

$\bar{4}2$

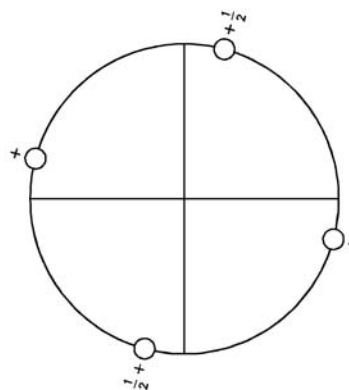
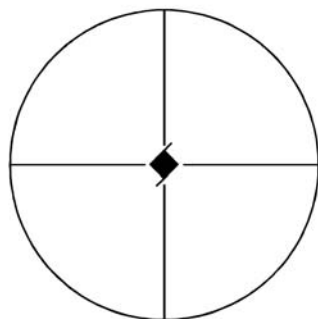
4

Tetragonal

No. 25

$\bar{4}2$

Patterson symmetry $\bar{4}/m$



Origin on 2 on 4_2

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

Symmetry operations

- (1) 1 (2) 2 $0,0,z$ (3) $4^+(\frac{1}{2}) 0,0,z$ (4) $4^-(\frac{1}{2}) 0,0,z$

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) $\bar{y}, x, z + \frac{1}{2}$ (4) $y, \bar{x}, z + \frac{1}{2}$

General:

$l : l = 2n$

Special: no extra conditions

2 *a* 2.. $0, 0, z$ $0, 0, z + \frac{1}{2}$

Symmetry of special projections

Along [001] 4

Along [100] $\neq 11m$

Along [110] $\neq 11m$

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

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

Origin at $0, 0, z$

Origin at $x, 0, 0$

Origin at $x, x, 0$

Maximal non-isotypic non-enantiomorphic subgroups

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

IIa none

IIb $[2] \neq 4_3$ ($\mathbf{c}' = 2\mathbf{c}$) (26); $[2] \neq 4_1$ ($\mathbf{c}' = 2\mathbf{c}$) (24)

Maximal isotypic subgroups and enantiomorphic subgroups of lowest index

IIc $[3] \neq 4_2$ ($\mathbf{c}' = 3\mathbf{c}$) (25)

Minimal non-isotypic non-enantiomorphic supergroups

I $[2] \neq 4_2/m$ (29); $[2] \neq 4_2 22$ (32); $[2] \neq 4_2 cm$ (35)

II $[2] \neq 4$ ($\mathbf{c}' = \frac{1}{2}\mathbf{c}$) (23)