SG No. 188 D_{3h}^{2} $P\bar{6}c2$ [hexagonal]

* plus set: $+[0, 0, 0]$

Table 1: Wyckoff site: `2a`, site symmetry: `3.2`

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

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

Table 3: Wyckoff site: `2c`, site symmetry: `3.2`

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

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

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

Table 5: Wyckoff site: `2e`, site symmetry: `3.2`

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

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

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

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

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

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

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

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

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

Table 10: Wyckoff site: `6j`, site symmetry: `..2`

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

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

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

Table 12: Wyckoff site: `12l`, site symmetry: `1`

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