SG No. 215 T_{d}^{1} $P\bar{4}3m$ [cubic]

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

Table 1: Wyckoff site: `1a`, site symmetry: `-43m`

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

Table 2: Wyckoff site: `1b`, site symmetry: `-43m`

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

Table 3: Wyckoff site: `3c`, site symmetry: `-42.m`

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

Table 4: Wyckoff site: `3d`, site symmetry: `-42.m`

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

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

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

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

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

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

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

Table 8: Wyckoff site: `12h`, site symmetry: `2..`

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

Table 9: Wyckoff site: `12i`, site symmetry: `..m`

No.	position	mapping
1	$[x,\ x,\ z]$	`[1,13]`
2	$[-x,\ -x,\ z]$	`[2,14]`
3	$[-x,\ x,\ -z]$	`[3,16]`

continued ...

Table 9

No.	position	mapping
4	$[x, -x, -z]$	`[4,15]`
5	$[z, x, x]$	`[5,21]`
6	$[z, -x, -x]$	`[6,22]`
7	$[-z, -x, x]$	`[7,24]`
8	$[-z, x, -x]$	`[8,23]`
9	$[x, z, x]$	`[9,17]`
10	$[-x, z, -x]$	`[10,18]`
11	$[x, -z, -x]$	`[11,20]`
12	$[-x, -z, x]$	`[12,19]`

Table 10: Wyckoff site: `24j`, site symmetry: `1`

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