

$\bar{4}$

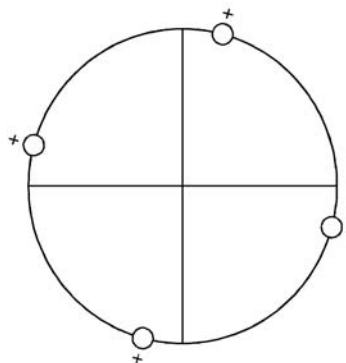
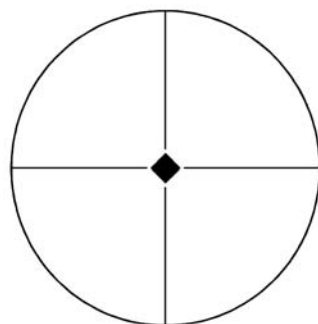
4

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)  $4^-$   $0,0,z$

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

**Positions**

Multiplicity,  
Wyckoff letter,  
Site symmetry

Coordinates

Reflection conditions

4  $b$  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  $a$  4.. 0,0,z

**Symmetry of special projections**

Along [001] 4

Along [100]  $\mu 11m$

Along [110]  $\mu 11m$

$\mathbf{a}' = \mathbf{c}$

$\mathbf{a}' = \mathbf{c}$

Origin at 0,0,z

Origin at  $x, 0, 0$

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