

MSG No. 76.10  $P_4$  [ Type IV, tetragonal ]

Table 1: Wyckoff site: 4a, site symmetry:  $2'..$

No.	position	mapping
1	$[0, 0, z]$	$[1, 8]$
2	$[0, 0, z + \frac{1}{4}]$	$[2, 7]$
3	$[0, 0, z + \frac{3}{4}]$	$[3, 6]$
4	$[0, 0, z + \frac{1}{2}]$	$[4, 5]$

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

No.	position	mapping
1	$[\frac{1}{2}, \frac{1}{2}, z]$	$[1, 8]$
2	$[\frac{1}{2}, \frac{1}{2}, z + \frac{1}{4}]$	$[2, 7]$
3	$[\frac{1}{2}, \frac{1}{2}, z + \frac{3}{4}]$	$[3, 6]$
4	$[\frac{1}{2}, \frac{1}{2}, z + \frac{1}{2}]$	$[4, 5]$

Table 3: Wyckoff site: 4c, site symmetry:  $2'..$

No.	position	mapping
1	$[0, \frac{1}{2}, z]$	$[1, 8]$
2	$[\frac{1}{2}, 0, z + \frac{1}{4}]$	$[2, 7]$
3	$[\frac{1}{2}, 0, z + \frac{3}{4}]$	$[3, 6]$
4	$[0, \frac{1}{2}, z + \frac{1}{2}]$	$[4, 5]$

Table 4: Wyckoff site: 8d, site symmetry: 1

No.	position	mapping
1	$[x, y, z]$	$[1]$
2	$[-y, x, z + \frac{1}{4}]$	$[2]$
3	$[y, -x, z + \frac{3}{4}]$	$[3]$
4	$[-x, -y, z + \frac{1}{2}]$	$[4]$
5	$[x, y, z + \frac{1}{2}]$	$[5]$
6	$[-y, x, z + \frac{3}{4}]$	$[6]$
7	$[y, -x, z + \frac{1}{4}]$	$[7]$
8	$[-x, -y, z]$	$[8]$