MSG No. 188.216 $P\bar{6}c21'$ [Type II, hexagonal]

Table 1: Wyckoff site: 2a, site symmetry: 3.21'

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

Table 2: Wyckoff site: 2b, site symmetry: -6..1'

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

Table 3: Wyckoff site: 2c, site symmetry: 3.21'

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

Table 4: Wyckoff site: 2d, site symmetry: -6..1'

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

Table 5: Wyckoff site: 2e, site symmetry: 3.21'

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

Table 6: Wyckoff site: 2f, site symmetry: -6..1'

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

Table 7: Wyckoff site: `4g`, site symmetry: `3..1'`

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

Table 8: Wyckoff site: `4h`, site symmetry: `3..1'`

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

Table 9: Wyckoff site: `4i`, site symmetry: `3..1'`

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

Table 10: Wyckoff site: `6j`, site symmetry: `..21'`

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

Table 11: Wyckoff site: `6k`, site symmetry: `m..1'`

No.	position	mapping
1	$\left[x,\ y,\ \frac{1}{4}\right]$	`[1,8,13,20]`
2	$\left[-y,\ x-y,\ \frac{1}{4}\right]$	`[2,9,14,21]`

continued ...

Table 11

No.	position	mapping
3	$\left[-x+y,\ -x,\ \frac{1}{4}\right]$	[3,7,15,19]
4	$\left[x,\ x-y,\ \frac{3}{4}\right]$	[4,12,16,24]
5	$\left[-x+y,\ y,\ \frac{3}{4}\right]$	[5,10,17,22]
6	$\left[-y,\ -x,\ \frac{3}{4}\right]$	[6,11,18,23]

Table 12: Wyckoff site: 12l, site symmetry: 11'

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