac{1}{3}, \frac{2}{3}, \frac{1}{4}\right]$	[1,2,3,10,11,12]
2	$\left[\frac{2}{3}, \frac{1}{3}, \frac{3}{4}\right]$	[4,5,6,7,8,9]

Table 4: Wyckoff site: `2d`, site symmetry: `-6'..`.

No.	position	mapping
1	$\left[\frac{2}{3}, \frac{1}{3}, \frac{1}{4}\right]$	[1,2,3,10,11,12]
2	$\left[\frac{1}{3}, \frac{2}{3}, \frac{3}{4}\right]$	[4,5,6,7,8,9]

Table 5: Wyckoff site: `4e`, site symmetry: `3..`.

No.	position	mapping
1	$[0, 0, z]$	[1,2,3]
2	$\left[0, 0, z+\frac{1}{2}\right]$	[4,5,6]
3	$[0, 0, -z]$	[7,8,9]
4	$\left[0, 0, \frac{1}{2}-z\right]$	[10,11,12]

Table 6: Wyckoff site: `4f`, site symmetry: `3..`

No.	position	mapping
1	$\left[\frac{1}{3}, \frac{2}{3}, z\right]$	[1,2,3]
2	$\left[\frac{2}{3}, \frac{1}{3}, z+\frac{1}{2}\right]$	[4,5,6]
3	$\left[\frac{2}{3}, \frac{1}{3}, -z\right]$	[7,8,9]
4	$\left[\frac{1}{3}, \frac{2}{3}, \frac{1}{2}-z\right]$	[10,11,12]

Table 7: Wyckoff site: `6g`, site symmetry: `.2'.`

No.	position	mapping
1	$[x, 0, 0]$	[1,7]
2	$[0, x, 0]$	[2,8]
3	$[-x, -x, 0]$	[3,9]
4	$\left[-x, -x, \frac{1}{2}\right]$	[4,10]
5	$\left[x, 0, \frac{1}{2}\right]$	[5,11]
6	$\left[0, x, \frac{1}{2}\right]$	[6,12]

Table 8: Wyckoff site: `6h`, site symmetry: `m'..`

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

Table 9: Wyckoff site: `12i`, site symmetry: `1`

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

continued ...

Table 9

No.	position	mapping
12	$\left[-y,\, x-y,\, \frac{1}{2}-z\right]$	[12]