

# SG No. 196 $T^2$ $F23$ [ cubic ]

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

Table 1: Wyckoff site: 4a, site symmetry:  $23$ .

No.	position	mapping
1	$[0, 0, 0]$	$[1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]$

Table 2: Wyckoff site: 4b, site symmetry:  $23$ .

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

Table 3: Wyckoff site: 4c, site symmetry:  $23$ .

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

Table 4: Wyckoff site: 4d, site symmetry:  $23$ .

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

Table 5: Wyckoff site: 16e, 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	$[x, -x, -x]$	$[4, 6, 11]$

Table 6: Wyckoff site: 24f, site symmetry:  $2..$

No.	position	mapping
1	$[x, 0, 0]$	$[1, 4]$
2	$[-x, 0, 0]$	$[2, 3]$
3	$[0, x, 0]$	$[5, 8]$

*continued ...*

Table 6

No.	position	mapping
4	$[0, -x, 0]$	$[6, 7]$
5	$[0, 0, x]$	$[9, 12]$
6	$[0, 0, -x]$	$[10, 11]$

Table 7: Wyckoff site: **24g**, site symmetry:  $2..$ 

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

Table 8: Wyckoff site: **48h**, 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	$[-y, -z, x]$	$[12]$