SG No. 206 T_{h}^{7} $Ia\bar{3}$ [cubic]

* plus set: $+[0,\ 0,\ 0]$, $+\left[\frac{1}{2},\ \frac{1}{2},\ \frac{1}{2}\right]$

Table 1: Wyckoff site: `8a`, site symmetry: `.-3.`

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

Table 2: Wyckoff site: `8b`, site symmetry: `.-3.`

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

Table 3: Wyckoff site: `16c`, site symmetry: `.3.`

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

Table 4: Wyckoff site: `24d`, site symmetry: `2..`

No.	position	mapping
1	$\left[x,\ 0,\ \frac{1}{4}\right]$	`[1,4]`
2	$\left[\frac{1}{2}-x,\ 0,\ \frac{3}{4}\right]$	`[2,3]`
3	$\left[\frac{1}{4},\ x,\ 0\right]$	`[5,8]`
4	$\left[\frac{3}{4},\ \frac{1}{2}-x,\ 0\right]$	`[6,7]`
5	$\left[0,\ \frac{1}{4},\ x\right]$	`[9,12]`
6	$\left[0,\ \frac{3}{4},\ \frac{1}{2}-x\right]$	`[10,11]`
7	$\left[-x,\ 0,\ \frac{3}{4}\right]$	`[13,16]`

continued ...

Table 4

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

Table 5: Wyckoff site: 48e, site symmetry: 1

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