MSG No. 165.93 $P\bar{3}'c1$ [Type III, trigonal]

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

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

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

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

Table 3: Wyckoff site: `4c`, 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	$\left[0,\, 0,\, \frac{1}{2}-z\right]$	`[7,8,9]`
4	$[0,\, 0,\, -z]$	`[10,11,12]`

Table 4: Wyckoff site: `4d`, site symmetry: `3..`

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

Table 5: Wyckoff site: `6e`, site symmetry: `-1'`

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

Table 6: Wyckoff site: `6f`, site symmetry: `.2'.`

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

Table 7: Wyckoff site: `12g`, site symmetry: `1`

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