

$\bar{4}$

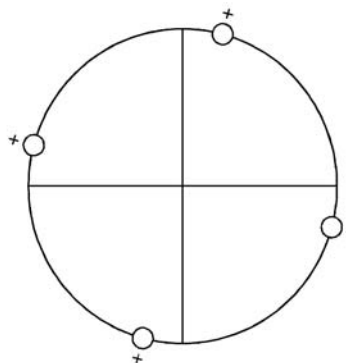
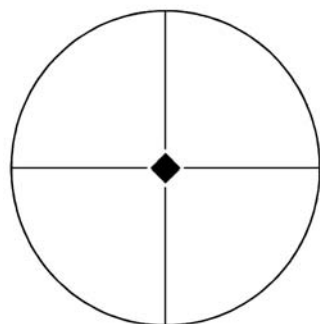
4

Tetragonal

No. 23

$\bar{4}$

Patterson symmetry  $\bar{4}/m$



Origin on 4

Asymmetric unit  $0 \leq x; 0 \leq y; 0 \leq z \leq 1$

Symmetry operations

- |           |                         |                                      |                                      |
|-----------|-------------------------|--------------------------------------|--------------------------------------|
| (1) 1     | (2) $2_{0,0,z}$         | (3) $4^+_{0,0,z}$                    | (4) $4^-_{0,0,z}$                    |
| (1 0,0,0) | (2 <sub>z</sub>  0,0,0) | (4 <sub>z</sub> <sup>+</sup>  0,0,0) | (4 <sub>z</sub> <sup>-</sup>  0,0,0) |

**Generators selected** (1);  $t(0,0,1)$ ; (2); (3)

**Positions**

Multiplicity, Wyckoff letter, Site symmetry	Coordinates				Reflection conditions
4 <i>b</i> 1	(1) $x, y, z$	(2) $\bar{x}, \bar{y}, z$	(3) $\bar{y}, x, z$	(4) $y, \bar{x}, z$	General: no conditions  Special: no extra conditions
1 <i>a</i> 4..	0,0,z				

**Symmetry of special projections**

Along [001] 4	Along [100] $\mu 11m$	Along [110] $\mu 11m$
Origin at 0,0,z	$\mathbf{a}' = \mathbf{c}$ Origin at $x, 0, 0$	$\mathbf{a}' = \mathbf{c}$ Origin at $x, x, 0$

**Maximal non-isotypic non-enantiomorphic subgroups**

**I** [2]  $\mu 112$  (8) 1; 2

**IIa** none

**IIb** [2]  $\mu 4_2$  ( $\mathbf{c}' = 2\mathbf{c}$ ) (25)

**Maximal isotypic subgroups and enantiomorphic subgroups of lowest index**

**IIc** [2]  $\mu 4$  ( $\mathbf{c}' = 2\mathbf{c}$ ) (23)

**Minimal non-isotypic non-enantiomorphic supergroups**

**I** [2]  $\mu 4/m$  (28); [2]  $\mu 422$  (30); [2]  $\mu 4mm$  (34); [2]  $\mu 4cc$  (36)

**II** none