SG No. 207 O^1 $P432$ [cubic]

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

Table 1: Wyckoff site: `1a`, site symmetry: `432`

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: `432`

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: `42.2`

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: `42.2`

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: `6e`, site symmetry: `4..`

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	$[0, 0, x]$	`[9,12,22,23]`
6	$[0, 0, -x]$	`[10,11,21,24]`

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

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	$\left[\frac{1}{2},\ \frac{1}{2},\ x\right]$	`[9,12,22,23]`
6	$\left[\frac{1}{2},\ \frac{1}{2},\ -x\right]$	`[10,11,21,24]`

Table 7: Wyckoff site: `8g`, site symmetry: `.3.`

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

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: `..2`

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

Table 10: Wyckoff site: `12j`, site symmetry: `..2`

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

Table 11: Wyckoff site: `24k`, 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]`

continued ...

Table 11

No.	position	mapping
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]