SG No. 210 O^4 $F4_132$ [cubic]

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

Table 1: Wyckoff site: `8a`, site symmetry: `23.`

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

Table 2: Wyckoff site: `8b`, site symmetry: `23.`

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]`
2	$\left[\frac{1}{4},\,\frac{3}{4},\,\frac{1}{4}\right]$	`[13,14,15,16,17,18,19,20,21,22,23,24]`

Table 3: Wyckoff site: `16c`, site symmetry: `.32`

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

Table 4: Wyckoff site: `16d`, site symmetry: `.32`

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

Table 5: Wyckoff site: `32e`, site symmetry: `.3.`

No.	position	mapping
1	$[x,\,x,\,x]$	`[1,5,9]`
2	$\left[-x,\,\frac{1}{2}-x,\,x+\frac{1}{2}\right]$	`[2,7,12]`
3	$\left[\frac{1}{2}-x,\,x+\frac{1}{2},\,-x\right]$	`[3,8,10]`
4	$\left[x+\frac{1}{2},\,-x,\,\frac{1}{2}-x\right]$	`[4,6,11]`
5	$\left[x+\frac{3}{4},\,x+\frac{1}{4},\,\frac{3}{4}-x\right]$	`[13,17,21]`

continued ...

Table 5

No.	position	mapping
6	$\left[\frac{1}{4}-x,\ \frac{1}{4}-x,\ \frac{1}{4}-x\right]$	[14,19,24]
7	$\left[x+\frac{1}{4},\ \frac{3}{4}-x,\ x+\frac{3}{4}\right]$	[15,20,22]
8	$\left[\frac{3}{4}-x,\ x+\frac{3}{4},\ x+\frac{1}{4}\right]$	[16,18,23]

Table 6: Wyckoff site: 48f, site symmetry: 2..

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

Table 7: Wyckoff site: 48g, site symmetry: ..2

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

Table 8: Wyckoff site: `96h`, site symmetry: `1`

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